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Guided Imagery and Music (GIM) with adults on sick leave suffering from work-related stress – a mixed methods experimental study

Polarized light micrograph of cortisol, S. Moulds, Science Photo Library

2012

Bolette Daniels Beck

Guided Imagery and Music (GIM) with adults on sick leave suffering from work-related stress – a mixed methods experimental study

Bolette Daniels Beck

Dissertation submitted for the Degree of Doctor of Philosophy
Department of Communication and Psychology
Aalborg University, Denmark
2012

Supervisors: Tony Wigram, Lars Ole Bonde, Christian Gold

Abstract

A mixed methods study in Guided Music and Imagery as a treatment method for adults on long-term stress-related sick leave has combined a randomized clinical trial and a hermeneutic phenomenological analysis of themes and therapy cases. Stress has been studied within a biopsychosocial model of health. A number of 20 subjects from different professions with a mean age of 44.5 and a majority of women (16 out of 20) were randomized into two groups. There was a high degree of compliance (no protocol violations, all data were collected at nine weeks' follow- up and only one dropped out (5%). The treatment condition included six sessions of GIM plus standard care versus standard care alone.

Significant effects of GIM compared to standard care were found after nine weeks in the psychological variables Mood, Sleep Quality, Anxiety, Well-being and Physical Symptoms with effect sizes ranging from 0.73 to 1.37. The analysis of stress-related hormones in saliva indicated a significant decrease of Cortisol, a decrease of Melatonin and an increase of Testosterone.

The standard care control group received GIM after waiting, and the analysis of the effect of early intervention versus late intervention was carried out. Significant effects in Perceived Stress, Mood, Depression and Anxiety were found with effect sizes from 0.80 to 1.11. Job return did not significantly improve in the early intervention group compared to late intervention, but the odds of being on sick leave at 6 months' follow- up were 4.08. In the whole group of subjects 83% of the participants were no longer at sick leave six months after the end of therapy. Early intervention thus has significant implications for the degree of improvement from work-related chronic stress.

The clinical trial was combined with a hermeneutic inquiry on the music therapeutic processes of embodiment and coping. Themes in the therapies were identified to relate equally to work stress and life stress. The participants found new coping strategies, new ways of being, increased contact with their bodies, reduced pain experience and enhanced creativity and hope through the music journeys. Bodily experiences and emotions were found to be closely connected to the processes of coping. Unresolved traumatic work episodes were identified as a part of the chronic stress and were renegotiated in music therapy leading to new social competencies. The music was experienced as a supportive space for self-regulative body processes, emotional expression, reconnection to self-esteem and competency, processes of existential life issues and contact with creativity.

A result generated from the convergence of qualitative and quantitative results is that GIM decreased bodily stress symptoms, increased energy and well-being, enhanced coping with inner and outer conflicts, helped to overcome traumatic work experiences, provided new relational competencies, improved mood and gave access to hope for the future work life.

The results of this study seen in relation to previous research indicate that Guided Music and Imagery is a valuable and effective short-term treatment that can be an alternative to established treatment practices for work-related chronic stress. Further research with a larger sample is needed.

Acknowledgements

Many people have been involved in this piece of research and I would like to express my gratitude and thank all for helping me to work with and complete this thesis.

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Not least I thank all the participants in the study for trusting me and opening up to music therapy in a critical period of their lives. They have broadened my knowledge of all aspects of being on sick leave with stress, and have enriched the study by giving their consent to use their personal stories in research. Thanks for all the work with innumerable questionnaires and measurements!

From the very beginning of the study professor Åse Marie Hansen from The National Research Centre for the Working Environment in Copenhagen supervised the study of stress hormones and generously provided me with updated studies of cortisol and in a very inspiring way helped to me to analyse the hormones data. I also thank the other researchers, especially Marie Aarrebo Jensen for introducing me to the mass spectrometry equipment, and the laboratory technicians at the NFA for support.

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1. INTRODUCTION

1.1. The background of the study

The personal background for this study was originally a wish to contribute to the body of music therapy research that have paved the way for the implementation of music therapy in many different settings and that have been nourishing and broadening my own studies and practice through the past 15 years. In 1998-2001 I worked with groups of persons on long-term sick leaves on a day school where experience-based education using music therapy methods served as a tool for personal development and support to get back to the labour market. The reasons of their sick leaves were various. At that time stress was not used as a common diagnosis, but had it been today I suggest that almost 80% of the group members would be diagnosed with stress. The present study is the first music therapy study in long-term sick leave with work-related stress. Through the five years of carrying out the research I have met hundreds of people, including quite young people, who have been more or less severely affected by work stress, and I have come to hope that the study will not only interest music therapists but also a broader group of stress researchers, therapists, patients and workers that have been suffering from or studying work-related stress.

The proposed study initially were focused on group GIM with traumatized refugees diagnosed with posttraumatic stress disorder (PTSD), noticing that no evidence was yet produced to support the effectiveness of music therapy with this population. However, only five participants were recruited, a sample too small for a quantitative study, and furthermore they were not well enough to fill in questionnaires. After seven months I chose to cancel the research (but continued the treatment).

While thinking about how to proceed to another study field, I was asked to participate in a science television programme about music and stress[1]. The producer was interested in the evaluation of stress with biomarkers (salivary cortisol), which I had been planning for my PhD study with refugees. In the preparation phase of the show I was asked all kinds of questions about stress theory that I was not at all able to answer as I had focused on the study of PTSD. A live Guided Imagery and Music (GIM) session with the producer with cortisol measurements before and after the session was planned. Before the session on television I was very nervous and I prepared a lot of different music pieces. The producer turned out to suffer from work-related stress, and as I had her lying down relaxing on the couch and reporting her inner imagery to the music, she did not seem to be able to make use of the music very well. Either it was too demanding (”I don't like the violins, it is like they want me to feel something, and I do not want to”) or it was too soft (”this is like a warm bath, almost too unreal”). Right after the session she rose from her couch and did a speak before the camera. Her cortisol did not decrease. But the whole experience involved me in the area of work-related stress and I decided to redirect my study in this direction. I began to look for possible partners and places in the health services to do such a project, and was generously invited by the leading doctor Peder Skov to do the clinical work and data collection at the occupational health ward at Køge Hospital.

One of the following nights I dreamed that I was showing a power point on a huge screen, and indigenous people from different places in the world were singing and dancing. A

[1] "Music and stress"*, Viden Om*, DR2, 25 September 2007.

big woman from Greenland sitting in a squat sang a song that almost welled up from the earth. In the dream my supervisor asked me to show some slides about the design of my study, but the remote control just clicked and nothing happened. Then the supervisor said that he was sure I would manage anyway. The dream inspired me to incorporate the study of the body in relation to stress , a theme that could serve as a common theme of both the quantitative and the qualitative part of the mixed methods study.

1.1.1. Aims of the thesis

The purpose of this doctoral research is to investigate in depth the lived experience and the effects of the music therapy method Guided Imagery and Music as a treatment method for adults on long-term sick leave suffering from chronic stress. The study is a pioneer study, as no one had been researching music therapy with the population of chronically stressed on sick leave before. Hence, the aims of the study is also to serve as an explorative study and an initial effort to produce evidence for the efficacy of the treatment method for this population.

1.1.2. Psychosocial factors and work-related sick leave

In the modern society characterized by a rapid pace of life, high demands, efficiency and competitiveness in a global economy, lack of rest, recovery and restitution contribute to the increasing amount of life style diseases related to stress. Stress conditions, especially chronic stress, were the reason for health care utilization in 30-60% of the physician office visits in the United States, reported in 1981-1986 (Lyon, 2000). During the past decades an increasing awareness of and research into the relation between psychosocial work factors and health have developed.

The Danish Ministry of Employment (2005) has estimated that around 140.000 full-time employees are on sick leave due to all kinds of sickness absence every year. In Denmark an estimate of 29% of the total sick leaves from work have been related to psychosocial working conditions (Nielsen et al., 2006), meaning that around 35.000 Danes are on sick leave any given day in relation to work-related psychosocial stressors (Willert, 2011). In 2007 the total number of sick leaves in Denmark passed the number of persons on social benefit (Arbejderbevægelsens Erhvervsråd (The Economic Council of the Labour Movement), 2007). The number of estimated persons on stress-related sick leave may appear small, but the actual number of people struggling with stress in their daily work without asking for sick leave is probably much higher.

Long-term sick leaves are known to increase the risk for exclusion from the labour market. According to the report from the Economic Council of the Labour Movement (2007) four persons out of ten return to the labour market on usual terms after 13 weeks of sick leave. If the sick leave has a duration of more than a year only one out of five returns on the usual terms. The rest pass on to ”flex-job”, social benefits or early retirement.

1.1.3. Biopsychosocial model of health and research

The study of the treatment of stress will be carried out within the biopsychosocial model of health and research. The model was initially formulated by Engel (1977) as a reaction to the deficiencies of the biomedical model of health. The biopsychosocial health model operates with health as a system of self-regulative and dynamic processes where treatment is a question of promoting the self-regulative processes in the patient's life as a whole (Zachariae, 1997). Research within the mecanistic biomedical model tries to isolate single causalities,

whereas research in a biopsychosocial perspective involves an increased complexity. In the present study biological, psychological and social factors are measured and a mixed methods design is applied.

1.1.4. Thesis overview

In chapter two the elaboration of the research questions will include a definition of stress and a short description of the history of the concept, a review of work stress research, a literature review of music therapy related to work stress and stress management, a presentation of the intervention and modification, and theories related to the qualitative investigation of embodiment and coping. Chapter three presents the research questions and chapter four the Mixed Methods design. In chapter five the methods for the randomized controlled trial are presented. Chapter six presents the results of the quantitative component of the study. The participants' demographic characteristics are initially presented. All of the quantitative data collected in the study were subject to linear mixed models statistical analysis using the R statistical package. In chapter seven a hermeneutic phenomenologic method for the qualitative inquiry is presented. Chapter eight presents the findings of the qualitative component of the study. A thematic analysis was conducted of the data collected from the GIM journey transcripts, and a multiple case study including four cases was carried out with a special focus on embodiment and coping. In chapter nine quantitative and qualitative results are presented side by side, converging the main results and themes of the study. The discussion of quantitative, qualitative and mixed results will be presented in chapter ten followed by a description of limitations and perspectives of the study.

2. LITERATURE REVIEW

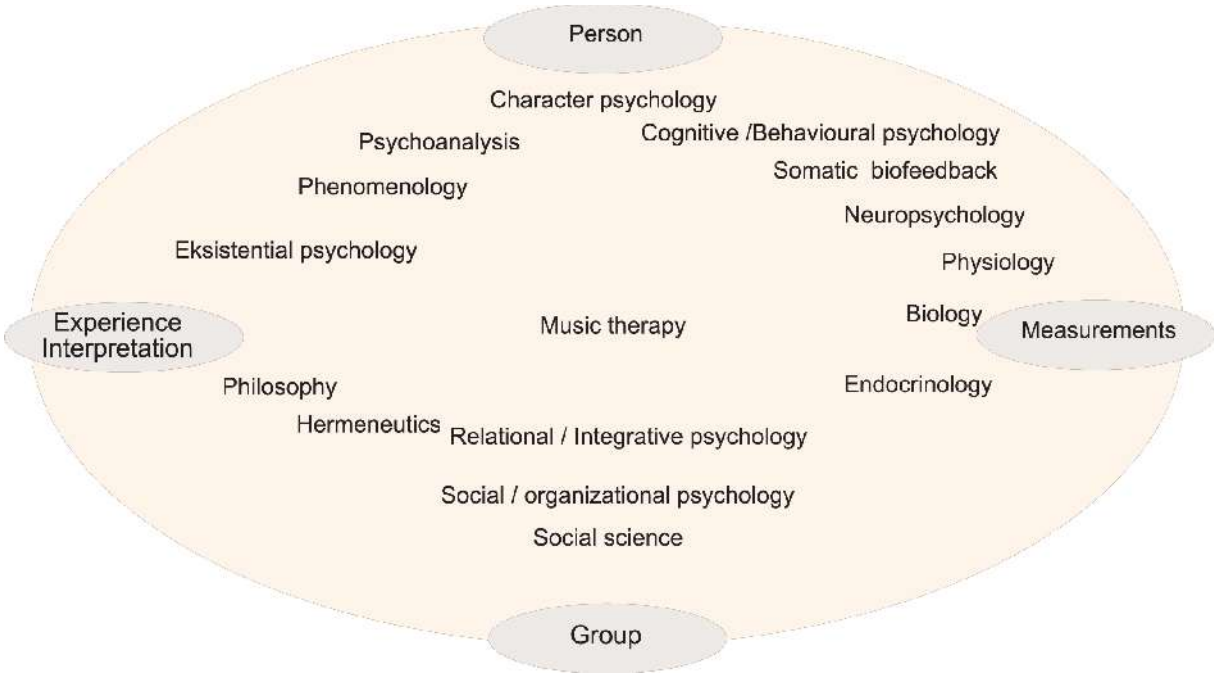
The chapter will start with a description of the background for and definition of the concept stress and the theories used in stress research. After that studies and theories of work stress will be described. Different methods of stress treatment and stress management will be briefly outlined, and then a literature review of music therapy in the treatment and management of stress will be unfolded. Relevant studies and theories relating to the quantitative and qualitative parts of the study will be outlined, and finally the chapter will end up with a description of the modification of the intervention.

2.1. Stress – definitions and theories

2.1.1. Metatheoretical map

In the developing theoretic formulation of the concept stress, a meeting place between different scientific traditions and philosophic foundations has been established. Several theories will be presented in the following chapters, and as they will stem from a variety of traditions, and as the study is a mixed methods study involving different ways of looking at stress in a biopsychosocial model of health, it is considered useful to outline a map in which the different theories can be placed.

Figure 2.1. Metatheoretical map



Music therapy, as well as various branches of psychology, can be seen as positioned between the humanistic science branch, the social science branch and that of the natural sciences. The disciplines seen in the map seem to be involved or related to the understanding and treatment of stress.

2.1.2. The development of the concept stress

The term stress can be traced back in history to the 14th century, where it was associated with strain (McEwen & Lasley, 2002).

When looking in the dictionary[2] the word stress has at least three meanings. The first is used in literature where it means special emphasis or significance attached to a sound or syllable. The second is from physics, where stress is the force or a system of forces producing deformation or strain in a material. In the third meaning of stress the human is under pressure or strain, ”A physiological reaction by an organism to an uncomfortable or unfamiliar physical or psychological stimulus. Biological changes result from stimulation of the sympathetic nervous system, including a heightened state of alertness, anxiety, increased heart rate, and sweating.” Stress can also mean the stimulus or circumstance causing such a reaction. Hence, human stress according to the dictionary is a biological reaction to a physiological or psychological stimulus, but it is also the stimulus or circumstance. In order to clarify the roots of the modern use of the word, the history of the stress concept will be briefly described.

The modern use of the concept stress was founded in the 1800s. Between 1854 and his death in 1874 the physiologist Claude Bernard several times described his ideas of ”le milieu interiéure” (Bernard, 1974). He was interested in the blood stream and formulated his theory around the way external variations at each instant are compensated for and equilibrated to maintain a stability in the inner environment of the body. His ideas later inpired the cybernetics and system theories. Bernard's ideas were not broadly known until the publishing of ”The Wisdom of the Body” in 1932 by Walther Cannon, who developed the idea of the milieu interieure and defined the concept ”homeostasis”. The general features of homeostasis were characterized as an organized self-government in which constancy in an open system such as the body was regulated for instance regarding glucose, temperature and acidity. The steady state condition was maintained by factors that resisted change (such as thirst to dilute too high sugar concentrations), in a regulating system with a number of cooperating mechanisms (hormones).

In 1915, Walther Cannon defined the terms fight and flight to describe animals' response to threats in ”Bodily Changes in Pain, Hunger, Fear and Rage: An Account of Recent Researches into the Function of Emotional Excitement*”* (Cannon, 1915; 1994). Fight and flight responses are also part of the instinctual human reaction towards danger or threat, and will be dealt with later in the chapter.

In order to define and specify the concept stress more in depth, I will go critically through some of the most important theories in the field. In short, the theories describe stress as 1) a physiological response mechanism towards outer “stressors”, 2) a stimulus generated response that can have both physiological and psychological components, and 3) an interactional/transactional relation between life events/environment, coping abilities and health.

2.1.3. Response theory

The physician and endocrinologist Hans Selye (1907-1982) discovered a cluster of specific biologic reactions to nonspecific strain while researching hormones in rats. Even with very different types of injections, the rats showed 1) enlargement of the adrenal cortex and

[2] Barley's web dictionary The Free Dictionary, retrieved 15 November 2011 from http://www.thefreedictionary.com/STRESS.

increased activity, 2) shrinking of the lymphatic structures: thymus, spleen, lymph nodes, decreased number of lymphocytes and eosinophilic cells, and 3) bleeding deep ulcers in the lining of the stomach and the uppermost part of the gut (duodenum). Selye, inspired by Cannon's findings, started to work with the idea of a general illness reaction to different sorts of stimuli, and at first he did not find support at all for his ideas in his surroundings.

In Selye's early works he avoided the term stress. He wrote about a range of different kinds of noxious stimuli (which he later called ”stressors”), and defined the reaction as “nonspecific response of the body to noxious stimuli” (Selye, 1956, p. 12). He mostly described mechanical or biological stimuli such as cold, heat, physical exercise, injections of different substances etc. In his memoirs he told about his presentations in other countries defining the word stress in other languages than American. He now defined stress as ”the rate of wear and tear in the body” (Selye, 1974, p. 1), and his more elaborated definition of stress was, ”Stress is the state manifested by a specific syndrome which consists of all the nonspecifically induced changes within a biologic system” (Selye, 1974, p. 64).

Selye discovered a process in the general illness reaction that he named ”the general adaptation syndrome” (GAS) consisting of three phases with distinct biological traits: alarm reaction, adaptation phase, exhaustion phase (or dead) (Selye, 1936/1994). The response pattern was defined as a defensive system that was independent of the nature of the outer stressor, and of cognitive variables (such as perception). The defense reactions in the three stages of the GAS is further described as:

1. Alarm reaction: triggered by a noxious stimulus, signified by a stimulation of the sympathetic nervous system.
2. Resistance: physiologic forces are mobilized to resist damage from the noxious stimulus. Results in adaptation, improvement and disappearance of symptoms, or in development of diseases.
3. Exhaustion stage: occurs when the stressor is severe or prolonged and uses up the ”adaptive energy”. Collapse or sudden death.

Selye saw the amount of adaptive energy as dependent on the individual's genetic composition, earlier experiences, climate, medication and nutrition. He was the first to investigate the role of the corticosteroids (including cortisol) in the adaptation process.

“Distress” was defined as an always negative or injuring form of stress. In his later works Selye included a positive stress concept “eustress” contrary to distress, an arousal state happening as a reaction to positive events that gave one a feeling of fulfilment or other positive feelings (Selye, 1974). Eustress was a process of exploring potential gains.

Selye focused mainly on biological aspects of stress, but also tried to use these aspects to explain psychological and social reactions by extending the biochemical way of handling a stressor to interactions between human beings, groups and countries. The “catatoxic reaction” was characterized as an attack reaction (for instance the emission of of destroying enzymes against a poison) and the opposite “syntoxic reaction” was an attempt of tolerance and coexistence (for instance the corticosteroids acting as inflammation inhibitors). Selye argued that the choice of defense mechanism in social life had to be guided carefully as the automatic (aggressive) response was not always the most appropriate. He also discussed life motivation and the balance between egoism and altruism as important factors to protect the individual against life distress (Selye, 1974).

Research on stress as a response mechanism has used stress as a dependent variable, and has been conducted to a large extend on animals and on humans using such responses as heart rate variability, blood pressure, plasma and urinary cortisol and antibody production. A critique of response-based stress research could be that it obscures the more specific response patterns of psycho-physiological reactions and "studies of stress using the response based orientation...indicate that stress is stimulus- or situation-specific" (Lyon, 2000, p. 7). Already at Selye's time different studies showed that negative emotions as fear and anger triggered different physiological responses in different people, for example Arnold (1967) and Schalling (1976), and that the individual appraisal of stressors can not be underestimated. For instance a study of parachute trainees showed that an individual's perception of a threatening situation and his coping behaviour were the primary determinants of the neurocrine response pattern (Ursin et al, 1978).

Selye observed the GAS in animals, but it is interesting how it corresponds to human beings under pressure. It sheds light on the phenomena that some people can tolerate very stressful conditions for a long time without paying attention to or sensing any stress symptoms (because they only appear alarming in the beginning) and then suddenly a stress breakdown happens, often referred to as "hitting the wall". Several examples of sudden deaths caused by long-term stress have been given by the burnout researcher Perski (Perski, 2002).

The next wave of theories in the stress research was characterized by the idea of accumulation of stress caused by life events.

2.1.4. Stimulus theory

The researchers who defined the stimulus approach to stress investigated "life events" or "life changes" as the stressor to which a person responded psychologically (Holmes and Rahe, 1967). The hypothesis was that too many life changes increased the vulnerability to illness. The scales Social Adjustment Rating Scale (SRSS) and Schedule of Recent Experiences (Holmes and Rahe, 1967) were developed to measure life changes. Changes were rated by seriousness of the event, for example marriage, loss of a loved one, pregnancy, divorce, retirement etc. The presumptions inherent in the theory were that life changes are normative and that each life change resulted in the same demands for readjustment on all persons. Furthermore that change was stressful regardless of the desirability of the event to the person, and that there was a common threshold of readjustment or adaptation demands beyond which illness results. A person was viewed as a passive recipient of stress. Stress was conceptualized as an additive phenomenon that was measurable by researcher-selected life events that had preassigned normative weights. Stress in this theoretic model figured as an independent variable.

Hundreds of studies on the life event as a predictor of illness, defined as morbidity or disease states, have been performed with low correlations (.20-.30) but with significance due to very large samples (Lyon, 2000, p.7). Sarason et al. (1979) constructed the 57 item Life Experiences Survey (LES) that incorporated the person's view on the life event (desirable/undesirable) as well as the impact on the individual's life, but still the correlations were low.

Kobasa (1979) introduced the concept "hardiness" as a variable, described as a strong commitment to self, a vigorous attitude towards the environment, a sense of meaningfulness and an internal locus of control. This concept disconfirmed the central concept of the stimulus-based approach. Kobasa used SRRS together with Locus of control scale, Alienation scale, and Achievement scale, and found that persons with higher hardiness had lower illness

scores despite scoring higher on significant life events (n=837). Manning et al. (1988) found that hardiness rather than acting as a mediator between stress and health outcomes had more influence on emotional and psychological factors.

A measurement of daily life events as more important than life changes was proposed by Kanner et al. (1981) who designed the 117 items Hassles scale and the 135 items Uplifts scale. They found that daily hassles were more strongly associated with somatic health than life events, although uplifts did not contribute as much to health as the hassles did.

The stimulus theory introduced major life experiences in the stress research, and tried to find out if people with many traumas and daily hassles were more ill than others, and it was found that more factors had to be taken into consideration.

2.1.5. Transaction theory

The psychologist Richard Lazarus developed a transactional model of stress to study the dynamics of troublesome experiences (Lazarus, 1966; Lazarus & Folkman, 1984). Lazarus meant that stress in itself could not serve as a single variable, and that stress exists as a transaction between the person and his/her environment. Stress was seen as a set of cognitive, affective and coping variables. He linked the stress-related variables to health-related outcomes as a) functioning in work and social life b) morale or life satisfaction c) somatic health.Lazarus based his model on Basowitz et al. (1955) who defined stress as feelings that occur when an organism is threatened, and on Mechanic (1962/1978) who defined stress as "discomforting responses of persons in particular situations", and who conceptualized the concept "coping behavior" as the traditions, norms, abilities, capacities and resources a person uses to respond to the demands. Lazarus collected these and other theories and conceptualized "appraisal":

1. Primary appraisal is the person's judgement or perception of a situation, and its possible demands and resources for challenge, threat or well-being.
2. The perception of threat triggers the secondary appraisal: the process of finding the optional available behaviour or coping method. Primary and secondary appraisal can happen almost at the same time.
3. Reappraisal: is the re-evaluation of former appraisals and the process of re-eliminating them as threats.

The degree of perceived stress had to do with the stressful event, the anticipatory worrying, and the individual tendencies towards defensive denial or avoidance. Lazarus defined coping as a process-oriented concept, "constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus, 1984, p. 141). He identified two basic forms of coping, problem-oriented and emotion-based coping.

1. Problem-oriented coping was defined as strategies to solve the problem: planned problem solving, taking action, confronting, learning new skills.
2. Emotion-based coping was defined as efforts to reduce emotional discomfort when a situation could not be changed: distancing, avoiding, minimizing, seeking social support, self-controlling, self-medication, accepting responsability, exercising, breathing, meditating.

A special kind of emotional coping was defined as Positive Reappraisal that represented efforts to create positive meaning by focusing on personal growth. It also had a religious dimension.

The significance of stage in the coping process and choice of coping method demand a balance of thinking, acting and feeling. ”Effective coping belongs to a balance and interconnection between thinking and acting, in other ways on an appraisal of the most meaningful, favourable and realistic way to act" (Lazarus, 1999, p. 122). The choice of coping strategy related to personality dispositions such as goals and goal hierarchies, beliefs in self and world and resources. Coping can be studied as a trait (a preferred coping style connected to personality type) or it can be studied as a process. Examples of coping as a trait is for instance studies in different preferred styles of coping such as emotional coping, distancing, making a strategy or seeking social support. A scale with eight ”Ways of coping” was developed by Lazarus and Folkman to measure different coping processes. However, Lazarus and his colleagues found that studies in trait coping could be difficult because there are numerous psychological facets and stages in a coping process.

Numerous studies have been carried out exploring coping and appraisal styles, preferences and processes. Antonovsky (1987) introduced a concept also serving as a mediator of stress and illness, the sense of coherence (SOC), defined as comprehensibility (to which degree a situation is predictable and explicable), manageability (availability of inner and outer resources to meet the demands of the situation), and meaningfulness (the degree to which life demands are worth investing life energy). SOC is not primarily a stress questionnaire. The Perceived Stress scale (which was used in this study) was developed with the principles of appraisal in mind (Cohen et al., 1983). It was suggested for examining the role of nonspecific appraised stress in the etiology of disease and behavioural disorders and as an outcome measure of experienced levels of stress.

In his late works Lazarus defined five general concepts of his cognitive-motivational-relational theory that he also found was a general part of other stress theories: cognition, motivation, emotion, input from the environment, and actions.

Some of the roots of the definition of and research on stress have now been described, and the state of the art of stress research will now be identified.

2.1.6. New syntheses of biological and psychosocial stress

The three ways of looking at and researching in stress tend to be integrated more and more in current stress research. As an example I can mention the Canadian Institute of Stress, which was founded by Hans Selye as one of three persons in 1979[3]. The Institute works with a paradigm called the “third wave” in stress research, defining and working with both physical, psychological, organizational and social parameters. Another new stress theory integrating both biological, coping and psychosocial elements was called the “allostatic load theory” in ”The End of Stress as we know it” (McEwen & Lasley, 2002). McEwen and Lasley rejected the glose stress and instead defined allostasis as “the body's way of remaining stable in a changing environment” (p. 191) and allostatic load as the amount of negative stress a person has accumulated. By combining 50 years of brain research and endocrinology, they showed how the natural stress responses are activated during situations of threat or instability. Different scenarios of allostatic load were described. They showed how allostatic load can develop into permanent dysfunctional stress responses such as prolonged, repeated or

[3] See www.stresscanada.org, retrieved August 2008.

inadequate stress responses, constituting potential damage to health. McEwen and Lasley also presented research on genetic and early childhood traumas or deprivation as factors to increased maladaption to stress.

The present study is a mixed methods study carried out in a biopsychosocial framework with elements from both the response oriented (measurement of stress hormones, blood pressure and stress symptoms) and the transactional stress theory (measuring and analysing coping and emotions). No elements from the stimulus theory are included.

2.1.7. Stress diagnoses in the International Classification of Diseases[4]

In the Internal Classification of Diseases (ICD-10), (WHO, 2011), the list of diagnoses from F43.0-F.43.9 contains stress-related diagnoses including posttraumatic stress disorder (PTSD). The diagnosis of acute stress F43.0 was described in the following way:

> A transient disorder that develops in an individual without any other apparent mental disorder in response to exceptional physical and mental stress and that usually subsides within hours or days. Individual vulnerability and coping capacity play a role in the occurrence and severity of acute stress reactions. The symptoms show a typically mixed and changing picture and include an initial state of "daze" with some constriction of the field of consciousness and narrowing of attention, inability to comprehend stimuli, and disorientation. This state may be followed either by further withdrawal from the surrounding situation (to the extent of a dissociative stupor - F44.2), or by agitation and over-activity (flight reaction or fugue). Autonomic signs of panic anxiety (tachycardia, sweating, flushing) are commonly present. The symptoms usually appear within minutes of the impact of the stressful stimulus or event, and disappear within two to three days (often within hours). Partial or complete amnesia (F44.0) for the episode may be present (WHO, Long, 1992)[5]

The acute stress has been compared to a state of shock, and can be related to Selye's alarm phase. No diagnosis relates to chronic stress conditions in the ICD-10.

The diagnosis of adjustment disorder F43.2 was described as such:

> States of subjective distress and emotional disturbance, usually interfering with social functioning and performance, arising in the period of adaptation to a significant life change or a stressful life event. The stressor may have affected the integrity of an individual's social network (bereavement, separation experiences) or the wider system of social supports and values (migration, refugee status), or represented a major developmental transition or crisis (going to school, becoming a parent, failure to attain a cherished personal goal, retirement). Individual predisposition or vulnerability plays an important role in the risk of occurrence and the shaping of the manifestations of adjustment disorders, but it is nevertheless assumed that the condition would not have arisen without the stressor. The manifestations vary and include depressed mood, anxiety or worry (or mixture of these), a feeling of inability to cope, plan ahead, or continue in the present situation, as well as some degree of disability in the performance of daily routine. Conduct disorders may be an associated feature, particularly in adolescents. The predominant feature may be a brief or prolonged depressive reaction, or a disturbance of other emotions and conduct. The onset is usually within 1 month of the occurrence of the stressful event or life change, and the duration of symptoms does not usually exceed 6 months, except in the case of prolonged depressive reaction. (WHO, Long, 1992)[6]

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[4] International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10), World Health Organisation, WHO, 2011.

[5] Retrieved from http://www.mentalhealth.com/icd/p22-an08.html 14 November 2011.

[6] Retrieved from http://www.mentalhealth.com/icd/p22-aj01.html 14 November 2011.

To some degree the adjustment disorder could be related to chronic work-related stress, especially if the stress originally was related to one significant event (according to the stimulus theory).

Unspecified stress diagnoses are F43.8: Other reactions to severe stress, and F43.9: Reaction to severe stress, unspecified. The Z56.2-7 codes are specifically related to occupational stress: Z56.2 Threat of job loss, Z56.3 Stressful work schedule, Z56.4 Discord with boss and workmates, Z56.5 Uncongenial work (Difficult conditions at work), Z56.6 Other physical and mental strain related to work, Z56.7 Other and unspecified problems related to employment. Z.73.3 (Stress, not elsewhere classified) is a code used to specify other diagnoses.

From the American Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) the diagnosis 309.9 (Adjustment disorders, unspecified) has been used as a diagnosis of ”maladaptive stress” in the Swedish stress treatment clinic at Karolinska University Hospital ”Stressmottagningen” (Perski & Grossi, 2004).

A diagnosis closely related to work stress is Stress-related exhaustion or Burnout (Z73.0), which will be further discussed in the section of work stress research (section 2.2.3.).

2.1.8. Definition of chronic stress

Even though acute stress is defined in the ICD-10, the continued experience of stress, or chronic stress, does not appear. For this study I have searched for a stress definition that includes chronic stress, as the participants have experienced prolonged exposure to stress. I have adapted the definition of chronic stress from the Danish stress researcher and psychologist, Robert Zachariae, who has been advocating for a biopsychosocial look at health and stress, where chronic stress is the result of sustained arousal, ”Chronic stress can be defined as a process where we are exposed to changes, threats and demands from the surroundings that exceed our ability for adaptation, and where we have not been able to get away or fight the concerned threat” (Zachariae, 2003, p.15, my translation). He specified that chronic stress occurs in situations where it is impossible to act, or where one does not experience any possibilities to act (Zachariae, 2004).

What I appreciate in the definition is the emphasis on process, and the description of the exposure and adaption as well as fight or flight responses. The definition includes both the response and the transactional stress paradigms. What seems to be missing is the significance of the internal stressors and personality factors that I also believe play a role in chronic stress.

Acute stress and chronic stress can be described in terms of different ways of activation of the autonomic nervous system (ANS). In a balanced ANS the two branches work one at a time. The sympathetic branch is activated during the search of food, during socialisation, peak experiences, sex, sport, and when meeting an enemy or confronting a threatening situation. The parasympathetic branch is activated during digestion, sleep, regeneration, pleasurable activities, resting. Normally the ANS switches back to parasympathetic activity when the reaction to a threatening or exciting situation has subsided. Acute stress prepares for fight and flight and activates the sympathetic branch of the nervous system. In chronic stress the body reacts to too strong or prolonged situations with high demands or threats by giving up. But what does this mean in terms of the autonomic nervous systems regulation? It seems to be contradictory in literature.

The Swedish physician Doctare identified the bodily signs of chronic stress (Doctare, 2000, p. 99). These are translated by me and shown in the middle of the following table. On each side of the chronic stress reactions the physical signs of sympathetic (fight and flight etc.) and parasympathetic activation (the relaxation response) are placed. They have been retrieved from several authors (McEwen & Lasley, 2002; Doctare, 2000)

Table 2.1. Chronic stress symptoms (Doctare, 2000) and the branches of ANS

Acute stress reactions Sympathetic activation	**Chronic stress reactions**	**Relaxation response Parasympathetic activation**
Sharpened sensations: Fixated sight, sharper hearing	Sharpened sensations but one is ”lying low”	Focus on inner sensations
The hearts beats faster	The heart beats slower	The heart beats slower
Increased blood pressure	The blood pressure gets unstable	Decreasing blood pressure
Breathing gets faster	The breathing circulation slows down	The breathing gets slower
The muscles get tense	The muscles get stiff and sore	The muscles relax
Blood sugar increases		Blood sugar decreases
The blood fat decreases		The blood fat increases
The blood coagulates easier		
Supression of immune defence	Supression of immune defence	Immune defence is working
Pain sensitivity decreases	Increased pain sensitivity	Pain experience changes
Adrenalin and noradrenaline increase	Cortisol increases	Adrenalin and cortisol decrease
Decrease of sex hormones	Increase of sex hormones	Increase of sex hormones
Skin temperature increases		Skin temperature decreases

Note. The empty cells in the chronic stress cells indicate that no information of these reactions were provided in Doctare (2000, p. 99).

In the table the signs of chronic stress are not clearly linked to either of the branches of the autonomous nervous system. It could indicate an imbalance in the working of the ANS. The symptoms of chronic stress in relation to physical, psychological and social symptoms were identified by a Danish physician and stress researcher, translated by me (Netterstrøm, 2007).

Table 2.2. Chronic stress symptoms (Netterstrøm, 2007)

Physical stress symptoms	**Psychological stress symptoms**	**Behavioural stress symptoms**
Headache	Disinclination	Indecisiveness
Rapid heartbeat	Fatigue	Sleeplessness
Trembling hands	Inner unrest	Low self-esteem
Reduced potency and libido	Memory problems	Hyperventilation
Dizziness	Concentration problems	Insensitivity
Tics	Restlessness	Becoming withdrawn
Abdominal pains	Irritability	Anger

Frequent urination	Anxiety	Aggressiveness
Diarrhoea	Exhaustion	Reduced performance
Frequent infections	Depression	

Just as in Doctare's list of chronic stress symptoms the symptoms of each of the biopsychosocial columns in the table are complex and mixed symptoms of acute stress and relaxation response. For instance, in the list of psychological symptoms aggressiveness/restlessness and fatigue/exhaustion seem to be pointing in different directions in relation to the ANS. The impression of all the symptoms is that of confusion, fear and lack of balance. When comparing the signs of chronic stress to table 2.1., some of the symptoms are not equal. For instance, the heartbeat is rapid in Netterstrøm's presentation of physical symptoms, and the heartbeat is slowed down in Doctare's presentation of chronic stress. In Doctare's presentation the sex hormones are increased whereas in that of Netterstrøm the libido is reduced. This might indicate a general lack of an exact definition of chronic stress among different researchers. However, the dysregulation of the ANS seems to be a common point. It is implied that the many different signs and symptoms of chronic stress will not be observed in the individual person suffering from chronic stress, but no descriptions exist of the number of the signs or symptoms or the duration of the symptoms needed to be sure of the diagnosis of chronic stress. Hence, an official diagnosis of chronic stress is not yet fully defined, and can be seen as a concept still in development.

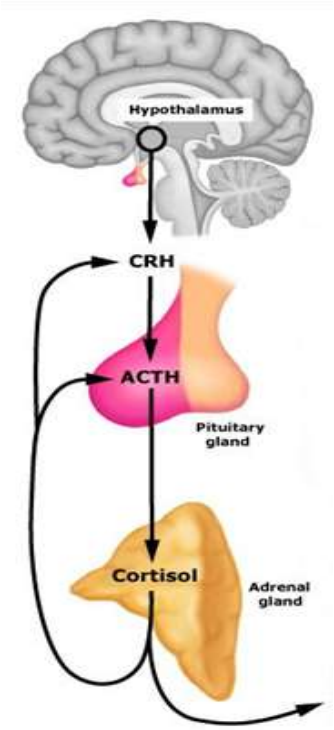
The dysregulated ANS could be further understood by referring to a third kind of stress response called the freeze response. If neither flight nor fight have been appraised to be usable solutions when facing a threat or danger the freeze response can be a third defense strategy. According to the American PhD in Biophysics and Doctor in Psychology Peter Levine, the freeze or immobilization response seems to lock the sympathetic activation inside the nervous system while the organism is shut down or collapsed in a dissonant parasympathetic stand-still. Levine worked originally with stress described by three bi-polar effector systems (autonomic system, somatic system (extensor/flexors), and metabolical/endocrine systems) in his PhD from1976. ”The response to stress is defined as occurring sequentially in two phases, charge and discharge: When the charging (sympathetic) phase is followed by a parasympathetic discharge of equal magnitude, then pre-activation homeostasis is re-established and the stress is said to be resolved. On the other hand, it is shown that under certain physiologic conditions (and behaviorally where mobilization i.e. somatic response to stress is blocked), the charge phase is no longer balanced by rebound. In these cases activation is not resolved and the stress becomes incorporated within the organism, as a diminished adaptational capacity” (quotation from abstract, Levine, 1976).

A continued fixation in the freeze/immobilisation response might to some degree explain the confusion of symptoms such as instable blood pressure, stiff muscles, hypersensitivity etc. The resolution of the freeze response will be further discussed in the section of GIM and trauma treatment (2.6.7-2.6.9). Besides the freeze response two other “passive” stress responses have been described namely feign dead (collapse) and submit (submissive behaviour) (Ogden et al., 2006). The passive stress responses are activated when possibilities of fight or flight are not appraised to be effective or safe.

2.1.9. Stress hormones

In order to further understand the background for the symptoms of chronic stress a short presentation of the hormones involved in the stress reaction will be presented. The research on stress hormones is voluminous and I will only briefly outline the main points.

Figure 2.2. HPA-axis



The stress system is functioning as a complex feedback and inhibitory feedback system in the brain and the glands. When danger is perceived, the Sympathetic Adrenal Medullary system (SAM) sends out the cathecolamines adrenaline and noradrenaline in the blood stream. The Hypothalamo-Pituitary-Adrenocortical system (HPA-axis) regulated by the main glands hypothalamus and pituitary gland (hypophysis) react to the SAM system releasing neuropeptides like Cortico Releasing Hormone (CRH) and vasopressin. They stimulate Adrenocorticotropin (ACTH) which in turn stimulates the production of adrenaline and noradrenaline in the adrenal glands. When the level of adrenaline/noradrenaline is high, cortisol (hydrocortison) is emitted to slow down the initial stress response. When the SAM system and the HPA-axis are activated in the stress response, high doses of cortisol and catecholamines are in the blood stream as well as in the saliva and urine. The SAM system and the HPA-axis are interacting with the major endocrine, the gastrointestinal and the immune system, and when abnormal doses of cortisol remain for longer periods these systems start to react (Ekstedt, 2005; Rothschild, 2000).

Excessive amounts of cortisol can shut down the immune defense and as such be damaging to a person's health over time. McEwen and Lasley (2002) on the basis of research literature summarized the onset of the following diseases linked to stress: depression, infections (colds), cardiovascular conditions and cancer. Stress is directly connected to the onset of hypertension and associated illnesses by the increase of fat in the arteria (Weiner, 1977). Exacerbation of symptoms is documented in: asthma, irritable bowel syndrome, ulcerative colitis, arthritis, skin disorders (such as eczemas) and diabetes. Stress has been linked to symptomatic experiences such as: headaches, gastrointestinal upset, musculoskeletal pain, hyperventilation, insomnia and fatigue (McEwen & Lasley, 2002). Cognitive problems as memory and concentration problems as well as learning dysfunctions are also influenced as a result of high cortisol doses in the midbrain that seem to inhibit the function of hippocampus. When the level of cortisol decreases the cognitive functions normally are resumed, but in extreme cases cortisol can cause deterioration and shrinking of the hippocampus. Due to the plasticity of the brain the cognitive functions of the hippocampus can to some degree be repaired (McEwen & Lasley, 2002).

The so-called stress vulnerability in people varies with a great many factors such as genetics, life style, age and personality. The early attachment between infant and caregiver who helps the infant with the regulation of arousal has been shown to be important for the adult ability of self-regulation of cortisol. The foundation for a healthy functioning HPA-axis is especially important in the infancy at 6-12 months (Hart, 2008).

2.1.10. Sleep and hormones

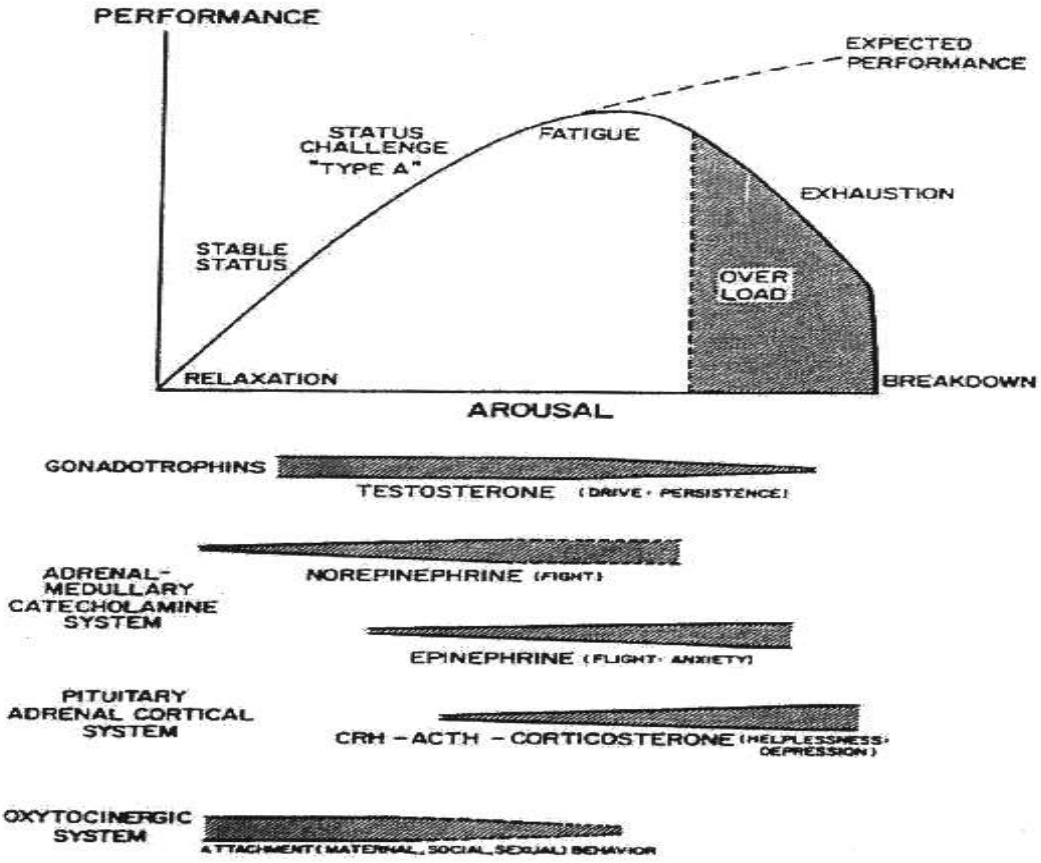
Sleeping problems have also been related to hormonal changes. Spiegel et al. (1999) investigated the effects of chronic sleep debt, and found raised evening cortisol concentrations and increased activity of the sympathetic nervous system (adrenaline). Fragmented sleep

(many short awakenings) was associated with higher concentrations of cortisol in the morning (and higher heart frequency, blood pressure, cholesterol indicating a risk for diabetes and cardiovascular illnesses) (Ekstedt et al, 2004). Steiger (2002) investigated cortisol secretion during sleep, and found "a causal relationship between shallow sleep, low GH (growth hormone) and HPA hyperactivity (high cortisol levels) in depression" (Steiger, 2002, p. 128). Also REM-sleep (dream activity) was inhibited in depressive patients. In studies of inhibited sleep and PTSD the regenerative deep sleep (delta sleep) seemed to be inhibited by HPA activity (Neylan et al. 2003, Otte et al. 2005).

2.1.11. Coping and hormones

As we are not only reacting to stressors but can be actively engaged in coping, the influence on the hormones by the different ways of coping should be examined. The stress researcher James P. Henry studied hormonal responses in animals and humans to stress and loss of control, and among other things he created "mouse cities" to investigate social patterns and stress (Henry, 1992). He found that the responses of HPA-axis and the SAM system were dissociated and not working at the same time, but were functioning according to which coping mechanism was at work. The main coping mechanisms he described were the active (fight/flight, striving) and the passive (non-aggressive, defeat). The latter might succeed the first, as the subject was fatigued or had to give up the efforts to cope actively. Henry found that the two sets of coping patterns activated different sets of hormones.

Figure 2.3. Stress hormones and coping (Henry, 1992, p.76)



On the top of the figure an U-shaped curve of relation between stress, arousal and performance can be seen that can be referred to Selye's GAS phases (alarm, adaption, exhaustion). The stable status to the left represents homeostasis. Where ”Type A” is written in the figure, the response to challenge is changing to striving, and epinephrine is released. Type A is a personality disposition in which the subject tends to compete and perform (it will be further explained in the burnout section (2.2.3). When fatigue sets in the adaptation energy is failing, and after a while the subject gives up (exhaustion phase).

Below the curve are shown tendencies in hormone concentrations of the different hormones and their relation to the state and coping activity. Henry found testosterone (drive, persistance) to be linked to successful coping.Cortisol and corticosteroids were associated with giving up and with feelings of sadness and depression. It is an important information related to chronic stress that the hormonal response seems to induce depressive states. Henry discussed the importance of staying in control, and related this to perception based on a case of a mother with a dying child in hospital. The mother's levels of cortisol stayed low because she kept the possibility of loosing her child out of her mind.

> As long as individuals, be they rodents or humans, perceive themselves to be in control, the HPA-axis is not activated and the corticosteroids stay low (whether their control is a fact or a delusion is not important – it is the perception that counts). It appears like in states of effective denial, where control is perceived as being retained despite an overwhelming challenge to the organism, those aspects of right hemispheric function associated with control of the pituitary adrenal cortical axis are less aroused. We speculate that the physiological basis of this alexithymic denial involves a dissociation between the sympathetic adrenal medullary and the pituitary adrenal cortical axes” (Henry, 1992, p. 81).

Control or helplessness seems to play an important role for the hormonal system. In relation to the treatment of severe stress, the recapture of a feeling of control might be very important.

2.1.12. Social support, attachment and hormones

One of the coping efforts described by Lazarus (1999) was to seek social support. The oxytocinergic system is shown in the bottom of figure 2.3, and shows the highest activity in the first stages of stress and phases out with the fatigue state. Oxytocin is known to be related to breastfeeding, falling in love, massage, social responsiveness and other attachment experiences (Uvänas-Moberg et al., 2005). Taylor (2002) found that the hormone oxytocine especially among women had a reducing effect on biological and psychological stress responses, and she also found that people with many socioemotional resources were protected against stress and stress-related illnesses:

> In threatening times, people seek positive social relationships because such contacts provide protection to maintain one’s own safety and that of one’s offspring. This tend-and-befriend account of social responses to stress is the theoretical basis for our work. Until recently, the biosocial mechanisms underlying human affiliative responses to stress remained largely unknown. Our research suggests that oxytocin and endogenous opioid peptides are implicated in these responses, especially in women....Recently, we found that vasopressin (AVP), a hormone closely related to oxytocin, similarly acts as a barometer of close relationship quality in men (Taylor, 2011[7]).

The relational aspect of stress is very interesting for the present study, and the preliminary research on oxytocin sheds light on the importance of social support that shall be

[7] http://shelley.taylor.socialpsychology.org/#overview, retrieved 15 March 2011

discussed more in the section of work stress. It will also serve as background for the discussion of the relational possibilities in music therapy

2.1.13. Summary of stress theory and research

Three different definitions of stress and research traditions have been presented (response theory, stimulus theory and transaction theory), as well as a third wave of stress research integrating biological, psychological and social aspects of stress. Chronic stress in contrast to acute stress has been defined, and hormonal patterns and disease risks of chronic stress have been briefly described. The roles of the coping-related perception of control and social support in relation to stress hormones have also been presented.

After the description of different definitions, paradigms and physiology in stress research, I will continue with a description of research on work-related stress. Work-related stress and stress connected to private life will in many cases be interwoven, and the concept ”life-stress” has been used to embrace the accumulated effects of stress (often used in a stimulus theoretic framework). However, in order to specifically understand work-related stress this will be the focus in the next section.

2.2. Stress and occupational health research

Central models of work stress and research on burnout will be described. At last some new concepts from a therapist working with work-related stress will be presented.

2.2.1. Models of work stress research

Occupational health research covers both physiological health problems such as work injury, chemical working environment, safety etc. and the ”psychological working environment” including work-related stress. In occupational psychology several ways to study job stress have been invented. The Demand-Control model has been widely used for research, and it defines two parameters that had influence on job satisfaction and health (Karasek, 1979; Graversgaard, 1994).

1. The demands to work performance, quality and work load. Two kinds of overload are: objective overload (too much work in too short time and subjective overload (the feeling of not being able to fulfil the demands at work: qualitatively when the employee does not feel able to do the job or becomes worn out by the character of the work, quantitatively when there is not enough time to fulfil the demands).
2. The autonomy or degree of influence on work situation, methods and tasks. Lack of autonomy can for instance occur when many decisions and regulations are made without involving the employees or without a good communication between leaders and workers. This can lead to indifference and negativity towards the work.

According to Karasek and Theorell (1990) people having high job demands and low job control may have a risk of mental job strain, eventually leading to fatigue, depression, sleeping problems, burnout, medicine abuse, or other physical illness. Active jobs with both high demands and high control are seen as stimulating jobs without negative psychological affects or health risks. A passive job, on the other hand, does not give individuals the

possibility of using their skills, and may lead to psychological strain and diseases. According to the model the influence on one's work is a very important factor in job strain. This corresponds with Henry's research on control as a mediator of stress hormones.

Johnson and Hall (1988) added social support to the Demand-Control model, as it became clear that support from the colleagues was a very important job satisfaction factor (Roness, 2002). Social situations with lone work, conflicts, gossip, mobbing, or lack of ability to get social support seem to add to the risk of jobstress. Karasek and Theorell also worked with the psychological working environment and personality development as extensions of the Demand-Control model. When stress and the responsibility for coping are laid upon the individual employee, the responsibility to create a healthy working environment and maintain its homeostasis by providing time for recovery after periods of strain can be overlooked (Karasek & Theorell, 1990, p. 88). In order to investigate if low social control can contribute to the development of chronic disease through the deregulation of physiological systems Karasek (2008) reported a change of the Demand-Control model into a systems dynamic form with a three-part stress-model (”controller-system-environment”).

Where Karasek seems to weight the environmental part of stress the Norwegian Cognitive Activation Theory of Stress (CATS) theory goes to the opposite extreme. CATS defines stress as a cognitive process of sensitization to the body signals (Ursin & Eriksen, 2004), where rumination and preoccupation with biological stress lead to psychological stress. In line with Henry's finding helplessness is seen as an important factor in chronic stress.

> CATS differs from more organizational and social theories in the extreme reliance on individually acquired expectancies to future events. When these expectancies are positive, there is no health risk in a healthy organism. Ill effects occur only when there is a lack of positive outcome expectancy (coping). CATS offers strict definitions of two different expectancies occurring when there is no coping: Helplessness and hopelessness. Both states may lead to somatic disease through sustained arousal. Both states may also lead to somatic disease and illness through a lack of motivation to engage in positive life styles. CATS, therefore, offers a new and alternative explanation for social differences in health, based on social differences in the reinforcement contingencies for the development of coping (Ursin,[8]).

Important for their theory is that coping is defined as positive outcome expectancy.

Two other models of work stress research will be mentioned. The ”Person-Environment fit” was defined as the compatibility that occurs when individual and work environmental characteristics are well matched (Caplan et al., 1975). The Effort-Reward imbalance model was proposed by Siegrist (1994) who studied the cardiovascular health in high effort/low reward job situations in workers. High effort and low gain situations were proposed to lead to sustained stress reactions. An imbalanced effort-reward situation was described to occur when no other available job possibilities were at hand creating dependence upon the work, where a lot of effort was invested as a strategy to increase future promotion, or where over performance occurred as a result of personality type or a competitive work environment. The model further suggests that failed reciprocity in terms of “high cost” and “low gain” elicits strong negative emotions and sustained stress reactions. The balancing of work effort with the reward (salary, promotion, acknowledgement etc.) can probably be an important theme in the analysis of problems underlying chronic stress.

[8] Retrieved from webdocument ”Cognitive Activation Theory of Stress (CATS)” http://ftp.rta.nato.int, retrieved 24 November 2011, p. 4.

2.2.2. Professions with high risk of stress

It has been a focus for the epidemiological occupational health research to detect which occupations or work conditions were connected with high risks of stress or the related cardiovascular diseases. The amount of research is considerable, and two examples from Denmark will be described.

Wieclav et al. (2005) in an epidemiological study of the risk of developing affective or stress-related mental health diagnoses according to occupation type in the Danish work force, found that the risks were highest for women in the teaching and health professions. Only social workers and professionals caring for mentally and physically disabled persons faced an elevated risk irrespective of gender.

Another Danish study with a sample of 22.000 participants (Larsen, 2006) pointed at the position in the job hierarchy as an important predictor of stress. Persons in low-paid jobs with a low degree of control had more sick leaves and experienced more perceived stress than persons in leading positions. It was also found that subjects working in the public social service sector, especially in jobs with low predictability of their day or shift work (nurses, school teachers, drivers) experienced more sick leaves than persons working in the private sector with more predictable jobs.

2.2.3. Burnout

Another way to investigate job stress has been the study of burnout. The concept burnout was invented by the clinician Freudenberger (1974), who noticed the state of emotional emptiness that characterized voluntary social workers in free counselling clinics. He first defined burnout as “to fail, wear out, or to become exhausted by making excessive demands on energy, strength and resources” (Freudenberger, 1974, p. 159-160), but later on he related burnout to a process involving both the person and the work organization, and both personality, work and private life (Freudenberger, 1983). Maslach and Jackson described burnout in the helping professions from a research-oriented point of view. They identified three typical areas of reaction: emotional exhaustion, depersonalization of other human beings and an experience of decreased work performance or achievement (Maslach et al., 1986). The depersonalization dimension was connected to an unfeeling and callous response to people who were usually the recipients of one's service or care. Applying these three dimensions the Maslach Burnout Inventory (MBI) was constructed. According to Schaufeli andEnzmann (1998) it has been widely used in almost 90% of burnout studies and has strongly influenced the concept of burnout. The scale has been supplied by MBI scales addressing other types of professions, as for instance a teacher scale.

Several other descriptions of burnout have been presented emphasizing other aspects. Pines et al. (1993) presented a broader look at burnout where an existential dimension of work as the provider of meaning in life in the Western society was described, and where burnout was accompanied by feelings of helplessness, hopelessness, entrapment and low self-esteem. Hallsten (1993) specified that self-esteem based on achievements instead of having an inner sense of worth could be a prerequisite to burnout.

Kushmir and Melamed worked with a definition of burnout applicable to a broader range of professions, and even to general conditions of life stress, “The unique content of burnout has to do with depletion of an individual's energetic resources - a combination of physical fatigue, emotional exhaustion and cognitive weariness” (Shirom, 1989; Shirom &

Ezrachi, 2003). The Shirom-Melamed Burnout Questionnaire (SMBQ) has been used in studies of both work-related and general life conditions (Ekstedt, 2005).

In the Danish National Research Center for the Working Environment the Copenhagen Burnout Inventory (CBI) was developed (Kristensen et al, 2005). It assessed the degree of experienced stress load, and had three scales, a personal burnout scale (feelings of exhaustion and overload), a general work scale and a scale for work with clients or patients.

The defining factor common to all researchers seems to be the fatigue component, evolving as chronic emotional, mental and physical exhaustion that does not seem to be recovered through rest or sleep (Ekstedt, 2005, p. 16).

According to Graversgaard (1994) the following six phases are often typical in the development of burnout.

1. Engagement and optimism
2. Ambivalence and doubt
3. Frustration and powerlessness
4. Despair and resignation
5. Cynicism and apathy
6. Burnout

The Norwegian professor in psychiatry and psychotherapist Atle Roness (Roness & Mathiessen (2002)) with the help of studies and statistical material, tried to describe the type of character and life situation of persons who most frequently burn out. The burnout factors has been organized in a table by me.

Table 2.3. Burnout factors (Roness & Mathiesen, 2002)

Category	Burnout factor	Arguments and descriptions	Source
Age	Young age	a. Older persons have more experience and knowledge of own limitations. b. Younger persons with a tendency to burn out have already been sorted out	Poulin & Walther (1993)
Gender	Women/Men according to job type and burnout symptoms	a. Women become more emotionally exhausted, men more often develop depersonalization. b. Gender differences in the character of work can have influence on the burnout risk.	Poulin & Walther (1993), Price & Spencer (1994)
Civil position	Unmarried (not divorced) No children (not single mothers)	a. Older age is often tied to family involvement b. Involvement in care for children seems to prevent over-involvement in work, even though women work more hours a day with job and family than men do.	Maslach & Jackson (1985)
Education	Higher education	a. Higher educated seem to have more ambitions, expectations and emotional demands in the work than lower educated.	Mor & Laliberte (1984)
Self-esteem	Low self-esteem	a. Higher emotional exhaustion, more depersonalization, lower job satisfaction. b. More vulnerable persons (more difficulties	a. Poulin & Walther (1993) b. Masclet &

		finding a job, more social problems, less daring, less problem solving abilities) c. Extern locus of control, eager to please, dependent of acknowledgement	Mineure (1999)
Goals and expectations	High goals and expectations	a. High motivated persons who burn, more easily burn out b.Young ambitious persons experience a reality chock – their ideals about the work do not fit with reality, and the expectations are frustrated.	a.Pines (1993) b.Cherniss (1980)
Engagement	Unlimited engagement but high ideals can also protect the commitment in the long run	a. High committed nurses burn out more than low committed b. Idealistic social workers are more protected than less committed persons	a. Reilly (1994) b.Kirk & Koeske (1995)
Coping style	Passive, defensive coping style	a. Passive, defensive coping style towards stressing situations more than active and confronting b. Low degree of hardiness (Commitment, control and challenge)	a. Enzmann (1996) b. Kobasa (1979), Harris (1989)
Attribution style	Extern locus of control	Incidents are attributed to mighty external powers, or accident (Intern locus of control: incidents are attributed to own abilities or will of risk taking)	Glass & McKnight (1996)
Social support	Low degree of social support	Lone work or negative social situations (bullying, critique, gossip)	Johnson & Hall (1988)
Behaviour	Type A and Type D	a. Type A: competitive, impatient, irritated behaviour is correlated with emotional exhaustion b. Type D: negative expectations, emotional and social avoidance.	a. Nowack (1986) b. Sher (2005)
Big Five personality profile	Neurotic	Neuroticism (fearsome, vulnerable, unstable, hostile) is correlated with burnout; as opposed to extroversion, openness, agreeableness, and conscientiousness.	Deary et al.(1996)

Considering all the burnout factors of the studies, burnout seemed to be linked to higher educated younger persons, especially women without family, who are very idealistic and ambitious and who start out their career with high goals and burning idealism. Personality traits leading to burnout risk seemed to be linked to low self-esteem, neurotic traits as fear or hostility, type A personality or type D personality. Type A personality is connected to time impatience and free-floating hostility (Burke & Greenglass, 1996). Other characteristics are competitiveness, perfectionism, and ambitions. Type D personality is connected to passive or maladaptive avoidance coping strategies. In a study including 334 undergraduates 25% were classified as type D personalities (Polman et al., 2010). Both type D dimensions (negative affectivity and social inhibition) are associated with elevated cortisol and risk of cardiovascular disease (Sher, 2005). The studies point at the population that tends to burn out to be rather well-educated, with a vulnerability in the way of handling ambitions, pressure and social situations. Relational competencies, balancing of ideals and energy resources, listening

to personal limits and physical needs, establishing an internal locus of control, self-esteem or even self-acceptance could be important work themes in therapy.

On the other hand, one has to be careful not to address burnout mechanically solely to personal character traits. Information on the job situation, the working place and culture might also be important as already mentioned.

Looking for the positive predictors for people not burning out, Cherniss (1995) interviewed a group of 25 professionals in different professions during their first year in their career and followed up 12 years after to investigate which factors contributed most to burnout. In the group that didn't leave, change career or burned out many found the autonomy, collegiality and security they had hoped for. But, after twelve years, none of the participants talked about meaning, purpose or transcendence as motivating factors any more, as they did in the beginning of their career. Hence at least autonomy, collegiality and security seem to be protective factors towards burnout. Cherniss also visited an institution for developmentally disabled people run by a group of nuns (remember that this kind of profession was related to the highrisk of job stress, 2.2.2). He found that there was a significant degree of life quality among both staff and residents, and linked it to the religious commitment and sharing of moral ideas. The nuns met every morning and prayed and sang together and formed a community with strong commitment and shared goals. Even though all known predictors of burnout were present no one was burned out. This, he argued, shed light on the way work is carried out in modern society, and on the fact that a (shared) moral or belief that adds a sense of meaning or purpose to the work one isdoing, can be a most important protective factor.

2.2.4. Cortisol in work stress

Cortisol is one of several biomarkers commonly used in the investigation of occupational stress. For instance it was found that experiencing or witnessing bullying at work was associated with lowered awakening cortisol levels (Hansen et al., 2006), physically demanding construction work was associated with a less variable and increased cortisol excretion when compared with white-collar work (Hansen et al., 2006b), and diurnal variation in workers with shifts was found to be higher on working days than on days off (Karlson et al., 2006). In a study of psychosocial stress factors at work and at home high degrees of time pressure, effort and Effort-Reward imbalance were significantly associated with higher levels of cortisol in women and high degrees of effort, Effort-Reward imbalance and overcommitment were significantly associated with higher levels of cortisol in men (Eller et al. 2006).

In a German study 66 school teachers were tested three successive days for cortisol and self-reported stress and burnout. Teachers scoring high on burnout showed lower overall cortisol secretion on all sampling days, and a higher suppression of cortisol secretion after dexamethasone administration[9]. In the subgroup of teachers with both high levels of perceived stress and high levels of burnout, a lower overall cortisol secretion was observed the first two days, with stronger increases during the first hour after awakening and dexamethasone suppression. This subgroup also showed the lowest self-esteem, the highest external locus of control, and the highest number of somatic complaints (Pruessner et al, 1999). In PTSD as well as under long-term stress, fatigue, depression and burnout some studies have shown a “flattened curve” with a lower morning concentration of cortisol and a less steep morning

[9] A low dose dexamethasone (1-2 mg) suppresses cortisol in individuals with no pathology in endogenous cortisol production.

curve than usual. It is possible that a feedback system is at work that regulates the production of cortisol in a way as to protect the central brain (Pruessner et al., 1999).

2.2.5. Stress as work-related trauma

A Danish psychologist had during the past five to ten years in her private consultation observed an increasing number of originally healthy people who had been traumatized by work stress (Prætorius, 2007). She described "work-related traumatic stress" as a high-stress state, in which the person was overwhelmed and trapped. The brain was fixed in fight and flight reactions, just as if a traumatic life-threatening situation as a violent attack had taken place. Prætorius defined a series of stress factors all related to impossible demands and lack of influence that she had identified in her clients' situations:

- *Absurd amount of work.* This was often an effect of reductions and introduction of more effective systems of work. In many cases teams had been split up and the leaders had no professional knowledge and were unable to support their employees. A difficulty in letting down work could be that it had to be handed over to colleagues who were stressed as well. Persons who were willing to do high-quality work and follow the laws were in danger of this kind of strain.
- *Impossible work conditions with double bind.* Dilemma situations with the impossible choice either to try to do an immense amount of work to meet professional and legal standards or to do unqualified work or work that possibly compromised with the law. In both cases one would have to shut off from one's ethics, symptoms and feelings. Remarks from leaders who themselves had ordered the insufficient work conditions complicated the pressure as well as public and media exposure. Double bind situations were a constant stressor and "crazymaker", and if a person choosed to "live with it" it meant cutting off important parts of the self. Unreliability in thought and action was impossible to bear in the long run for a normally right-minded person because borders of decency were being pushed all the time. The only possible choice was to change the situation or leave.
- *Alienation, methods coercion, "manualizing", and evaluation.* Working methods were constantly changed or controlled and (new sorts of) evaluation were imposed. There was often a pressure on the individual to change inner quality measures in a way as to fit with the goals and cut downs of the company or workplace.
- *Lack of special skills or knowledge.* The person was asked to do work that she was not educated to do, or there were inadequate working conditions.
- *"System mobbing".* Also called "management as mobbing" was identified as destructive leadership that was traumatizing for the employee. An example of system mobbing was the pressure put on school teachers who have been used as political scape goats in the media for not doing their work properly at the same time as they have been overwhelmed with new tests and paperwork.

Prætorius identified three types of traumatic stress conditions: "work-related acute stress", "work-related traumatic stress syndrome" and "work-related externally ruled dehumanizing" (my translation), the latter can be equivalenced with Maslach's depersonalization parameter, but it was specified that it was a consequence of double binding work conditions where the employee was forced to give up his/her ethical standards to keep the job.

Prætorius worked with highly educated clients who had been healthy all their life until the changes in their working situation propelled them into a traumatic state that prevented them from returning to the job market for years. Many of them also experienced retraumatization by the way they and their case were treated by the social advisors in their communalities. I think that Prætorius' work is important as a reminder of the destructive ways modern work life can be. I find the definitions of complex work and double bind situations very useful, as they can be used to understand and verbalize the complexity of the stressing situations, and they can also be used to free stress clients from guilt and shame of not having been able to cope with their work problems. The parallels between chronic stress and traumatic high stress seem to be the prolonged and extreme strain, the complexity of high activation and fatigue/depression, and the necessity to get help to recover from the condition.

2.2.6. Summary and discussion of definitions

The Demand-Control-Support model of work stress has been presented, and so has the background for and definition of the concept of burnout. Research showed that especially women in the helping, teaching or nursing professions, people with a low degree of influence on their work, or highly educated ambitious type A personalities are most vulnerable to stress and burnout.

Burnout seems to be linked closely to chronic work-related stress. The argument for not choosing burnout as a dependent variable in this study is that the burnout scales all are directed against working persons, and in the study the participants are more or less absent from their working place because they are on sick leave (part-time or full-time).

Chronic stress and burnout are still not identified as diagnoses that have been strictly cathegorized. It can be questioned if burnout, traumatic high stress and chronic stress can be seen as the same illness. I see acute stress, high stress, chronic stress and burnout as placed on a continuum:

<------Acute stress----------Chronic (high) stress----------Burnout---------->

The lack of clarity regarding the diagnoses can be seen as a problem when performing stress research, and the question of how I will positively identify the stress condition in order to get a homogeneous population when recruiting participants can be raised. This subject will be discussed further in the quantitative methods chapter.

Before presenting work stress and music therapy studies, I will go through some of the most common methods used in the treatment of stress .

2.3. Treatment of work stress

2.3.1. Stress interventions

The previous studies in stress interventions are very often performed with persons still working, and not with clinical populations. Two reviews of stress managements programmes published in 1987 and 1997 pointed at the problems related to differences in target, methods and lack of control groups (De Frank & Cooper, 1989; Van der Hek & Plomp, 1997). The latter concluded, ”..it is still impossible to determine which specific interventions or techniques are most effective and should be recommended. There is some evidence that organization-wide approaches show the best results on individuals, individual-organizational

interface and organizational parameters" (van der Hek et al, 1997, p. 140). They adviced the clear specification of targets and inclusion of cost-benefit analysis in the future studies. In an American meta-analysis 48 randomized studies in stress interventions were investigated (van der Klink et al., 2001). The interventions were divided into four categories: relaxation programmes, cognitive-behavioural therapies, organization intervention and mixed interventions. It was concluded that the cognitive-behavioural therapy interventions were the most effective, but that relaxation programmes did have a relatively high efficacy compared to organization interventions. Other studies point in the same direction, but there is a problem concerning the use of different effect measurement methods, and the exact definitions of cognitive-behavioural treatment methods (Bond & Bunce, 2000; Ewers et al., 2002, Gardner et al., 2005).

Different kinds of progressive or guided relaxation techniques have been documented as effective in stress management (McGuigan & Lehrer, 2007). Hypnotic methods such as Autogenic training (Norris et al., 2007) and Biofeedback (Lehrer, 2007) have also been widely used in stress management. Breathing retraining as a way to obtain relaxation and access bodily resources has also been adapted (Dixhoorn, 2007)**.**

Cognitive approaches to stress managemnt have been described as a useful intervention, widely used in work-related stress management (Pretzer & Beck, 2007). The third wave of Cognitive-Behavioural Therapy (CBT) includes the management of inner states using meditative techniques such as mindfulness. Mindfulness-based stress reduction has shown significant results in RCT's in work stress on mood, distress, pain (Hafer, 1997). An eight weeks' programme with health care personnel showed significant decrease of stress and increased quality of life and self-compassion (Shapiro et al., 2005). Eight weeks of mindfulness meditation changed significantly emotional exhaustion and mood state in health-care professionals compared to controls, but salivary cortisol and empathy were not changed (Galatino et al., 2005).

Other techniques for stress management and treatment inspired from Eastern disciplines are qi gong, yoga and a modern form of mantra meditation (Carrington, 2007).

Physical exercise seems to be proved as an important factor in the recovery of stress. Physical exercise can influence the volume and activity of the hippocampus, and add to the working memory that in many cases are disturbed by chronic stress conditions (McEwen & Lasley, 2002, p. 137).

Garden therapy has been established as a way to build up healing environments for persons with burnout, where they can get back to a natural way of being by internalizing the living processes in nature (Stigsdottir & Grahn, 2003).

General research into stress management points at the importance of the learning processes of techniques and the motivation and continued use of the techniques after treatment or training as a way to maintain health. Preferred techniqes seem to be linked to internal or external locus of control, where persons with internal locus of control seem to master relaxation better than persons with external locus of control, who on the contrary are better at biofeedback (Lehrer & Woolfolk, 2007).

Early intervention in case of work injury or trauma at the working place has been shown to be important to avoid long-term strain and risk of developing posttraumatic stress syndrom (McFarlane & Bryant, 2007). Especially in professions where emergency and violence can be part of the work such as in the police force and in the military it is important to notice that reactions to traumatic events might present in a way that corresponds to chronic stress.

> While psychological debriefing has no demonstrated benefit, the benefits of early intervention necessitate ready access to evidence-based treatments that have minimum barriers to care. Employers should be aware that distress may present indirectly in a similar way as conflict with management, poor performance and poor general health." (McFarlane & Bryant, 2007, p. 409).

Early intervention versus late intervention will be studied as one of the statistical analyses in the present study.

2.3.2. Studies of treatment of work-related sick leave in Scandinavia

Two studies will be reveiwed at a rather detailed level because they have some similarities to the present study.

At "Stressmottagningen" (The Stress Research Clinic) located at Karolinska University Hospital in Stockholm (Perski & Grossi, 2004) a randomized controlled trial was carried out with 80 patients on long-term sick leave (86% had been on sick leave more than three months at intake) with "maladaptive stress" (89%) or exhaustion syndrome. 30% of the subjects had comorbid diagnosis of personality disorders and earlier psychiatric/psychological problems, 9% had anxiety or depression as their main diagnosis. 74% of the subjects were women, and the mean age was 46 +/- 9 years. The intervention included six months of treatment. The first six weeks stress management based on cognitive behavioural therapy and qi gong/tai chi exercises were provided for all. The rest of the time individually designed programmes were carried out including adjustment of medicine, Chinese acupuncture, short time cognitive, psychodynamic therapy or support of work life and social life, and help from a rehabilitation specialist to return to work. After waiting the control group was offered the same six months' intervention, and both groups were followed six months after treatment. Evaluation with self-report questionnaires was carried out pre, post and follow-up measuring burnout (MBSQ), sleep quality (Karolinska Sleep Questionnaire), and vital exhaustion (Maastrict Questionnaire). The control group was split up into two because some of the members had various forms of external treatment outside the clinic during the waiting period (treatment (n=29), no treatment (n=11)), and only the small control group was used in the between groups analysis. ANOVAS of group effect of treatment showed significant results on the burnout and tension sub-scales of MSBQ ($p<0.05$). Within groups analysis of treatment pre and post treatment showed significant effects (t-tests) of the global burnout value, the burnout sub-scales tension and mental fatigue, the sleep quality sub-scales sleep quality and staying awake and vital exhaustion. At follow-up also hopelessness had changed significant ($p< 0.05$), but sleep quality had decreased. Regarding return to work rates the degree of full-time sick leaves was significantly reduced at follow-up (from 81% to 30%). The number of subjects working or training work increased from 19% to 61%. A logistic regression was used to analyse predictors of work return. The only predictor that came out was that high levels of burnout at the beginning of sick leave were negatively correlated with work return, and the interpretation provided that severe initial burnout conditions probably demanded a longer period of treatment. A proposal of more systematic treatment for persons with similar diagnoses were made considering the major number of patients in the society and the low cost of treatment (45.000 Swedish kr. per person). The study design was similar to the present study, and the sleep scales are also comparable.

In a Danish stress clinic at the occupational health ward at Frederiksberg Hospital a controlled pilot study was carried out to evaluate a multi-pronged four months' stress treatment programme (Netterstrøm et al., 2005). The participants in the study had stress problems, 56 subjects received treatment and a control group of 24 subjects filled in the same

questionnaires and received two consultations with an occupational health doctor with a four months' interval. There was no randomization. The control group received various kind of treatment outside the clinic as in the Swedish study, but nothing was done about it in this study. The percentages of full-time sick leaves in the treatment and control groups were 34 / 50. Persons with a totals score > 21 in the Major Depression Inventory got appointments with one af the doctors for depression treatment. The percentages of the two groups with high scores were 71 /83. The intervention included stress management consultations with an occupational health doctor including preparation of schemes for limited daily activities and therapeutical goals (home work). The mean number of sessions was six. It also included a health check, a plan of physical training including measurements of physical condition, a 15 minutes' relaxation programme on CD for daily use, and a written material with education in stress reduction and management of anxiety. The evaluation of the treatment was physiological measurements of diurnal salivary cortisol, glycated hemoglobulin, lipids, thyroid-stimulating hormone and blood glucose. MDI and questions of strain were rated and dichotomized. Data on work return were obtained from all participants at a follow-up one year after inclusion. Results indicated a difference in symptoms between groups. The increase of self-reported quality of health, and decrease of somatic symptoms and depression were significant between groups at follow-up, but it was not significant regarding cognitive and behavioural stress symptoms. There were no difference between participants with and without SSRI treatment[10]. Regarding the physical parameters in the treatment group no significant differences were found in salivary cortisol after four months, or between groups. But a significant correlation between increasing symptoms of depression and cortisol awakening reactivity (difference between wake-up concentration and 30 minutes' concentration) was found during the follow-up period. The physiological measurements indicated that the participants' metabolism was changed in direction of catabolism (see explanation in section 7.6.2.). Results on work return showed a significant higher rate in the treatment group compared to the control group (Students t-test, $p<0.01$). 82% of the treatment group and 42% of the control group were working after a year. More than half of the participants in the control group were on sick leave or unemployed after a year compared to 18% in the treatment group. Women over 50 years on sick leave did not return to work in either of the groups. Depression was not a predictor of continued sick leave. The study indicated that the treatment made it possible to increase the rate of work return and to decrease depression symptoms, but that the effect came gradually and took many months. The participants stated that the professional support and the increased physical condition were significant for their motivation to improve. Regarding cortisol, the increase in cortisol awakening reactivity and decrease in cortisol after eight hours indicated a change in the diurnal excretion of cortisol in direction of a less flat curve parallel to the decrease in depression. The time for treatment used for each participant was four to eight hours within four months. The authors encouraged the practising doctors to spend this little extra amount of time and the use of a similar intervention with their patients with work-related stress. This stress study had several similarities with the present study namely the study of diurnal cortisol with the same measurement methods and the implementation of six consultations.

Two Danish studies related to work stress are going on while this literature review is being written. 120 participants is receiving psychological treatment in an occupational health clinic (the Herning study) and a group counselling in stress management techniques is offered at the University in Aarhus (the MARS study).

[10] Selective Serotonine Re-uptake Inhibitor – medication for depression.

2.3.3. State of the art treatment of stress in Denmark

The treatment as usual for a person with work-related stress depends on his/her own initiative and working place. Many companies, official workplaces and the unions in Denmark have a standardized practice offering one to four consultations with a stress psychologist typically working with cognitive therapy for example via Falck Health Care. According to the personal experience of Birgitte Larsen, the president and founder of the Danish Stress Union, a private organisation aimed at helping people with stress in self-help groups, no predescribed treatment is offered in the official health system to people who are on sick leave with stress (presentation, Copenhagen, October 2007). To my knowledge the general practitioners often offers SSRI-medicaments or sleep medication. Some are referred to an occupational health clinic where they can talk about all aspects of their situation and receive an assessment and/or counselling. The Danish municipalities run different kinds of projects and courses for people on long-term sick leaves including cognitive psychological counselling in groups, physical training and relaxation, group support and activities.

Stress treatment is offered in private clinics, such as Center for Stress (Milsted, 2006), Løkken Stress Center (ongoing study of evaluation, Keldorff, 2010)[11], and in private practices of therapy and coaching.

In the following section studies and reports on the use of music therapy and stress management will be reviewed.

2.4. Music therapy and stress management

2.4.1. Literature search

The primary purpose of this part of the literature review was to identify research on music therapy with adults suffering from work-related stress (or burnout/exhaustion syndrome). Secondarily, studies of music therapy as a stress management method with other populations with physical or mental diseases were searched for. Cortisol concentrations as a measurement method of stress was especially targeted. For the literature search the procedure described by Gilbertson and Aldridge (2003) was used.

The search terms were: music therapy AND: stress, burnout, exhaustion syndrome, somatic, chronic fatigue, fibromyalgia, cortisol. I looked for music therapy AND depression, anxiety, occupation, occupational, and hormones in a few of the databases to get an overview of the field. In two databases I used the search term GIM AND stress, cortisol, burnout, sleep, self care, resource. I chose to search in many databases relevant to music therapy literature, as I didn't expect to find very much literature: RILM, PsychInfo, Medline, CAIRSS, Google Scholar, Auboline (Aalborg University library), musictherapyworld (www.musictherapyworld.net), Nordic Journal of music therapy (www.njmt.no), the Bonny archive (http://www.temple.edu/musictherapy/home/dbs/gim_bonny.htm), and the Danish GIM-resourcecentre. (www.musik.aau.dk/research /musikterapi/gim-resource-center/index.htm).

The search period began in June and ended in November 2007. To find the relevant literature I chose to adapt the search terms to each database.

[11] Retrieved from http://vbn.aau.dk/da/projects/evaluering-af-loekken-stress-center%284fe46adc-d719-4a3e-b0e1-0ee9842aa82f%29.html 24 November 2011.

1 June: Musictherapyworld (both research database and the e-journal Music Therapy Magazine Today). Search terms: stress 4 hits, burnout 0 hits, somatic 2 hits.
RILM: Search terms: Music therapy AND stress 66 hits, 23 was relevant, burnout 3, somatic 1.
12 September: RILM: Occupation, stress 4 hits, chronic fatigue 4 , fibromyalgia 1, depression AND music therapy 67, anxiety AND music therapy 107, cortisol music AND therapy 7, hormones 13, sleep AND music therapy 10.
Musictherapyworld: chronic fatigue 0, fibromyalgia 0, depression 5, anxiety 3, occupation(al) 0, cortisol 0, hormones 0 , burnout 1.
Nordic Journal of Music Therapy: burnout 0, fibromyalgia 1, depression 15, anxiety 29.
CAIRSS: no new results on any keyword.
Psycharticle: music therapy and stress: 267 hits, burnout 10, cortisol 0.
Google scholar: music therapy stress management: 16.000. Th first 10 pages were reveiwed.
20 November: Medline: Music therapy AND burnout, stress management, fibromyalgia, chronic fatigue, cortisol: 25.
The Bonny Archive: 3 articless.
Voices (webjournal) 1 hit, one discussion.
Auboline: 0.

After having sorted the scientific articless, 62 articles were chosen to include in the literature review.

No studies have been found that described music therapy with adults on sick leave with stress.

The studies will be presented in the following categories:

1. Meta-studies in music therapy and stress reduction (four studies)
2. Studies in active music therapy on workplaces (seven studies)
3. Studies in receptive music therapy on workplaces (two studies)
4. Music therapy with clients having related diagnoses (seven studies)
5. Studies illuminating the discussion of client/therapist chosen music (four studies)
6. Studies focusing on music and relaxation (10 studies)
7. Music and medically informed imagery (five studies)
8. Quantitative GIM studies (14 studies)
9. Studies in cortisol and music therapy (four studies)
10. Studies in cortisol and music listening (five studies)

In the reported studies I include the origin of the study concerning place/setting and part of the world as my studies in music therapy and culture have brought my awareness to the influence of the context of a study. In order to be able to discuss the way to use music for stress reduction the information on the use of music and/or music therapy methods will be referred.

2.4.2. Meta-studies on music therapy and stress

Four meta-studies in music and stress management were found: Hanser (1985), DeCrosta (1993), Pelletier (2004) and Dileo and Bradt (2007). Hanser (1985) made a critical

review of research on music therapy and stress reduction covering the measurement of physiological variables, brain activity and overt behaviour. She referred to the development of studies in stress, music and physiological reactions (galvanic skin response, finger pulse volume, pulse rate, muscle tonus, heart rate and blood pressure, gastric motility, and also shift in mood and attitude) through the 20th century. Both in primary and replicated studies she found an effect of music listening on physiological variables, but in some studies there were inconsistencies in self-reported stress reduction (A-state Anxiety Inventory) and physiological stress variables that did not change accordingly. Hanser discussed the terms stimulative and sedative music, and referred to the theory of Katkin (1975), who estimated that electrodermal activity, resulting from arousal or stress states, had to do with heightened attention and information processing. Hanser regarded this as a feature also accompanying music listening, especially music of a stimulatory type. She referred to three studies in music listening and tension, and they all tended to conclude that music listening produces tension, and that atonal and non-traditional music produced more tension than silence or known music. Hanser described the beginning of brain wave and biofeedback research in the seventies and eighties, and saw a great potential in these fields. She proposed the research area of music therapy based coping strategies. Finally she discussed the problems in stress research/music therapy research concerning the establishment of clear definitions of relaxing music, and the question of how research could prove if it is the music itself or the arousal/attention reaction that causes stress reduction or production. She concluded that music therapy research should include the development of specific programmes, examination of their major effects, and testing of single facets of the programme, including therapist behaviour as opposed to technique. Many of her concerns are still very relevant and important when designing a study.

DeCrosta reviewed studies of music and stress management from 1961 to 1991 in his thesis in Master of Arts degree in Psychology (DeCrosta, 1993). He presented studies which examined stress reducing characteristics of music alone, stress management procedures alone and the synergistic qualities of music combined with stress management. He concluded that even though much of the research might be fraught with vague or subjective operational definitions and/or statistically significant results, a direction for future research and investigation had been well established, and he stated that moving away from experimenter or clinician chosen music when combined with stress management may be a better way to eliminate experimenter bias.

Pelletier (2004) worked out a meta-analysis based on 22 studies of the effect of music on decreasing arousal due to stress. She related the study partly to articles from Hanser (1985). Thirteen of the studies were based on stress in medical settings, two of the studies were of occupational stress. Music assisted relaxation techniques highly increased relaxation during an arousal condition due to stress. All results pointed in a positive direction. The positive results were not changed when considering age of study or observation method. Music listening had the highest effect on adolescents compared to older age, and on women compared to men. Passive music listening was not as effective as when music listening was combined with verbal suggestions, vibrotactile stimulation or progressive relaxation. The use of research-based music selections was more effective than using client preferred music (a list of nine music selections was given, characterized by slow tempo, low pitches, primarily string compositions, regular rhythmic patterns, no extreme changes in dynamics, and no lyrics). The use of individual treatment was more effective than group treatment. More sessions enhanced the effect of treatment. Musicians were more receptive than non-musicians. One of the studies used GIM as method (Hammer, 1996). Pelletier argued “GIM had the smallest effect on subject relaxation and as a result it may not be as effective technique for music therapists to use when the goal is to reduce stress” (Pelletier, 2004, p. 207). One could argue that GIM is

correctly not the right tool if the goal is limited to relaxation. It is one of the aims of this study to investigate if music as stress reduction is effective when more therapeutic ingredients such as emotional processing, imagery, cognitive reframing and insight are applied.

Dileo and Bradt (2007) performed a meta-study of 41 controlled music therapy and stress management studies in a non-clinical population. Significant changes between music therapy versus no treatment were obtained for self-report measures such as mood and anxiety (STAI and non-STAI), and for physiological measures such as blood pressure, respiration rate, Immunoglobulin A and heart rate/pulse. In seven studies measuring cortisol low effect sizes and no significance were found. In a table presenting effect sizes for music/music therapy versus no treatment condition self-report measures such as anxiety, relaxation, tension and mood resulted in higher effect sizes than physiological measures such as heart rate, finger temperature, cortisol and betaendorphines. The use of listening to classical music was compared to non-classical music (easy listening, new age), and it was found that the mean effect size was higher in the non-classical music condition (.27 compared to .18). The authors suggested that classical music was not superior to other kinds of music in terms of stress management, but they recommended a cautious interpretation because most of the studies did not include the musical preferences of the participants.

Dileo and Bradt described several music therapy methods for stress management, such as music listening experiences of pre-recorded music with or without low frequency tone, pre-composed or improvised live music (by therapist, client or both). The assessment of music style and choice of music used to facilitate relaxation should involve the client, and could include many different genres. The use of low frequent tones (called vibroacoustic therapy) involved lying on a special bed from where the tones are used to vibrate and stimulate the body (Wigram & Dileo, 1997). Two principles of music therapy related to stress management were described. Using the ”ISO principle” the therapist musically matches a physical parameter such as respiration rate or pulse (possibly monitored with biofeedback) and after a while the tempo of the music gradually is changed with the physiological parameter following to for instance a slower breathing or pulse (Saperston, 1995). Also emotional parameters can be matched. In music therapy ”entrainment” the therapist creates music that illustrates the description of the clients anxiety or stress, and another improvised music is also created matching the client's wish for relaxation or healing. The client listens with eyes closed to the therapist improvising the stress music and gradually moving to the healing music. Afterwards the listening experiences is processed verbally. The client gets a recording of the music. Studies using entrainment is described below (2.4.8).

Music therapy in combination with other stress management techniques such as progressive relaxation, biofeedback, autogenic training, imagery often with music acting as cue for relaxation or the coping with anxiety were described. Guided Imagery and Music as an advantageous music therapy technique was proposed to be able to ”lead to the resolution of issues related to the client's stress and to the enhancement of emotional expression” (Dileo & Bradt, 2007, p. 530).

2.4.3. Studies on active music therapy as stress management at workplaces

Three authors described burnout in the music therapy profession: Fowler (2006), Hills et al. (2000) and Oppenheim (1987), but I do not find these studies relevant for the present study.

Seven studies described the use of music therapy methods for stress management at work. Cheek worked as therapist and researcher with 51 teachers working in two elementary

schools, one reform school and one traditional school (Cheek et al., 2003). In both schools the participants were randomized into two conditions, a cognitive/behavioural and music therapy group and a cognitive/behavioural group without music (four groups in total). All participants were treated for six weeks, and tested pre and post with a Maslach Burnout Inventory version for educators (Maslach, 1996). In the music therapy groups, after a discussion of "how music could facilitate cognitive processing of upsetting or stressful events and how those cognitive processes could be integrated into their daily lives" (Cheek et al., 2003, p. 209), participants were asked to find a song that referred to their career and the three facets of the burnout scale (emotional exhaustion, depersonalization, personal accomplishment). The songs were played and discussed in the one and a half hours' group sessions. The cognitive/behavioural groups worked with Meichenbaum's stress inoculation techniques, accompanied by the observation of thoughts and feelings in their daily lives, relaxation and breathing techniques, cognitive restructuring, role playing, and discussions of integration of the techniques in practice. In the statistical analysis of the MBI results no difference between schools was detected. The three sub-scales of the MBI were calculated for the two treatment variables. No difference was found regarding emotional exhaustion, a slight significant increase in personal accomplishment for the cognitive/behavioural groups compared to status quo in the music groups was found and a significant decrease in depersonalization was found in the music groups compared to the cognitive/behavioural groups. Reasons for the success of music therapy to reduce burnout and especially depersonalization were discussed. The possibility of expressing feelings and connect to other professionals through social bonding, the ability to express negative feelings through non-verbal responses or behaviour, and the increased coping skills learned.

Groups of Recreational Music Making (RMM) have been used as an active music method in four cases. In Tokyo Wachiuli et al. (2007) investigated a group drumming protocol on Japanese male corporate employees. A total of 20 volunteers participated in a one-hours' RMM session while 20 volunteers engaged in leisurely reading for one hour (controls). After a six-months' interval, the groups switched activities an underwent one session each. Pre and post-intervention data were collected using mood state questionnaires and blood samples. The RMM group demonstrated enhanced mood, lower genetic "expression levels" of the stress-induced cytokine interleukin-10, and higher Natural Killer cell activity when compared to the control.

Bittmann et al. (2003) performed a controlled, prospective, randomized study of an interdisciplinary group (n=112) of long-term care workers. The clinical and potential economic impact of a RMM protocol focusing on building support, communication, and interdisciplinary respect utilizing group drumming and keyboard accompaniment was investigated. Burnout and mood dimensions were assessed with the Maslach Burnout Inventory and the Profile of Mood States. Statistically significant reductions of multiple burnout and mood dimensions as well as Total Mood Disturbance scores were noted. Cost savings were projected by an independent consulting firm, who developed an economic-impact model. Economic-impact analysis projected cost savings of $89.100 for a single typical 100-bed facility, with total annual potential savings to the long-term care industry of $1.46 billion. Professor Lee Berk (2003) after having read this article telephoned the hospital where the research took place, and the director told him that the team spirit and moral had changed and the turnover rate had decreased in the year of the study compared to the previous year, even though not all the employees participated in the RMM. The same experiment was carried out with 75 first-year associate level nursing students (Bittmann et al., 2004). Also in this case statistically significant reductions of multiple burnout and mood dimensions as well as TMD scores occurred. Potential annual cost savings for the typical associate degree nursing

programme (16.800 dollars) and acute care hospital (322.000 dollars) were projected by an independent economic analysis company. The effect of RMM on the neuroendocrine-immune system was investigated by testing the reaction of 45 immune response-related genes in 32 random assigned healthy individuals (Bittmann et al., 2005). In subjects performing the RMM activity following a one-hours' stress induction protocol, 19 out of 45 markers demonstrated significant reversal ($p = 0.05$). Pearson's correlations only showed significant reversal in six out of 45 markers in the resting control group and none out of 45 in the ongoing stressor group.

Obviously the RRM protocol seems to have an influence on burnout an mood on employees from different occupations as well as on students.

The music therapist Holland (1995) worked intensively with active music therapy as a stress management method for healthy people, serving as a prevention of stress-related illnesses. She developed the point of view that stress can be looked at as a wave of energy that one can learn to surf on instead of to drown in the depths. In her sessions she taught people to build musical responses to their emotions and get their tension out in improvisations on musical instruments, and afterwards recycle the now available energy into positive actions. She experienced how people found ways to deal with stress and to control the stress so that it could get a more positive role in their lives. An important part of this was the change of perspective on stress that music therapy gave them, especially through the fact that the music was able to touch the emotions directly, and to get to private anxieties, concerns and problems. Holland in her article described a man who got a heart attack after six years of stress problems that had not been acknowledged by his doctor. He now was in a process of changing his lifestyle to prevent another heart attack. In group music therapy he was able to identify, deal with and change his emotional habits in real life. Holland concluded, “Emotions, such as unresolved anger, can be diffused through visualization and improvisation and can be prevented from recurring even in highly stressed situations” (Holland, 1995, p. 410).

In Holland's private practice with individual therapy and groups on stress management on workplaces, she noticed the emergence of a pattern, primarily in the men's attitude. A lot of them represented themselves as strong, “up-front”, and confident in public, but when they improvised on music instruments, they were able to get to hidden sides of vulnerability, creativity and beauty that even they themselves didn't know existed. Holland proposed the theory that stress partly emanated out of the battle between Ego and Self or man and God, as Jung described it and that the Western attitude of hunting worldly successes did not satisfy the needs of the soul, but in the contrary led to a seriously disturbed balance. “The need is for a musical approach that restores equilibrium and balance, thereby reducing negative stress and enabling people to talk more openly about how such stress affects them” (ibid, p. 415).

Holland described certain themes that she worked with in groups, with which she had positive results: expression of isolation and loneliness, feeling out of control, feeling “out of rhythm”, hyperventilation and panic attacks (working with breath and vocalisation), contacting the inner world (holding and exploring the picture in the mind of a lily in the water while playing), lack of confidence, suppressed anxiety and loss of identity. She also worked with feelings of frustration, anger and exhaustion, allowing the feelings and taking guilt out of having them, and supporting the expression. When working with the outlet of strong emotions, Holland would play on the most loud instrument to be able to support and back up the person playing loud. Holland finally described how she worked with a group of artists, and how the music therapy made it possible to let go of performance anxiety, creativity blocks and isolation. The image of jumping over a barrier on a horse while making music served as a

way to work symbolically with obstacles when passing actual barriers in life. By working with groups and individuals with stress problems for many years, Holland experienced that a combination of thematic active improvisation with visualization had a great impact on the ability to get in contact with the emotional aspects of life stress and that the insights gained from the shared music in combination with the support from the group effectively led to change and choices of life style and attitudes. The work of Holland has been very inspiring for this study, as it is one of the few music therapy publications with in depth methodological descriptions of the work with stress as the central problem.

Although more directed towards performance anxiety than stress, combined methods of active and receptive music were used in a study of holistic group music therapy with musicians with performance anxiety (doctoral dissertation by the American music therapist Montello (1989)). Compared to controls, experimental subjects became significantly more confident as performers, as measured by the Personal Report of Confidence as a Performer Scale, and less anxious as measured by the Spielberger/State Trait Anxiety Inventory. The participants moved significantly towards the norm on the Narcissistic Personality Inventory and according to observer-rated video measurements of their musical performances. Holistic music therapy reduced performance anxiety by helping musicians to 1) become more aware of the underlying dynamics of performance anxiety; 2) experience unconditional acceptance and support in a safe group environment; 3) bond with their music-selves; 4) transform anxiety through creativity (reparation); and 5) bond with others in the spirit of musical community.

The group support and the effect of active music making creating positive atmosphere in a group seem to be a powerful and inspiring kind of work with stress management.

2.4.4. Studies on receptive music therapy at workplaces

Two studies investigated the ability of music listening to influence cognitive functions in software designers. In her dissertation the music therapy researcher from University of Windsor in Canada Theresa Lesiuk (2003, 2005) described the effect of music listening on mood and quality of work for groups of systems developers from four companies in Canada (n=56). Data were collected at the working places over five weeks. Mood, stress, time-on-task, environmental interference and quality of work were measured. State positive affect and quality of work were highest in the subjects listening to music (unspecified), while time-on-task was longest when music was removed. Results indicated that music listening could be used both as an agent for mood change and as mediator to reduce stress. From narrative accounts the positive mood change influenced perception of design when working.

Field et al. (1997) assessed the immediate effects of a row of "alternative therapies" such as brief massage therapy, music relaxation with visual imagery (not performed by a music therapist), muscle relaxation, and social support group sessions in 100 hospital health care employees at a major public hospital. The effects of the above mentioned therapies were assessed using a within-subjects pre-post test design and by comparisons across groups with the Profiles of Mood scale. All groups reported decreases in anxiety, depression, fatigue, and confusion, as well as increased vigour following the sessions suggesting that these particular therapies, when applied for short periods of time, are equally effective for reducing stress among hospital employees.

These two studies support the hypothesis that music and imagery as well as receptive music therapy has an influence on stress, mood, effectivity and creativity.

2.4.5. Studies of music therapy with clients having related diagnoses

I have looked for music therapy studies in populations with diagnoses related to chronic stress. The chosen diagnoses are depression, anxiety and complex somatic illnesses as fibromyalgia, chronic fatigue syndrome, arthritis and more. Seven studies will be reviewed.

Educated at Institute for Music and Theater in Oslo with a level one training in GIM Bjellånes reported a study of group autogenic relaxation training and music with 12 women aged 20-65 suffering from fibromyalgia (Bjellånes,1999). Besides quantitative measurements of pulse the study was primarily qualitative using interviews as evaluation method. The idea of the project was informed by resource-oriented concepts aiming at giving the patients tools they could use themselves to increase life quality and cope with muscular pain, sleep problems and social problems related to work. The participation in training endured 39 weeks. The music listening phases were divided into two, a "trying off" music listening of different genres and a "holding" phase in which a modification of GIM was implemented. The music was aimed to hold the participants in the same place instead of pushing them into an explorative experience by using short pieces with a low degree of dynamic and limited structure and thematic development (for example Holst' *Venus*). The results from qualitative interviews suggested reductions of pain and changes in pain experience, reduced sleep problems, increased mental and physical performance and increased stress coping. The stress coping strategies included re-interpretation of stressors, consciousness of connections between stress reaction, pain and muscle tension, planning, putting tasks and life issues in order of priority and setting boundaries. Ten of the participants experienced increased self-esteem and self-confidence, with less self-criticism and more self-acceptance and an increased ability to contain their own meanings and speak up for themselves. This result was linked by the author to the changes in body conception from a "pain body" to a "positive experience body". As the motoric and symbolic experiences from relaxation and music experiences were stored, mental reflections of self and identity resulted in a new sense of meaning and mastery. In the conclusion of the study, this alternative non-medical resource-oriented self-therapy method was recommended for people in work in need of a stress reduction technique in their daily life.

The findings and methods from this study are very relevant for the clinical work and qualitative part of the present study regarding the use of holding music, the enhanced coping strategies and the change of body experience.

A nurse study (in Portuguese) with a work-related pain and strain group was carried out by the Brazilians Leâo and da Silva (2004). They studied 90 women's drawings of mental imagery while listening to one of three different pieces of music. Their diagnoses were fibromyalgia, work-related repetitive strain injury/osteoarticular diseases and diseases related to the spinal column. Data were obtained by means of interviews, and pain intensity was evaluated by the verbal numeric scale (0-10) before and after listening to the music. The mental images were quantified by analysing the drawings made during each listening session. The three groups presented a statistically significant reduction in pain intensity at the end of the listening session ($p<0.001$). The mental images did not differ in quantity between pieces by Ravel and Wagner whereas "The Mix" (mixed music) presented quantitatively lower results.

As depression and anxiety are comorbid with stress, I will mention a few studies documenting the effect of music listening on these conditions.

In an overview of complementary therapies in psychiatry the amount of rigorous scientific studies to support the efficacy of music therapy on depression was found to be

extremely limited (Ernst et al.,1998). Maratos and Gold have started a Cochrane protocol investigating clinical trials in music therapy for clinical depression including studies of music therapy compared to other treatments and studies comparing different music therapy methods (Maratos & Gold, 2003).

Hanser et al. (1994) worked with a music-facilitated psychoeducational strategy for older adults experiencing symptoms of depression, distress and anxiety. Thirty older adults who had been diagnosed with major or minor depressive disorder were randomly assigned to one of three eight-weeks' conditions: a home-based programme where participants learned music listening stress reduction techniques at weekly home visits by a music therapist; a self-administered programme where participants applied these same techniques with moderate therapist intervention (a weekly telephone call); or a waiting list control. Participants in both music conditions performed significantly better than the controls on standardized tests of depression, distress, self-esteem and mood. These improvements were clinically significant and maintained over a nine-months' follow-up period.

Shiraishi (1995) documented how a music listening programme for multi-risk mothers decreased depression and enhanced self-esteem for the majority of the mothers.

The effects of three types of active music therapy on levels of depression, stress, anxiety, and anger among women in an outpatient substance abuse rehabilitation programme were investigated (Cevasco et al., 2005). Ten women aged 19 to 42 participated twice a week for six weeks in four sessions of either movement to music, rhythm activities or competitive games. State-trait anxiety and levels of anger were measured after each session. No significant differences were found between the three types of therapy. Daily scores, collected before and after each session, showed that participants reported a decrease in anger, anxiety, depression, and stress immediately following the sessions.

Kari Batt-Rawden from Oslo in Norway focused on the significance of music listening in everyday life for the long-term ill (Batt-Rawden, 2006). A number of 22 adults took part in eight in-depth interviews over a one-year period. Four double CD compilations from different genres were used as devices to discover whether participants could learn to use music as a 'technology' for self-help, with regard to health, healing and recovery. The beneficial experiences of taking part in the project resulted in an increase in self-awareness and self-consciousness. Listening to and discussing music were considered to be an important tool in the process of change, sense of agency and self-development. Despite of illness, music listening enhanced quality of life and “well-ness”; a vital factor in the process of recovery.

2.4.6. Studies illustrating the discussion of client/therapist chosen music

In the meta-studies of music and stress management (2.4.2) contrasting results on the effect of client selected music versus therapist selected music were found. A music therapist with specific focus on the brain, Dale Taylor, referred to research findings from several studies, concluding that the music preference of the subject/client had a significant larger effect on the degree of relaxation compared to therapist/researcher chosen music (Taylor, 1997). In a study of music listening and anxiety the participants chose their own music, resulting in a decrease of state anxiety but increase in physiological stress-related parameters. This was explained as a personal feeling of safety with the music, but the preferred music may at the same time have had arousal- inducing features such as fast rhythm, high volume and many dynamic shifts (Thaut & Davis,1989). Similarly in a study of music volume and relaxation the analysis of the self-reported data yielded a wide variety of responses concerning individual preferences, and these were not always consistent with the empirical measures

(Brotons & Staun, 2000). The positive stimulation of good music might be a bias to the stress reducing effect of preferred music on a physiological level. That is especially true in acute stress states. However, in chronic stress states more activating music might help to get out of feelings of depression and helplessness.

As an example of a combination of clinician and client choice of music the Danish PhD in music therapy Karin Schou in her study of Guided Relaxation and Music following heart valve surgery presented four music compilations in different styles for the participants. They could choose one style after having listened to 40 seconds of the first cut (Schou, 2007). Most of the participants preferred ”easy listening” music such as Kåre Norge (gentle guitar music) rather than gentle classical music, light jazz or a special music produced for stress reduction in medical settings (Thomas Eje's *Musicure*).

The studies reflect an ongoing discussion of the mechanisms at work in music and stress management, or any other music therapy: Is it the music itself or features of the music such as rhythm, melody, sound, tempo that have a certain impact or is it the special relation to the music involving previous experience with the music or music style, taste, identity, culture etc. that is important for the effect. The discussion has been summed up in the two definitions ”music as therapy” or ”music in therapy” (Bruscia, 1987). According to my experience music in therapy serves as a relation builder where the music can be seen as a gift, a relational signal of resonance and empathy, a shared experience, and a possibility for matching and expressing emotions. The relational part of music therapy may overrule the music preference in some situations.

2.4.7. Studies focusing on music and relaxation

A range of studies investigated the relation between music and the relaxation response (parasympathetic activity).

Music listening compared to no music significantly calmed down students after stressful tasks in two studies with students and undergraduates measured in IgA (Knight & Richard, 2001) and Stress/Arousal Adjective check-list (Hatta and Nakamura, 1991).

The preferable music style for relaxation was the target of a number of studies. One example is Allison (1988) where jazz music (Pat Metheny) raised finger temperature to a higher level than Pachelbel, Steven Halpern and Rider. In the study of Brotons and Staun (2000) the significance of the moderate volume of music for relaxation was highlighted. Three volume levels were tested both with physical measurements and self-report data by college students. An increase in relaxation was reported over the duration of the experiment.

Whether relaxation alone was more stress reducing than music and relaxation or music alone was investigated in different ways. A number of 77 healthy males in four groups following a stress task were exposed to progressive relaxation, music, attention control, silence. Progressive relaxation was found to be the most relaxing – suggesting that cues are helpful in relaxation (Scheufele, 2000).

Rohner and Miller (1980) studied music as a way to reduce anxiety in 321 introductory psychology students, who were randomly assigned to one of four treatment conditions or to the control group. Comparable forms of the Eight State Questionnaire were administered before and after treatment. The main hypothesis that music (as opposed to no music) would reduce anxiety was not supported.

In contrast to these findings Reynolds (1984) found that music was an important part of the

relaxation response. He worked with 20 undergraduates using pre and post frontalis region EMG biofeedback measurements in five relaxation training procedures (duration 25 minutes) following the induction of stressful imagery: biofeedback only, autogenic training phrases, music, autogenic training phrases plus music (ATPM), and a control group. After eight biweekly training sessions the music and ATPM groups achieved highly significant differences when compared with the control group. The ATPM group attained the lowest post baseline arousal level measured by the EMG.

Similarly Robb (2000) found that the combination of relaxation and music was more effective than relaxation alone in alleviating state trait anxiety. Sixty university students participated of which 15 were randomly assigned to each treatment condition: music-assisted progressive muscle relaxation (M+PMR), progressive muscle relaxation (PMR), music listening, and silence/suggestion. One-way analyses of covariance were computed to compare pre- and post-test differences among groups. Results of the ANCOVA revealed no differences among groups for the State Trait Anxiety Inventory (STAI) or the Visual Analogue Scale (VAS). Analysis of invariance revealed each treatment condition to be equally effective in producing significant changes in anxiety and perceived relaxation from the pre- to post-test period. Additionally, mean score differences revealed decreases for all conditions, with music plus progressive muscle relaxation eliciting the greatest amount of change.

Smith and Joyce (2004) investigated relaxation states occurring to American junior college students listening to Mozart's *Eine kleine Nachtmusik* versus Steven Halpern's *Serenity suite* versus a control group reading recreational magazines (n=63). They based their study on Smith's questionnaire combining 15 Attentional Behavioural Cognitive relaxation states with states of stress and negative emotion. The studies shed light on different aspects of relaxation, for instance Rested/Refreshed, Disengagement, Energized, Thankfulness and Love, Aware and Joy. The states varied with the stage in the relaxation process, the relaxation induction method, and the music. The researchers concluded, “Those who listened to Mozart (...) reported more psychological relaxation and less stress than either those who listened to new age music or read magazines” (Smith & Joyce, 2004, p. 216). Interestingly, after their third music listening session, Mozart listeners reported substantially higher levels of “Mental Quiet”, “Awe and Wonder”, and “Mystery” than the new age music listeners. This could point at the potentials of classical music to reach spiritual resources in the listener.

One study shed more light on the imagery component. Four stress management techniques were evaluated for their general appeal, their immediate benefits, and the subjective experiences they evoked (Avants et al., 1991). A hundred undergraduates were assigned to one of five treatment groups, each of which lasted 20 min. The treatments were (1) progressive muscle relaxation; (2) distraction imagery; (3) focused imagery; (4) listening to music; and (5) sitting quietly (control). Measures included the State-Trait Anxiety Inventory. Distraction imagery and listening to music were the only techniques found to reduce anxiety to a greater extent than sitting quietly.

The studies in music and relaxation indicated that even though there were contrasting results music and relaxation in combination has a potential to reduce stress.

2.4.8. Music and medically informed imagery

A quite special way of working with music and imagery is the shared work of Mark Rider (music therapist) and Jeanne Achterberg (professor in psychology). Rider studied connections between nonharmonic brain waves and impaired immune defense (Rider, 1999).

Inspired by the works of Altschuler (1948) and Nordoff-Robinns (1977), he designed an "entrainment music" to initially match the behaviour/emotional state of the client and then gradually alter the music to introduce a more relaxed state of mind. The entrainment music was tested to have a positive influence on imagery (Rider, 1985). In two studies (Rider & Achterberg, 1989, and Rider et al., 1990) the effect of music-assisted imagery (20 min.) on neutrophils versus lymphocites, and imagery and music (17 min.) versus music only on Secretory IgA were examined. In both cases six weeks of bidaily imagery exercise influenced significantly the amount of cells in groups of healthy participants (n= 30/n= 45). The participants were instructed to imagine changes in the biological processes involving the production of the immune defense cells. The group working with neutrophils did not produce increased amounts of lymphocites and vice versa, indicating an effect on the exact imagined kind of cell. The participants working with imagery and music had significant higher SIgA than the group only listening to music. Achterberg proposed that a similar procedure for stress clients would be to let them imagine how the glands producing noradrenaline calmed down, and/or imagining a safe place (Achterberg, 1994).

Having documented the effect of music listening and relaxation on stress and anxiety, and having discussed the use of music preference, I will proceed with a review of quantitative studies using GIM as music therapy method.

2.4.9. Quantitative GIM studies

Results from previous quantitative studies of The Bonny Method of GIM have provided a very important background for the present study.

The American GIM therapist and researcher Cathy McKinney (2002) described a number of quantitative studies using BMGIM as a treatment method and they are shown in the following table including author, year, number of subjects, diagnoses, information about control condition, and, finally, what kind of results the studies elicited. A few quantitative studies in GIM found by myself have been added, and they are marked with a star.

Table 2.4. Significant outcomes in quantitative GIM studies

Author, year	**N**	**Diagnosis**	**Sessions**	**Control condition**	**Measures**	**(Significant) Results**
Bonny (1976)	24	Mild to moderate neurotic symptoma-logy	Less than 60 hours of treatment	Brief intensive psycho-therapy without music or imagery (RCT)	No of sessions, length of therapy, therapy goals met.	No statistical analysis. Indication of GIM clients having shorter treatment periods, less sessions, less therapy return, more therapy goals and other goals met.
McDonald (1990)	30	Hypertension	6 weekly sessions	Verbal therapy, no therapy (RCT)	Mean systolic and diastolic blood pressure	GIM both decreased systolic and diastolic BP significantly, systolic BP continued to decrease after therapy. BP in the other conditions were unchanged.

Wrangsjö & Körlin (1995)	14	10 healthy, 4 with mild-moderate psychiatric disturbances	Various	-	Hopkins SC-90, Inventory of interpersonal problems, Sense of Coherence Scale	Significant decrease in almost all measures of psychological distress, signicant improvement of interpresonal relationships, increased sense of meaningfulness and coherence.
McKinney, Antoni, Kumar & Kumar , (1995)	8	Healthy	6 weekly sessions	Waiting list controls (RCT)	Mood (POMS)	Significantly decrease of depression in GIM group
McKinney et al. (1997)*	78	Healthy undergradua-tes	1 session "Music Imagining "	Silence/ only mu-sic/ only imagi-ning (RCT)	Creative Imagination Scale, Social desirability scale, beta-endorphine.	Pre-post decline in beta-endorphine in music imagining group.
McKinney, Anotni, Kumar, Tims & McCabe, (1997)	28	Healthy	6 biweekly sessions	Waiting list controls (RCT)	Mood disturbances, (POMS), serum cortisol	Mood disturbance (and sub-scales of fatigue and depression) changed significantly, cortisol significantly decreased at 7 week follow-up.
Burns (1999)	8	Breast/Ovari-an cancer	10 weekly sessions	Waiting list controls (RCT)	Mood (POMS), Quality of Life	Significantly decreased mood disturbances remained at follow-up, increased Quality of Life
Little (1999)	38	Hospice staff, volunteers	6 biweekly sessions	Waiting list controls (RCT)	Grief	Significant decrease in grief and despair
Maack & Nolan (1999)	25	Former GIM clients	More than 6 sessions	-	Emotional contact,insight, spiritual growth, relaxation, new parts of self.	Gains in all areas plus self-esteem and mood change. 67% improved mentally after therapy, 46% continued to improve physically and 88% improved in transpersonal areas.
Jacobi & Eisenberg (2001-2)	27	Rheumatoid arthritis	10 weekly sessions	-	Erythrocyte sedimentation rate, pain (McGill Pain Q.), psychological distress (SC-90R), depression, walking speed, morning stiffness	Significant decrease in psychological distress (incl. depression and ways of coping), pain, no of affected joints, significantly increased walking speed.
Körlin & Wrangsjö (2002)	30	Mental health 20 "functional"/	Various	-	Hopkins SC-90	Significant improvements in all areas except paranoid

		10 "dysfunctio-nal" measured with Hopkins SC-90				ideation, 6 out of 10 dysfunctional patients moved into functional group, the subgroup demonstrated large effect sizes on somatization, depression and psychoticism
West (2003)	72	Healthy	Guided music and imagery relaxation following stress task	Relaxation: Music-focused attention/ Silence (RCT)	Cortisol, POMS.	No significant effect in cortisol or mood by group. Cortisol and tension decreased most in the music and Imagery group.
Bonde (2004)*	6	Recovering from breast cancer	10 biweekly sessions	-	HADS, EORTC-QLQ-30, Sense of Coherence	Anxiety decreased significantly pre- post-therapy.
McKinney et al. (unpub-lished, power point, Aalborg, 2005)*	10	Recovering from breast cancer	6 biweekly sessions	-	Distress (Hassles), Mood disturbance, Quality of Life, Melatonin, Cortisol, Prolactin	Mood disturbance, depression, Quality of Life, decreased intrusive thoughts and avoidance behaviours.

As can be seen in the table, 14 reported studies of varying symptomatology from mental health problems to physical diseases are reported, of which seven are controlled studies, with numbers of participants from eight to 30. As the Wrangsjö and Körlin study from 2002 is a follow-up study of their 1995 study, the authors at all have studied 44 patients by the same methods. The last column in the table shows (significant) results, and it can be seen that almost all studies indicate that BMGIM is an effective method to affect mood, modify psychological symptoms and stress, and that it also can be shown to have an impact on physiological measures as cortisol, melatonin, blood pressure and walking speed in arthritis. Of special interest for the present study is the McDonald study which showed a significant effect on blood pressure in hypertension patients after six GIM sessions and a continuation in the decrease of systolic blood pressure after the end of therapies, the Körlin and Wrangsjö studies indicating that GIM might be a very effective tool to change psychological distress, and the Burns and McKinney and colleagues' studies from 1995 and 1997 showing a significant effect on mood in both healthy and ill clients after six sessions. These studies support the implementation of six GIM sessions as sufficient to obtain a significant effect, as proposed in the present study, as well as the hypothesis that BMGIM will have an effect upon stress and emotional problems.

2.4.9.1. Studies in GIM and hormones

Some of the studies measured the effect of GIM with biomarkers such as cortisol and other hormones. Burns (1999) evaluated GIM as effective in improving mood and quality of life in cancer patients; though cortisol concentrations did not significantly decrease between intervention group and controls. McKinney, Kumar, Tims and McCabe (1997) did a controlled study of the effect of six biweekly GIM-sessions in 28 healthy subjects. Plasma cortisol was measured at baseline, after 13 weeks of intervention and at seven weeks' follow-up. Significant decreases in cortisol levels were found between groups at follow-up. The

decrease in cortisol was significantly associated with decrease in mood disturbance measured with Profiles of Mood Scale. It was concluded that such changes in hormonal regulation may show a "shift...in the cortisol regulatory system" (McKinney et al., 1997, p. 398), indicating a permanent lower level of stress-receptivity.

West (2003) performed a study of healthy individuals going through a speech test and a music and imagery experience measuring cortisol as stress indicator. One group experienced only music listening and another group experienced GIM after the stress exposure. West found that the participants who went through a GIM experience had a faster decrease of cortisol than the group that only listened to music or silence, indicating that GIM can function as a stress reducing intervention with immediate effect on cortisol in healthy adults.

McKinney, Clark and Kumar (2005) investigated the effects of six biweekly sessions of GIM on distress, life quality and neuroendocrine hormone levels (cortisol and the sleep and cancer associated melatonin) in women with non-metastatic breast cancer (McKinney, power point; Aalborg University, November, 2005). No significant effects on cortisol or melatonin were reported, but there was a medium-high effect size on cortisol from pre to follow-up (d= . 70) and a medium effect size on melatonin (d= .56).

The number of ten sessions were applied in populations with somatic diagnoses as cancer, as seen in the table of quantitative GIM-studies, and I speculate if the lack of significant effect in cortisol in the cancer studies of McKinney et al. and Burns could stem from a too short treatment period.

2.4.9.2. Studies of music listening and hormones

A great deal of studies showed the effect of music listening on stress, measured in salivary (urinary, serum) cortisol. "Relaxing" or "sedative" music together with relaxation guidance and/or imagery was often applied as intervention both in medical and non-medical conditions.

In their meta-analysis of music therapy in medical conditions (Dileo & Bradt, 2005) cortisol was measured in seven studies, with a total sum of subjects of 218. No statistical significant mean effect sizes were obtained for subjects' cortisol levels as a result of music therapy or music interventions, but one study from a "general hospital" setting resulted in a positive effect size (. 34) indicating increased arousal during music listening. It is possible that the single studies had significant outcomes. I suggest that the arousal patterns (followed by increased cortisol) resulting from music intervention can be difficult to control in a pre-post measurement situation.

Miluk-Kolasa et al. (1994), (on a military hospital in Poland), studied music listening as a tool to reduce stress. The response of the adrenal cortex to a stressor consisting of information about a surgery to be performed the following day was studied in 34 patients by monitoring changes in salivary cortisol. From those, 18 patients were subjected to an individually selected one- hours' music programme, applied immediately following the information about surgery, and the remaining16 patients formed a reference group. Another 10 patients, not awaiting surgery, served as controls. Saliva was sampled before the stressor and five more samples were collected at 15 minutes' intervals. The stressor produced a 50% rise in salivary cortisol within 15 miutes in patients not exposed to music. Cortisol levels gradually decreased but after one hour they were markedly higher than the initial level. Khalfa et al. (2003) showed similar results. Monitoring changes in salivary cortisol levels in 24 students before and after the Trier Social Stress Test, data showed that in the presence of

music salivary cortisol concentrations ceased to increase after the stressor, whereas in silence they continued to increase for 30 minutes.

Fukui and Yamashita (2003) tested both salivary cortisol and salivary testosterone on students exposed to music listening, music listening with visual stress (violent movie scenes), visual stress without music or sound, and silence. They found that cortisol decreased in the music listening group but increased in all other conditions. Testosterone decreased in men but increased in women in the music listening group.

Spintge (1991) described a study of effects on anxiety of anxiolytic music played during three medical settings (labour, dentist treatment, surgery with peridual anaesthesia). In each case the differences in ACTH, cortisol and beta-endorphines levels between music versus non-music groups were statistically significant (100 subjects per group). The difference was independent of length of operation, and in the music listening groups the need for sedatives, analgesics and anaesthetics was reduced by 50% of the usual dosages.

Le Roux et al (2007) in a private physiotherapy practice in South Africa studied the effect of Bach's *Magnificat* on emotions, immune and endocrine parameters in patients of specific infectious lung conditions. Participants (n = 40; 9 men and 31 women) ranging in age from 40 to 75 participated in the study. Patients were randomly allocated to an experimental and a control group. During a three-days' period the experimental group received physiotherapy with the selected music, while the control group only received physiotherapy. An ANOVA indicated significant changes in the following parameters: POMS-scale, cortisol, CD4+/CD8+ ratio (measure of the balance between killer T- cells, and T-cells), and cortisol/DHEA ratio (the balance between cortisol and dehydroepiandrosterone studied in lung infections is a measure of the function of the immune system), indicating an effect of the music on the mind-body connection.

Rider et al. (1985) measured the effects of music, progressive muscle relaxation (PMR), and guided imagery (GI) on the adrenal corticosteroids. Hypotheses were formulated to evaluate the effect of a taped induction of music/PMR/GI on the mean level (1), circadian amplitude (2), and circadian re-entrainment with body temperature (3) of urinary corticosteroids. Urine collections and body temperature were recorded in shift-working nurses during three four to five days' intervals over a one-month period. The nurses listened to the tape on a daily basis, commencing after the first recording period. Results indicated that circadian amplitude decreased significantly ($p = .007$), and corticosteroid and temperature rhythms were significantly (p less than .01) more entrained during the tape conditions. The mean corticosteroid level also declined during tape listening, but non-significantly ($p = .15$). Because of the close relationship between corticosteroids and the immune system, these data suggest a relationship between music/relaxation techniques and physical health. Music listening can help the body to both reduce the amount of stress hormones and make the disturbed diurnal release rhythm more normal. This is the only study in music and stress release including the measurement of corticosteroids on a diurnal base.

The review of GIM and music listening studies leaves some insecurity of the usefulness of cortisol as a measurement method. The two GIM studies using healthy adults showed positive affect on cortisol but the two studies with cancer patients did not. When music listening were applied to decrease stress after a stressor cortisol measurement seemed to be applicable, whereas the results of studies on cortisol in medical conditions are more varied. The decrease of cortisol in the chronically stressed might be more difficult than in the studies in healthy students on a stress task. Although salivary cortisol can be easy to collect, the analysis demands a high precision in the laboratory, as the kit needs to be controlled and

validated. The Rider study is the only one investigating diurnal cortisol. Measuring cortisol before and after single music listening episodes gives information on actual arousal states, whereas the measurement of diurnal release pattern of cortisol can provide information about changes in the general stress level. This method is widely used in stress studies in Denmark and Sweden, and was included in the present study.

2.4.10. Summary of review of music and stress management literature

The literature review of music and stress management has shown that music therapy and music listening combined with relaxation and the presence of a music therapist has the potential to reduce stress and anxiety. Research on GIM has shown that it is more effective than music listening alone or imagery alone to reduce stress. Increased mood and well-being and decrease of anxiety, fatigue and tension seem to be indicated as effects of GIM. Changes in cortisol and other biomarkers are not yet well supported, and the study of this kind of effects may be exploratory.

GIM seems to be a good choice for the population of chronically stressed. GIM provides a possibility to integrate in the work the whole palette of biopsyhosocial issues related to stress. The choice of individual GIM versus group GIM can be discussed, as group treatment would have been offering possibilities of bonding and mutual learning. On the other hand individual GIM provides the possibility to provide a highly personalized musical support to the single participant. A more detailed description of the intervention and a theoretic background for the modification of the method will now be provided.

2.5. Intervention

After having presented research on stress definitions, work stress, state-of-the-art treatment of stress and music therapy/music and stress management, the argument for GIM as an intervention in the present study has been presented. In order to provide a background for the modification of the method to the chronically stressed, and a foundation for the qualitative analysis different theories of somatic psychology will be presented.

2.5.1. The GIM method

The Bonny Method of Guided Imagery and Music was developed in the 1970s by the musician and music therapist Helen Bonny at the Maryland Psychiatric Research Center (Bonny, 1973, 2002; Bruscia & Grocke, 2002). Theoretically GIM leaned on Maslow's self-actualization models and Roger's client-centered therapy. GIM was developed primarily as an individual form of therapy, but Bonny also worked with groups mainly as a preparation of the individual work.

The first published definition of GIM was formulated, “Guided Imagery and music (GIM) is a method of self-exploration in which classical music is used to access the imagination. It includes listening to classical music in a relaxed state, allowing the imagination to come to conscious awareness and sharing these awarenesses with a guide. The interaction among listener, music and guide is what makes GIM unique. The GIM experience can lead to the development of self-understanding, the ordering of the psyche and the achievement of spiritual insight ”(Clark & Keiser, 1986, p. 1).

An individual GIM session is one and a half to two hours long and includes four phases.

1. A prelude including a verbal conversation where the focus of the musical journey is prepared. The prelude can also include body awareness techniques or the drawing of a pre-mandala (circle-shaped drawing, where the circle represents the wholeness of the soul).
2. A guided relaxation where the transition to an altered state of consciousness is provided.
3. The music journey. The duration of the journey is normally 30-45 minutes. While the music plays the listener reports her/his spontaneous inner imagery to the therapist.
4. A postlude initiated by a drawing phase where the listener draws a mandala as a transition back to normal consciousness. The journey and the mandala are discussed and integrated verbally.

The role of the guide or therapist was to be a facilitator of the musical experience. The music was looked upon as a co-therapist or by some GIM therapists as the primary therapist (Summer, 1988). The therapist's interventions were meant to be mostly affirmative and validating, supporting the inner experiences of the listener. Questions and interventions could for instance be “how do you feel?”, or “is there anything in the music that can help you?” In the integration phase the therapist was not meant to interpret the imagery or the mandala, but to help the listener to find her/his own connection between the imagery and the journey focus and/or current life situation.

The music programmes used in GIM consisted of pieces brought together from different classical works and composers mainly from the romantic era. The music pieces were carefully selected and tested both in normal and altered states of conciousness. When chosing music Bonny looked for musicians and conductors with high technical skills and ability to be present emotionally, who were also able to truly communicate the intent of the composer. This kind of music was able to hold and call forward repressed emotions in the listener (Bonny, 2002, p. 4). Each programme addresses defined themes or working areas as “Grieving”, “Death and Rebirth”, “Caring” etc., and they are of different depth and complexity. The programmes are described as beginners or working programmes. The role of the music is to open a connection to unconscious layers and to enhance creativity and imagery (Bonny, 2002). The composition of the music programme as a whole forms a dynamic profile that stimulates the entrance into the inner world, the exploration and work through of material, eventually with opportunities of breakthroughs or peak experiences, and a landing and integration phase.

The choice of music programme or music pieces for a GIM session had been described as a skill and an art. Summer (2010) described how music can be selected and programmed at the spot while working with the client, and she also proposed the use of repetition of music pieces. The first piece in the programme should be of the same emotional tone and quality as the state of the listener. The music programme should provide enough space for a deeper exploration of the issue, but also be supportive enough to keep the listener in a safe enough space. Repetition of the music pieces served as a method to increase the engagement with and relation to the music.

Grocke (1999) in her dissertation made a phenomenological analysis of pieces which most often generated a “pivotal moment” defined as intense, embodied experiences. The moment where the client confronted and resolved certain distressing imagery generated a radical change in the person’s life. Features common to the music selections where a pivotal moment happened were a formal structure in which repetition was evident, a predominantly

slow and consistent tempo, predictability in melodic, harmonic and rhythmic elements, dialogue between solo instruments and orchestra or between groups of instruments or in vocal parts.

2.5.2. Further development of GIM

The Bonny Method has spread to the whole world, and has been identified as one of the big five music therapy models. Many new music programmes have been created by different GIM therapists and trainers, and continuing research on GIM is carried out.

GIM was originally developed for self-development purposes, but has been adapted to many clinical client populations such as psychiatric care (Moe, 2001; Beck, 2007), pain and stress management in chronic diseases as AIDS and cancer (Bruscia, 1991; Burns, 1999), hospice care (Andreasen, 2007), trauma recovery (Körlin, 2005) and many more areas. The adaptations of the method to fit patients with more fragile ego structure, for instance in the psychiatric care, were group treatment with only 5-10 minutes of music and no verbal interaction during the journey (Summer, 1988, 2002; Moe, 2001). Modified group or individual GIM has also been called Music and Imagery (MI).

2.5.3. Music and Imagery

MI was an adaption suited to all kind of settings with treatment of persons in fragile states. Summer described three levels of GIM work: supportive, explorative and re-educative. The supportive level focused on the creation of a positive common basis in the group allowing the participants to feel safe, so that the group could build itself up through shared positive experiences. The goals and themes of supportive GIM were described in the following notes handed over by the author (Summer, Aalborg University, October, 2007).

1. Self-Care: Nurturing yourself, appreciating your inner world, refuelling, recharging, revitalizing, getting to the source of inner energy, slowing down, making space.
2. Identity: Gaining authenticity - not what others want to see, gaining depth, asking: Who am I? Really? Connecting with your true self, feeling your core energy, feeling good about yourself, accepting yourself, accepting positive qualities in yourself, giving attention to inner impulses (need to sleep, taking time for yourself, intuition).
3. Contacting positive inner resources (qualities): Spontaneity, letting go, creativity, joy, sensitivity, freedom, feeling alive and feeling engaged in life.
4. Music: Connecting with music

I believe that most stress patients basically have a good ego structure, but because of the overwhelming psychological and physical effects of stress there is a need of holding and structure, at least in the beginning of the therapy, which in GIM would often be typically used with patients with a weak ego. I think that some of the ideas from supportive MI groups could be implemented in the work with stress patients on an individual basis. This is also based on the fact that depression can be part of stress, requiring a method that supports the positive thinking and feeling states (mood change) rather than focusing on the depressive states. An important feature in the therapy is the development of the client's connection with the music. The stress patient must be able to experience the music as a holding space that can be stable and nurturing enough for him/her to relax and let go of tension.

A resource-oriented and supportive GIM session can bring forward existential and spiritual dimensions. It is considered as a very powerful way to touch the person's values and beliefs in a tangible way, creating imagery that enhances contact with resources of hope and relief. Working with the chronic stress population, it is important to build up and support the resourceful side of the patient providing sufficient energy for the confrontation with inner or outer conflicts.

2.5.4. Connections between music and imagery

One can not predict a direct connection between music and the exact sort of imagery, yet different moods in the music can be linked in an open way to types of imagery or issues in the experience (as assumed in the titles of the programmes). The Australian GIM therapist Marr (2000) studied the indications of changes in imagery related to what was occurring in the music. She analysed the imagery of different persons to the Grieving programme, and wrote the narrative of the journey on the music scores. She found out that there were more imagery occurences when the music had a harmonic structure, was rhythmically predictable, and had long melodic phrasing, whereas there was a pause or only a few images when the music had many shifts in rhythm, tonality, dynamics and there were no clear melody. Imagery seemed to follow sequences of tension and resolution in the music. It is very interesting for this study where embodiment is in the focus that low pitches and descending melody lines seemed to stimulate embodied imagery (high pitches and light timbres seemed to expand the imagery), and that passages with solo instruments often matched somatic and kinaesthetic imagery in specific parts of the body.

2.6. Theoretical aspects of GIM

2.6.1. Imagery and music as metaphor and analogy

The spontaneous unfoldment of imagery stimulated by the music has been specified as all kinds of sensory experiences (visual, auditory, kinaesthetic, olfactory and gustatory). The imagination could be more or less vivid, and the ability of imagery forming has been evaluated by a scale indicating high and low imagers (McKinney & Tims, 1995). Imagery connects to memories, thoughts and insights, emotions, sensory experiences, transpersonal or spiritual experiences. The interpretation of imagery in the music journey is based on the assumption that the imagery represents and brings a development into important issues and patterns in the listener's life. Two levels of interpretation can be described as basic to the linking of music/imagery experiences and psychological or daily life factors, the analogy and the metaphor.

The analogy between an image and the psychological experience is seen as direct and non-referential. GIM imagery as a basic assumption is regarded as analogue to the way of "being in the world" in different senses and modes of experience. "Many music therapists rely on the premise that the music of a client or patient – the musical expression in an improvisation or the experiences under music listening – is closely attached, analogous to the personality or pathology of the person (Bonde, 2009, p. 207, my translation). Smeijsters, who has been working with analogy as a basic concept in music therapy, described how the client's vitality affects are expressed in musical improvisation as a more direct way of communicating the inner state than the verbal language. Musical parameters are analogous to psychological parameters as for instance the drumming pulse showing the degree of grounding (Smeijsters, 2005). The imagery of a GIM client can be regarded as analogous to the inner being of the

client (for instance an imagery of a springtime forest is the actual lived experience of the unfolding self) and similarly the impression of the music is understood as a direct feeling of the mood and inner state of the client.

In GIM the music stimulates imagery content that can also be perceived as metaphors. With metaphor, unlike analogy, specific interpretations are not explicitly given. A visual image of for instance a pair of red rubber boots can be interpreted as a metaphor of a psychological trait (innocent straightforwardness) or a metaphor of the happy child. A kinaesthetic imagery of being touched by a feather could be a metaphor of subtle care or contact with the realm of freedom/flight.

Symbols can be regarded as a subcategory of metaphors. Symbols are loaded with metaphorical significance and are often deeply connected to a culturally collective understanding. Symbols can contain many layers of significance and information, and might not be fully verbalized or understood except as an inherent emotionally loaded body of meaning. An example could be the visual imagery of a cross. It could among other things symbolize death, faith or Christianity with all the possible connotations the listener has to it.

When looking at music experiences and metaphors, there has been a revival of the understanding of music as metaphor since the eighties (Bonde, 2010). Lakoff and Johnson (1980) argued that metaphors in language occurred in the experiment of bodily positions and movements. Inspired by Johnson's image-schemata (Johnson, 1987) several authors (Zbikowski, 2002; Aksnes, 2001) began to look at music and the impression of spatiality (i.e.music as heights and depths in a space or landscape) and assumed that this kind of experience was based on “cross-domain mapping” (brain processing of hearing and movement domains). The experience of music could also be connected to the inner space of the body (higher tones to the upper part of the body and lower tones to the lower parts of the body) or to vitality affects (melodies moving upwards as expansion and lightness, melodies moving downwards as closing or heaviness). Johnson (2007) investigated how the sense of music could be based on the experience of music as metaphor of inner and outer movement. Following Johnson's theory, it becomes clear how music can “move” us emotionally, how imagery connected to music often unfolds as landscapes with dynamic contours similar to the musical dynamic (mountains, flatland) or how imagery of movement (dancing, running, flying) also can be seen as a metaphor of the musical flow, tempo and rhythm. Johnson looked at different sorts of balance in music and movement.

Interestingly for the investigation of stress and homeostasis Aksnes (2001) also looked at balance as one of the important somatic experiences affected by music. The metaphorical projection of musical balance of for example melodic curves (up and down) could both happen onto the body's sense of balance but also to the emotional sense of balance (Bonde, 2009).

2.6.2. GIM and coping

Francis Goldberg proposed a holographic field theory related to the GIM process, where she identified a cyclic process between music, emotion and imagery (Goldberg, 2002). This is interesting for the present study because it relates the GIM experience to the processes of the autonomous nervous system (ANS) that was described as central to stress **(**2.1.8**)**. Only the first four parts of her theory will be presented. In the theory music was seen to stimulate the autonomous nervous system directly and create arousal according to the tempo, dynamics and intensity. In the light of Scherer's ”reaction triad” (Scherer, 2000) emotion would emerge first as arousal, then as a perception of movement and finally as an experience of emotion.

Conscious or unconscious images were stimulated and influenced by emotion and vice versa. ”If music acts directly upon the ANS and emotion begins in the ANS, and if the image is the mode of communication between the ANS and the brain, it follows that the image would appear to be a representation of emotion during the BMGIM experience. Thus the BMGIM experience may consist of a series of music-emotion-imagery cycles” (Goldberg, 2002, p. 362). Goldberg related the concept ”defensive maneuvers” to the components of the emotional response. As emotion can be seen to be linked to the process of evaluation of an inner or outer event, it is also linked to the actions that are leading to the adaptation or mastery of the situation.

> Defensive maneuvers in BMGIM are an adaptive means of coping with deeply emotional and potentially stressful or threatening experiences, and they are essential to avoid fragmentation or disintegration of the ego....Defensive maneuvers are those that help the person not only to cope with stress and threat during the BMGIM experience, but also to achieve mastery and build power to move deeper into the issues at hand (ibid, p. 364-5).

In GIM a highly intensive experience can be of both negative or positive imagery, it is the degree of potential overwhelming that determines the manoeuvre. The actual manoeuvres are explained as conscious or unconscious actions that could be directed towards the music, diverting the emotional response or the image, transform the image to a less threatening form or suppress the issue related to the emotion or image. The therapist could be included in the emotional evaluation leading to transference and countertransference dynamics. Yet the defensive manoeuvre is not the same as the Freudian defence mechanism.

In my understanding the defensive manoeuvre is a regulation of the intensity of the emotional experience, the imagery or the music experience. The regulation process in itself is proposed to have a strengthening effect as they are repeated and as the listener experiences her/himself successfully dealing with demanding situations and emotions in the journey. This means that when working with persons that are already stressed it might be very important to be aware of and support the process of defensive manoeuvres, not in a directive way, but by acknowledging and providing the possibilities to do it. Goldberg wrote that if emotionally charged issues are active in a person's life the music will stimulate a deep emotional response and conscious and unconscious images. For the chronically stressed, the defensive manoeuvres in the journeys could be a way to deal with the situations and pressure that caused the stress sick leave originally, or any other event or unfinished situation that might serve as underlying stressors.

2.6.3. GIM and trauma

Another way that to describe GIM and the treatment of stress is the theory of neuropsychiatrist, PhD and GIM trainer Dag Körlin (2005). According to Körlin when dissociated fragments from the trauma would manifest as repetitions of the trauma no recovery process are established. From years of practice with clients with PTSD he studied how GIM could open a way for the memories of trauma not accessible by the mental parts of the brain.

Körlin formulated how “discursive” and “analogue” symbolization of traumatic experiences occurred in GIM. Discursive symbolization was defined as primarily linear and linked to language, whereas analogue symbolization in a simple way can be described as the image and affective representation created both as inner image formation and as outer image formation (drawings).

. In a GIM process where the development of resources in a protective and nourishing therapeutic contact with support of the self-esteem, the ownership of the traumatic affects will be possible and the analogue and discursive symbolization can begin. ”Analogic symbolic imagery reflects not only existing but also new combinations of memories and representations, suggesting a creative process in the altered state” (Körlin, 2002, s. 394). As an example of the change from reexperiencing fragments of the dissociated trauma material to symbol formation of a trauma, a woman that had been violently attacked first got an image of the teeth of the perpetrator. In a later session an analogue processing of the same situation was represented as a windmill with ”teeth”, and now the client was standing beside the mill. She was now present in the imagery and able to move away from the mill. If a client not yet is able to form inner analogue imagery, the mandala drawing can be an intermediary of this function. An exclusively verbal or cognitive understanding of the trauma would not release the emotional withdrawal, and that is why the analogue transformation of affects to emotions that takes place in a GIM session is crucial. As an endpoint the trauma can be integrated in the self-biographical memory.

Körlin has developed a method that can be used with trauma victims as a preparation for the GIM journey, where deep breathing first without and then with music with an awareness of the stomach is establishing an inner space in the client. The Music Breathing will be a part of the present study as I intend to teach the participants to breath with the music as an introduction to GIM and as a self-help tool they can use at home to calm and center themselves.

2.7. GIM in an embodiment perspective

My interest of GIM and stress has centred in the work with body imagery, the processes of embodiment and trauma. In order to establish a theoretic ground for the analysis of ”the body in GIM”, a few theories will be presented that can contribute to the foundation of the understanding of embodiment, trauma and GIM throughout the study.

2.7.1. Body phenomenology

When embarking on the embodiment journey the philosophic work of Merleau Ponty on the perception of the body has to be mentioned (Ponty, 1962). Merleau-Ponty perceived the essences of the world existentially and he saw consciousness, the world and the human body intricately intertwined and mutually "engaged”, as a perceiving thing. The world and the sense of self are emergent phenomena in an ongoing "becoming". Ponty talked about the mutual embodied being as ”intercorporeité”. Explained by Reynart, ”Because of our shared embodiment - intercorporeité - everything we do has immediately intersubjective signification, and we do understand directly what the other means” (Reynart, 2009, p.102)

Mark Johnsonn, an American philosopher and professor of Liberal Arts and Sciences worked intensively with the embodied foundation of metaphor and meaning (Lakoff & Johnson, 1980; Johnson, 2007). Based on Dewey's philosophy he defined a naturalistic theory of logic where the human being is ”a nondualistic embodied creature in interaction with its environment”.

> What we call ”mind” and what we call ”body” are not two things, but rather aspects of one organic process so that all our meaning, thought, and language emerge from the aesthetic dimensions of this embodied activity. Chief among those aesthetic dimensions are qualities, images, patterns of sensorimotor processs, and emotions (Johnson, 2007 p.1).

Johnson argued that the unconscious bodily processes are the underlying base of all emotion, thinking and language and that the sense of bodily movement is fundamental to the life process and the origin of meaning,

> Through movement, we learn not only the contours and qualities of our world, but also the sense of ourselves as inhabiting a world with which we can interact to achieve some of our ends and goals. Above all, it is not just the *structures* of movement that matters; it is, even more, the *qualities* of movement that constitute our bodily understanding of motion (ibid, p. 19).

2.7.2. The narratives of the ill body

Arthur Frank studied illness narratives and the body, and he saw stories about illness as not only being told about the illness, but being told through and by the ill body (Frank, 1995). He categorised illness stories in three main narratives: the chaos narrative, the restitution narrative and the quest narrative. These narratives also can be relevant for the way people with chronic stress perceive their illness, and how they expect their recovery process to be. In the chaos narrative, the illness is perceived as an overwhelming and threatening state where there is no meaning or direction, but a lot of chaotic symptoms and events. Often this state is characteristic for the initial phase of a severe illness. In the restitution narrative the ill person seems to concentrate all his or her efforts on finding the right treatment or cure that will re-establish everything as it was before the onset of illness. Stories of miraculous healing or genius doctors are supporting this kind of narrative. There is a tendency to repress the here and now and live in the future. In the quest narrative the ill person is living in the now, accepting the illness as a deep process of change. The illness is perceived as a learning process where new skills or qualities can be actualized, and there is a hope for improvement but also a realization of the changes in personality, life style, performance and future possibilites. According to Frank, the quest narratives may be seen as the most beneficial but this is not suited for everybody, and it is important not to judge the ill persons and try to push them in this direction if it is not their way of dealing with the illness. The quest narrative is most clearly associated with GIM, where for instance ”psychological aberrations may be less an illness than a growth potential” (Bonny, 2002, p. 12) , but it is possible that all three narratives can be embraced, and they will be kept in mind for the hermeneutic analysis of the therapies.

Aldridge (2011)[12] stated that health can be seen as a performance meaning that we are ”performed beings” who realize ourselves in the world in an ongoing process as performances.

> The body also has an aesthetic that influences our identity; how we present ourselves in the world, and how we are recognised. It is through our bodies that we are in the world”. When we become ill, the flow of performance is changed, our bodies can not perform in the same way. ”We have the ability to recreate forms. When this ability fails then we experience an existential loss. Performing ourselves back into the world, a world of others, is a vital activity of being alive and being human. Yet form is fleeting, we must be continually present for a new performance (Aldridge, 2011).

2.7.3. Somatic psychology

In somatic psychology and psychotherapy the body is the vehicle of transformation in a bottom-up perspective, meaning that the sensory information and movement impulses gained by deepening the awareness of the body are informing the process of insight and chance.

[12] Retrieved 25 October 2011 on http://web.mac.com/nordoff_robbins/David_Aldridge/Performing_health.html

> By reclaiming our bodies, we reclaim the part of ourselves that is uniquely constructed to be our most fundamental mechanism of change, growth and transformation. Until we construct a physical structure for our growth, our change processes have no home in which to live; emotional, cognitive and spiritual have no container to rest in, no home to dwell in. (Caldwell, 1996, p. 170)

Somatic psychology rests on a few basic premises: the continuum of body-mind, the restoration of movement, pulsation and liveliness, the awareness of the ways we exchange energy with our environment and looking at the body as metaphor.

> In somatic psychology a correspondance is seen between physical and (socalled) mental dysfunction...Many physical illnesses such as ulcers, migraines, and skin rashes, are seen as potentially an expression of emotional and/or cognitive upsets.....a somatic therapist regards physical illness as a potential symptom of trouble in the somatic unconscious. (Caldwell,1997, p.16)

Arnold Mindell as a Jungian bodyworker and shaman described the ”dreambody” as a channel of wisdom. He regarded an illness or a symptom as a potential for self-development, and worked with the amplification of the pain or symptom in order to find its message (Mindell, 1985, 1993).

> Body language is like dream language. It gives you indications that the conscious mind is not yet able to give. Once the mind is able to function in harmony with the body signals, the body automatically relaxes. If the body is tense, there is a reason. The tension is needed, and shouldn't be arbitrarily relaxed. If you can find and integrate the processes in apparantly lethal symptoms, powerful dreams and strange acts of fate, you normally feel better and you have more energy, yet you will also find that the new behaviour not only widens your personality, but often brings you to the limits of what you can do. Thus, a body symptom, regardless of how seemingly insignificant, can become the most difficult and exciting challenge of your life! A terrifying symptom is often your greatest dream trying to come true (Mindell, 1985, p. 27).

2.7.4. GIM and the body

As part of the tutorial writing for training of GIM therapists, Bonny described how body responses occured in the form of physical auditory stimuli patterns such as motoric reactions to the rhythm in the music, movements related to the relaxation process (muscle spams), and primary focus on the body as part of the emotional process (Bonny, 2002). Experiences of altered body states could occur such as dismembering of the body parts succeded by reorganizing of the body as described in shamanic initiation experiences. Different kinds of body reactions and movements could be utilized to facilitate the therapy. For advanced practitioners the evocation of imagery related to pain could be facilitated by lying the hand on the place of pain and ask for colors or form of the pain. ”If imagery occurs, the pain might dissipate and be forgotten. In this case the pain or body part was used as a vehicle in the exploration process” (Bonny, 2002, p. 289). Touch was encouraged in GIM only with the accept from the client because of the sensitivity in the altered state of the client. The GIM therapist could for instance support the client's neck, hold her/his hand or hold and rock the client as part of the journey.

In 1993 after twenty years of working with GIM Helen Bonny defined a body-oriented way to listen to the music named ”body listening” or ”Affective-Intuitive listening”: One is initially lying down on the floor experiencing the music as vibrations in the body, or ”its effects in and through the body” and if the music suggested it physically movements and sounds of voice could be expressed lying, sitting, standing or moving around in the room. Bonny wrote,

> One sense that modern man has neglected is the sense of touch. We speak of the ”touch” of music, but how can we receive that ”touch” when our bodies and minds are shielded on a daily basis from receiving it? To open that shield is to open the body to music. Therapeutically we advice others to use the music to open the body, knowing that the music has a way to affect our physiological responses. But can we turn that around and say that we need to use the body to open ourselves to music? (Bonny, 2002, p. 329).

Bonny referred to her own experience of body listening to a music tape she had been working with for fifteen years. ”I know each piece almost by heart. But I came away from that experience with new understandings of the music that arose from places inside me not explored before” (ibid, p. 332). I think this explains some of the depths that body-oriented GIM can reach.

Several authors have related their GIM case studies to theories of body-mind connections (Merrit, 1994; Aksnes & Ruud, 2008).

Two GIM trainers developed an imagery sheet of different kinds of perception of the body emerging during the journey (personal note, Summer & Blake, 1992). The categories that they named were:

1. Kinaesthetic (movement activity; I.e.: running, flying, chewing)
2. Visceral (a feeling translated into the body and strongly connected to an emotion; I.e.: fear = knot in the chest)
3. Organic (heightened/altered direct perception of body which is not connected to feeling; I.e.: music expands the legs)
4. Somatic (unconscious, literal bodily symptom of tension that seems unrelated to the emotion/issue at hand; I.e.: pain in the neck, fast heartbeat, numbness)

The categories are very interesting, but I found that they were a little unprecise in relation to the different concepts. I consulted the literature concerning brain processing of different kind of body perceptions.

2.7.5. Sensory information

The basic physical sensory modalities interoceptive, exceroceptive, proprioceptive and the vestibular sense will be described.

Humans have basically four sets of information about how we feel our bodies: the interoceptive, the exceroceptive, the proprioceptive and the vestibular sense. They correspond with and are processed in different specific parts of the brain.

2.7.5.1. Interoception

The interoception gives us information about pain, the feeling of the inner organs; especially in the chest and stomach. An interoceptor is defined as ”any sensory nerve ending located in cells in the viscera that responds to stimuli originating from within the body in relation to the function of the internal organs, such as digestion, excretion, and blood pressure” (Mosby's Medical Dictionary, 2009[13]).The viscera meaning the intestines are often named the most important part of the interoceptive feedback, maybe corresponding to what is called ”gut feeling”. Some authors speak about the ”stomach brain” and a system of neurotransmitters in the stomach also called the enteric nervous system (Gershon, 1999). The

[13] Retreived from http://medical-dictionary.thefreedictionary.com/ 14 July 2011.

vagus nerve that is strongly connected to the ANS is also associated with interoception. In GIM the inner sensation of the body can be described as sensations of tension and release, inner pressure, emptiness or fulness in the stomach, inner temperature, weight/lightness, energy and small inner movements such as trembling.

2.7.5.2. Exceroception

The exceroception has to do with our external five senses and sensitivity to stimuli originating outside of the body. An exceroceptor is ”any sensory nerve ending, such as those located in the skin, mucous membranes or sense organs that responds to stimuli originating outside the body, such as touch, pressure, or sound” (Mosby's Medical Dictionary, 2009). The sensory modes include visual sense and sight, auditory sense and hearing, gustation or sense of taste, olfaction or sense of smell, and the touch modality or skin senses including the sense of pain and pressure from without the body. In GIM the inner representations of the senses can be experienced as imagery (inner experience of hearing, seeing, smelling, tasting, and sensing of the skin or imagined touch).

2.7.5.3. Proprioception

The proprioception is the sense that indicates whether the body is moving with required effort, as well as where the various parts of the body are located in relation to each other. According to the American Heritage Medical Dictionary (Houghton Mifflin, 2007)[14] a proprioceptor is ”a sensory receptor, commonly found in muscles, tendons, joints, and the inner ear that detects the motion or position of the body or a limb by responding to stimuli within the organism”. It has to do with the positions of the body parts, for instance how we sense a moving hand with our eyes closed. The proprioception is probably activated in GIM when imagery of movement is occurring such as the imagination of walking, flying or dancing. The feeling of the muscles is included in the proprioception.

2.7.5.4. The vestibular sense

A fourth sensory information system is the vestibular sense**,** a sensory system located in structures of the inner ear that registers the orientation of the head. It gives us information about our balance and spatial orientation or equilibrium. It is also called the labyrinthine sense.

In the analysis of body imagery an attempt to identify the four sensory modalities will be carried out.

2.7.6. Focusing - oriented Psychotherapy

In some therapeutic methods the attention is focused on bodily sensations to inhibit overwhelming emotions and negative thoughts, to get down to the basic experience of the here and now, and to access the bodily knowledge as a basic nonverbal presence. The raw bodily sensations are combined with expectations, memories, emotions or thoughts.

Focusing was developed by Eugene Gendlin in the 1960s (Gendlin,1982) as an eclectic therapeutic method using the focused attention on the ”felt sense”; the inwardly attention on unclear, pre-verbal sensations and the voice as experienced in the body. The felt sense was used to contact and work with problems in a combination of contact with the inner bodily

[14] Retrieved from http://medical-dictionary.thefreedictionary.com/ 14 July 2011.

sense (probably foremost interoception and proprioception), imagery and the attempt to formulate a precise verbal formulation of the ”felt sense” with the help of the therapist. According to Meadows (in Bruscia & Grocke, 2002) Focusing and GIM have both similar and different features. In GIM the imagery is spontaneous and music guided, whereas the focusing therapist is very directive in the imagery phase.

2.7.7. Trauma and the body

To follow up on the link between work stress and trauma as described in section (2.2.5) I will proceed with the ideas of Somatic Experiencing© created by the American PhD in Biophysics and doctor in Psychology Peter Levine. His book ”Waking the Tiger – Healing Trauma” was not a scientific work, but it was based on his PhD in Psychophysiological stress (Levine, 1976) and explained his ideas in a popular form. Levine worked with ”the welded unity of mind and body” (Levine, 1997, p. 2), and he argued how the felt sense of the body was essential in the work with traumatic stress disorders as well as with various anxiety reactions (Levine in Sheets-Johnstone, 1992). (In Levine's words the felt sense is ”the experience of being in a living body that understands the nuances of its environment by way of its responses to the environment” (Levine, 1997, p. 69)). The focus on the felt sense for Levine is the way to release trauma. ”Beyond the mechanistic, reductionistic view of life, there exists a sensing, feeling, knowing, living organism. This living body, a condition we share with all sentient beings, informs us about our innate capacity to heal from the effects of trauma”(ibid, p. 3).

Levine described how instinctual and reptilian fight or flight responses to threat in the case of overwhelming or threatening experiences sometimes can be unsuccesful or thwarted. The organism can react with immobility (or freeze) response where the energy of the fight erupts into rage, and the frustrated flight response gives way to helpnessness. Collapse, dissociation and physical and emotional numbing are frequently accompaning the freeze response.

From studies of the defense mechanisms in different animal species he found that for instance prey mammals on the run from attacking predators who use the immobilisation response to feign dead and thereby escape from being eaten or from pain, are able to shake off the high levels of energy in the immobilized body after the danger has gone. The shaking and trembling last some seconds or minutes and afterwards they continue to function normally. Human beings seem to have lost the instinctual ability to shake off the energy as an automatic process, and the bound highly activated frozen rage, terror and helplessness seem to create distress, ”strange” symptoms in the body and posttraumatic stress. Levine argued that the prefontal cortex of the human brain interferes with the discharge of the stored up energies, ”our rational brains may become confused and override our instinctive impulses” (Levine, 1997, p. 18). Hence, he underlined that trauma stems not from the overwhelming experience itself but from the ”frozen residue of energy that has not been resolved or discharged ...and remains trapped in the nervous system” (ibid, p.19). He also argued that cultural traditions might be playing a role in the lack of tolerance, denial and suppression of the intense emotions and energies associated with trauma (ibid, p. 48). The entrance to the trance-like freeze state in for instance a state of great fear and panic will be replayed when the freeze reaction thaws. ”The impulse towards intense aggression is so frightening that the traumatized person often turns it inward on themselves rather than allow external expression. This imploded anger takes the form of anxious depression and the varied symptoms of posttraumatic stress” (ibid, p. 103). In that way the strong emotions reproduce the trauma inside and uphold a vicious circle. A fourth explanation of our denial of the experience is that

immobilization reminds of the death that we consciously and unconsciously fear. The strong energies involving in trauma recovery according to Levine can touch existential and even archetypal dimensions, renew the relation to life and death and establish a more vivid and joyful presence.

According to Levine, several factors determine the degree of vulnerability to traumatic reactions: duration and severity of trauma, social support, age, constitution, level of resilience, health, fitness and nutrition state, learned capabilities, self-confidence etc. Levine formulates the factors of resilience as resources that can be external (a friend, a hiding place, a weapon) or internal (psychological attitudes, access to instinctual reactions to escape from dangerous situations, past history of successes in coping with danger). For a child external resources also can be a respectful adult, a stuffed toy, or the experience of an angel[15].

Symptoms can be accumulating and dormant for many years and then ”during a stressful period or as a result of another incident” (ibid, p. 45) even a minor incident can result in a breakdown similar to one caused by a catastrophic event! That surely gives meaning to the experience of sudden stress-related breakdown.

Turning back to the felt sense, Levine described how the observation of the felt sense can be experienced as a rhythmic stream of everchanging sensations, which he also called the ”instinctual voices” of the body (ibid, p. 74). He mentioned that words, memories, insights, pictures and emotions might accompany the felt sense, and should only be experienced and noted, not interpreted because interpretation means stepping out of the awareness and into thinking. A very important point of Levine's was that he explained how body sensations sometimes take the form of known things that act as metaphors, for instance a piece of glass in the skin, or there might by inner imagery and sceneries of traumatic incidents that might not be the ”truth” of what happened, but the means by which the body tries to communicate past experiences that felt as bad or as filled with arousal and terror as the image indicate.

2.7.8. Renegotiation

The image of the stream was used as an image of the ongoing sensations but also as an analogy of the unfolding life. ”Our bodies are the banks of the stream, containing our life-energy and holding it in bounds while also allowing us to freely flow within the banks” (ibid, p. 198). Staying in this analogy the shock trauma ruptures the banks (protective barrier) of the stream creating a breach and an explosive rush of water creating a whirl outside the normal stream of life, called a ”trauma vortex”. The traumatized individual usually either stays out of touch with the vortex and gets phobic and constricted or gets sucked into the trauma vortex through reenactment (repetition of the trauma) or retraumatization. Still in the analogy of the stream, Levine described how ”nature” produces a counter-whirl to the trauma vortex, turning in opposite direction, ”the healing vortex”. This whirl is inside the stream of life. The existence of the healing vortex opens a third option instead of avoidance or retraumatization, which he called ”renegotiation”.

> In renegotiating trauma, we begin to mend the ruptured bank by circling around the pheripheries of the healing and trauma vortices, gradually moving towards their centres. We begin by riding the warble (wobbly oscillation) created by these two opposite forces, experiencing the turbulence between them. We then move slowly and rhythmically, back and forth, from one to the other in a figure-eight-pattern. By beginning with the healing vortex, we

[15] During a GIM therapy session I conducted long before the onset of this study memories of a traumatic burn in childhood surfaced. The traveller experienced the support of an angel during the painful memories of changing bandages at the hospital.

> pick up the support and resources needed to successfully negotiate the trauma vortex. By moving between these vortexes, we release the tightly bound energies at their cores – as if they were being unwound. We move toward their centres and their energies are released; the vortexes break up, dissolve, and are integrated back into the mainstream (ibid, p. 199).

The reworking of the trauma response from paralytic-maladaptive to active-adaptive was accomplished by ”restoring those (biological) resources in the form of orientation and defensive responses that were missing or insufficient at the time of life-threatening activation and that resulted in posttraumatic immobility” (Levine, 1992).

Through very powerful examples of trauma recovery where the client completed running and fighting responses, Levine described the working of renegotiation including several interconnected elements (my list):

- Establishing the felt sense
- Awareness of the representation of the traumatic event – often a single fixed image coupled with feelings of frustration and defeat
- Establishing resources – imaginations of resourceful actions or supportive places or beings, positive images to be used to remember power and safety on a bodily level
- Expanding and deepening the felt sense
- Distinction between fear and excitement: both are high activated aroused feelings, but the excitement bears the power that need to be expressed and the fear leads to the immobility response
- Mobilization of anger and feeling of strength to get through the original point of immobilization and release the fight and flight responses
- Noticing orienting response: movements or turns that the body does to find escape ways, protection or fight movements. Possibly carrying out the movements very slowly.

The attraction to discover exactly what happened during a traumatic episode in the past has to be set aside because it seems like images from different situations and times of one's life is called forward during the renegotiation process. The discussion of trauma and memory is very interesting but beyond the scope of the present study.

Healing from a trauma might take some time and several renegotiations. The negotiation of the fear response and the regaining of liveliness in the body resolves trauma on a fundamental level that enables the trauma victim to build new experiences and narratives of wholeness, resilience, safety and self-protection.

2.7.9. GIM and Somatic Experiencing

The process of ongoing awareness of the felt sense of the body can be related to the awareness of the stream of imagery in GIM, and the attitude towards the spontaneous unfolding of experiences without interpreting also appears to correspond. In GIM, to my experience, renegotiation episodes appear spontaneously. The support of the music helps to build resources, to maintain a focus, and to contain the stream of energy. It also helps to imagine alternative stories to the remembered trauma.

Levine advocated several times in his book both laymen and therapists to make use of his theories and methods, but the training to become a certified SE trauma therapist takes several years. In the present study the Somatic Experiencing theories have informed the

modification of GIM as well as the analysis of the cases. My background for doing this is several introduction courses in the method, as well as one year of practice with traumatized refugees under supervision of a SE supervisor.

As stated by Prætorius (2007) work stress can be related to trauma reactions. In the treatment of the participants, the possibility to work with renegotiation related to traumatic work situations will stay open, and any renegotiation processes will be studied at close hold, if they appear, in the hermeneutic analysis.

2.7.10. Modification of GIM to the treatment of chronic stress

Finally, I will describe the ideas of an adaption or modification of GIM for the treatment of chronic stress. The ideas of Music and Imagery, Somatic Experiencing and Körlin's work as well as my own experiences with trauma clients were integrated.

I considered the special needs of the population to be:

- no demands
- no pressure
- room and space to rest and recenter
- support to stay with the here and now
- support to establish a contact to the music
- support to establish contact to breathing and a felt recognition of the body
- support to not dive into depressive, judgemental or negative thinking
- validation
- verbal and non-verbal mirroring of state and emotions from therapist and music
- holding
- repetition
- structure

The work were resource-oriented and supportive. The GIM sessions might be shortened in time, the music journey might be of shorter duration, and the music might be less evocative than a normal GIM program. The relaxation phase might be emphasized, especially in the beginning of therapy. However, in order to work with the enhancement of flexibility of the nervous system, possibilities for both relaxation and activation were provided. The activation could be spontaneous or it could be planned for. Guided renegotiations of specific uncompleted situations prior to and connected to the sick leave were an option if there were enough resources and trust to do it. In order to work with distressing situations a number of resources (helpers, feelings, memories, body states) were asked for already before the session started, so the listener could connect to them at crucial points of the journey. These sessions were guided more actively than usual GIM sessions, but it was still the spontaneous imagery or one could call it reimagination and recreation of the remembered situations that would be the goal. Positive experiences and imagery were validated and supported. In order to support the contact with positive work expectations the work with dream workplaces, work pleasure and meaningfulness in work were proposed.

2.8. Conclusion of literature review

The literature review has elaborated on definitions of stress, previous research on work stress and the treatment of work stress, existing studies in music therapy and stress management and previous research on GIM. Theories on GIM relevant for the study of stress and embodiment has been reviewed as summarized in section 2.4.12. No studies have yet investigated GIM and stress management within the area of work-related stress/occupational health, no GIM studies have investigated the processes of body imagery and stress, and only a few previous music therapy studies and one single GIM study have been using a mixed methods design.

3. RESEARCH QUESTIONS

In order to investigate the quantitative and qualitative aspects of work-related stress and music therapy the following research questions were formulated.

The overall research question for the mixed methods study is:

1. How can GIM help the recovery of chronically stressed adults on long-term sick leave?

Research questions especially connected to the quantitative part of the study are:

2a. How do six modified GIM-sessions and standard care affect psychological and biological stress symptoms compared to standard care alone?,

2b. How does early intervention (GIM) affect psychological and biological stress symptoms compared to late intervention?

The third question related to social factors (sick leave from work) of the biopsychosocial model is:

3. How does early GIM compared to late GIM affect job return?

The research question related to the qualitative part of the study is:

4. How are experiences of the "bodyself" in relation to music during GIM sessions related to processes of change with respect to the experiences of coping with stress and work, and how are these processes reflected in the participants' reports of their lived lives?

3.1.1. Hypotheses related to the quantitative part of the study

The research questions related to the quantitative part of the study are expanded by a number of null hypotheses. The measurement variables are listed under each of the hypotheses (the variables are further described in sections 5.5. and 5.6.):

1. GIM will not change self-reported psychological measures of stress compared to treatment as usual, regarding:

a) Perceived Stress
b) Total Mood Disturbance
c) Sleep Quality
d) Physical Symptoms
e) Well-being
f) Anxiety
g) Depression
h) Work Readiness

2. GIM will not change physiological measures of stress compared to treatment as usual, regarding:

a) Cortisol Awakening Response
b) Cortisol Reactivity
c) Cortisol Recovery
d) Cortisol (LC)[16]
e) Testosterone
f) Melatonin
g) Blood Pressure (Systolic)
h) Blood Pressure (Diastolic)
i) Pulse

3. Early GIM will not change self-reported psychological measures of stress compared to late GIM, regarding:.

a) Perceived Stress
b) Total Mood Disturbance
c) Sleep Quality
d) Physical Symptoms
e) Well-being
f) Anxiety
g) Depression
h) Work Readiness

4. Early GIM will not change physiological measures of stress compared to late GIM, regarding:

a) Cortisol Awakening Response
b) Cortisol Reactivity
c) Cortisol Recovery
d) Cortisol (LC)
e) Testosterone
f) Melatonin
g) Blood Pressure (Systolic)
h) Blood Pressure (Diastolic)
i) Pulse

[16] LC stands for Liquid Chromatography that is the analysis method with this part of the cortisol analysis. For all of the other cortisol analyses a Radio Immuno Assay was used.

5. Immediate stress state before a GIM session will not be changed after the GIM session

6. Immediate stress state will not change from before the first session to after the last GIM session

7. Early GIM will not change the sick leave situation compared to late GIM, regarding:

a) Full-time Sick Leave

b) Any Sick Leave

c) Working (minimum 30 hours a week)

d) Economic self-support

3.1.2. Brief elaboration on the research question related to the qualitative part of the study

In the research question related to the qualitative part of the study the term "bodyself" is mentioned as a central concept. My intention for the definition of the term is to bridge the gap of mind-body duality that so easily dominates the way psychosomatic problems are being described. I would like to work with the complex integrated experience of being alive in and as a body. The bodyself can be defined as the wholeness of one's being as a living, thinking and experiencing body-mind continuum, where body, mind and spirit are seen as one unity. The term bodyself has been used by other authors such as Kleinmann (1988) and Føli (2006).

4. MIXED METHODS

Mixed methods has gained increasing popularity in different research milieus during the last decade. In 2003 the first handbook in mixed methods for the social and behavioural sciences was published (Tashakkori & Teddlie, 2003). Mixed methods is the term used throughout the present study, but it has also been called multimethodology and multistrategy research.

4.1.1. Purists versus pragmatists

In the ongoing discussion about mixed methods three basic positions have been identified (Greene & Caracelli, 1997). 1)The purists would argument that the two research methods should be separated because of their different and incompatible paradigms. 2)The pragmatists would say that they use the best tools available without caring about philosophies and science, and 3) The interactionist dialectics would combine the methods and strive to let them communicate and work together. According to Greene and Caracelli the third position is the legacy of using mixed methods. However, the pragmatist stance has been explained as the best fit for mixed methods research and according to Johnson and Onwuegbuzie (2004) pragmatism can be viewed as a philosophy in itself, as developed by Dewey, Pierce and James and by neopragmatists as Davidson, Rescher, Rorty and Putnam.

Within music therapy research there has been ongoing discussions about the combination of qualitative and quantitative methods. Bruscia (1995) took the purist position.

> Notwithstanding the possibility of collecting both quantitative and qualitative data in the same study, and combining the different interests and methodologies, the two philosophical paradigms cannot be integrated or combined. They are mutually exclusive ways of thinking about the world (Bruscia 1995, p. 73).

Bonde (2011) when describing his mixed methods dissertation (Bonde, 2004) positioned himself as a pragmatist and argued that the combination of standardized questionnaires and interviews enabled the researcher to define underlying variables and also to review the qualitative experience of the participants behind the reductionistic predefined categories of mood states. He also argued that the attitude for the participants in a study might be more respectful when using mixed methods:

> As researchers we can provide a more flexible situation for the participants. We are studying their life world and have an obligation not to treat them as mere „informants". Such considerations must be included both in the formulation of research questions and in the design of the study. This is why I think mixed methods will be used very often in health care research in the years to come (Bonde, 2011, p. 17).

Other recent examples of mixed methods music therapy studies are Burns (2009) who did a PhD on group improvisational music therapy with women recently diagnosed with cancer, Barry et al. (2010) who used mixed methods in a study of cancer treatment of children, McFerran et al. (2010) who published a study of music assisted bereaval therapy with teenagers, and Lindvang (2010) who studied self-experience in music therapy training with interviews in combination with a survey of related professional competencies.

4.1.2. Advantages and disadvantages of mixed methods

The use of mixed methods has several advantages and disadvantages. The benefits could be that the theme studied can be investigated from many perspectives allowing multiple and complementing results and findings to surface. The use of mixed methods opens a possibility for method triangulation that enhances the validity of the study. Quantified measures of the effect of the intervention can be presented as well as qualitative understanding of how this effect was brought about. In real world research the pragmatism of using mixed methods to get a broad and useful understanding of the field of study is obvious, and it works against a rigid and narrow interpretation of the object. The quantitative and qualitative methods are not seen as contradictory paradigms but are regarded as different ways to answer the research question(s) in the most comprehensive way (Robson, 2011). Johnson and Onwuegbuzie wrote:

> By utilizing quantitative and qualitative techniques within the same framework, mixed methods research can incorporate the strengths of both methodologies. Most importantly, investigators who conduct mixed methods research are more likely to select methods and approaches with respect to their underlying research questions, rather than with regard to some preconceived biases about which research paradigm should have hegemony in social science research. By narrowing the divide between quantitative and qualitative researchers, mixed methods research has a great potential to promote a shared responsibility in the quest for attaining accountability for educational quality (Johnson & Onwuegbuzie, 2004, p. 23).

Weaknesses of mixed methods research are the fact that the use of quantitative and qualitative methods traditionally has been developed and applied in very different academic settings making it difficult to address a specific audience. For instance the use of statistical methods and experimental trials to prove the effectiveness of a specific therapeutic method is mostly used in natural sciences, whereas the exploration of meaning and process in (therapeutic) case studies is more well known from social sciences. A disadvantage of the use of mixed methods is also that the study easily gets too large (work demanding) and might be difficult to perform because of the multifaceted processes. A third disadvantage is what is won in width can be lost in depth: the possibility to explore the material from either quantitative or qualitative perspectives to a great depth is not possible. Mixed methods research is still a new way of working that needs to be further developed and substantiated.

4.1.3. Researcher's position

My own stance as a researcher is clearly pragmatic. Although I have not studied the philosophy of pragmatism in details, I am guided by the aim of finding answers to my manyfold research questions, and I also have been a bridge builder in previous studies, for instance in my dissertation where I combined psychology and antropology as well as compared differing world views (Cissoko, 1996).

4.1.4. Design type: QUAN + QUAL

Different procedures within mixed methods research exist regarding how to balance and get the two kinds of methods and results to interact. A notation system was developed to describe the different types of mixed methods designs (Morse, 1991, 2003). The present study can be characterized as a QUAN + QUAL study, meaning that quantitative and qualitative methods occur concurrently. The two strands will get equal emphasis and the results of the two strands will be converged. This kind of mixed methods study is according to Cresswell and Clark one of the most prevalent mixed methods studies, and was described already in 1979 (Jick, 1979). The design type is defined as a ”Convergent Parallel Design” according to

Creswell and Clark's terminology (2011, p. 77) and is characterized by a simultaneous data collection and analysis of both kinds of data, followed by a merging of the two sets of data in an overall interpretation. In this study the quantitative part will be worked out and described first, and the qualitative part subsequently. In this way the qualitative part of the study is nested in the quantitative part because the understandings from the qualitative part provide perspective to the quantitative results even though they are not aimed at explaining, validating or exploring the results from the quantitative part directly. Purposes of using this design are to:

1. Bring together different strengths and non-overlapping weaknesses from the two methods
2. Illustrate quantitative results with qualitative findings
3. Synthesize complementary quantitative and qualitative results to develop a more complete understanding of the phenomena of the study

The quantitative and qualitative analyses will be carried out within separate scientific and philosophical paradigms, and they will be embraced in the overall study under an ”umbrella paradigm” (Creswell & Clark, 2011, p. 78), which signifies a pragmatist stance of the researcher. The umbrella of scientific branches involved in the study was presented in figure 2.1.. The pragmatism includes the use of different methods that fit the real world's research situation in an empirical and experimental study, and it also gives way to a multifacetted study of the phenomena.

It has been considered if this study is more close to another mixed study type, the QUAN (qual) or embedded study, where the qualitative analysis is embedded in the quantitative, and where the qualitative data in this case are collected during the same period as the quantitative data. The wish for an equal emphasis and weight on both strands has been the main argument for the choice of the convergent parallel design.

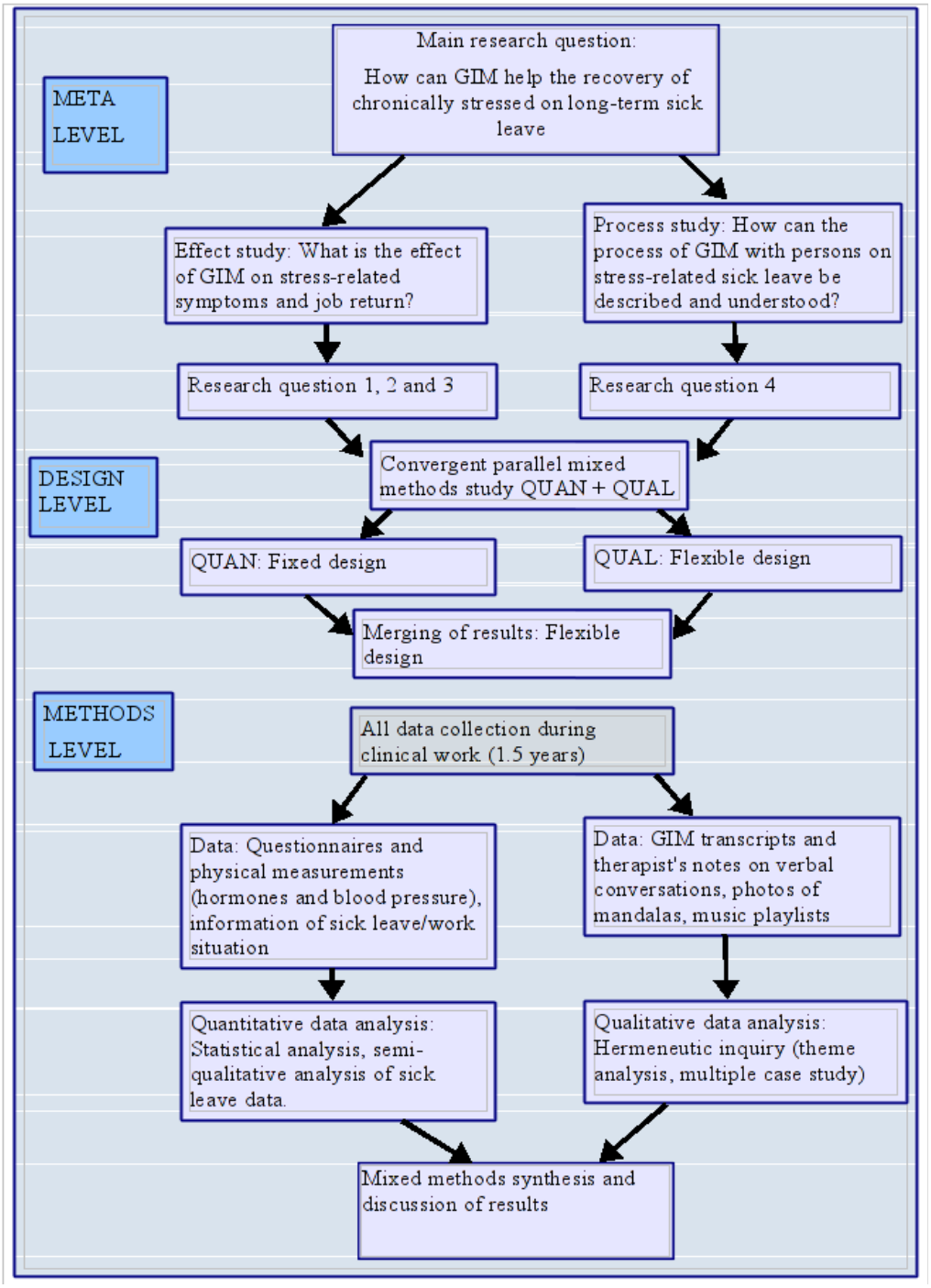
The strengths of the convergent parallel design are that it has already been used in many studies (experiences have been gained), the obvious balance between the methods, the efficacy of the design where both types of data are collected at the same time and in one phase, and the possibility of separate and independent analyses of each data type using the traditional techniques of analysis associated to each type. The challenges of the design are the demand of skills in both quantitative and qualitative analysis, the problem of comparing results stemming from analyses with different sample sizes (generalizations versus in depth analysis) and the challenges of comparing and merging the two data sets. Another challenge is to handle possible contradictions between the two types of data and the need to re-examine data or collect additional data (ibid, p. 80).

4.1.5. Description of design

The quantitative part of the design will be fixed, and the qualitative part will be a flexible design. The quantitative and qualitative data analyses will be carried out and reported in separate sections using the scientific language and methods practicable for quantitative and qualitative science, respectively. In the merging of the results in the interpretation and discussion the style and language will be a best fit to the themes and types of results discussed. However, there will be exceptions to the rule, as the possibility of using counts in the qualitative analysis will be left open so that quantification of qualitative results can shed light on the frequency of the occurrences of themes, and the inclusion of questionnaire data will be added to the case studies to shed light on the interaction between therapy process and

self-reported states. In the quantitative part of the study the possibility for a semi-qualitative analysis of parts of data will also be left open. A flow chart for the procedure of mixed methods is presented.

Figure 4.1. Flow chart of the mixed methods research design



The flow chart presents the research design in three levels, meta-level, design level and methods level.

5. QUANTITATIVE METHODS

A randomized clinical experimental trial has been implemented and the design, protocol, procedures and instruments are presented in the following. After that the procedures of securing ethical procedures are presented. At last the ways of handling the data and the statistical methods are described.

5.1. Design

A randomized controlled trial with the two conditions, GIM (Guided Imagery and Music) and TAU (Treatment As Usual) as parallel groups, was designed to measure the effect of GIM. Follow-up measurements were included to study if the effect of GIM was lasting and to measure changes in hormones that according to literature were probably not yet manifested in the body directly after the end of therapy.

5.1.1. History of design development

Even though the design was meant to be fixed, several minor changes of design happened during the beginning of the carrying out of the study. The unchanged element was a design with parallel groups that were established from the beginning, but the conditions for the control group underwent some changes.

5.1.2. Background factors for the design of the study

The researcher's impression after having met the pilot group was that fatigue and cognitive problems could be important factors to address when planning for the design.

1. It also seemed as if the work situation of the participants could change considerably as a result of the sick leave crisis during a period of half a year.
2. There were serious doubts about how to motivate the future participants to stay in the control group for a long time without offering them any kind of treatment.
3. It was also considered unethical to keep the participants in an extended waiting condition given the severity of their symptoms.

These considerations are well known in “real world research” in psychotherapy (Robson, 2002).

The first design planned for was a randomized controlled trial where the control group should do relaxation exercises at home to a pre-designed CD with a guiding voice (the therapist's voice) and without any music. This experiment had already been approved by the Ethical Committee, (see Appendix 5) but afterwards I discussed with a board of supervisors at a PhD seminar in Aalborg 2007 that there could be a risk that with the two conditions the experiment would not produce results contrasting enough to prove the effect of GIM and that there could be doubts of it really being able to produce knowledge of how much the participants in the control group worked with the relaxation CDs. Several alternatives instead of relaxation CDs were discussed. After having considered practicabilities and ethical implications according to the mentioned background factors I chose to put members of the control group on a waiting list and after nine weeks of waiting they were offered three group

GIM sessions. An assignment for a grant from the ”Arbejdsmiljøforskningsfonden” (The Working Environment Research Fund) to be able to hire an assistant therapist was refused. The change of protocol was reported to the Ethical Committee and was approved (Appendix 6).

After eight months I had included only eight participants, and the time of planning for the group sessions of the four participants in the waiting position arrived. The slow pace of recruitment was beginning to be really worrying. A change of design was implemented that allowed the participants in the control group to have individual GIM sessions and thereby possibly count double in either a cross-over trial or a within groups calculation of the effect of therapy. The participants from the waiting group were very happy to be offered individual GIM instead of group GIM, and the change of design was carried out for the rest of the experiment, and was reported to the Ethical Committee in retrospect. As the number of subjects was lower than expected the amount of work carrying out individual GIM for all participants was manageable.

5.1.3. Cross-over trial versus repeated measures design

The final design had some similarities to a cross-over trial. However, a crossover trial in a strict sense could not be implemented. Basically cross-over trials have the main purpose of comparing two different treatments and not two different periods. Senn (2002) and Senn and Lee (2004) described the basic rationale of cross-over trials and reviewed different recommendations for analysis. It was assumed that 1) the treatment works equally well at different times, 2) the condition is equally serious at different times, 3) the effects of the treatment are not lasting (i.e. no carry-over[17] effects), and 4) the earlier provision of one treatment does not alter the effect of the treatment that follows. Hence, a cross-over trial is only suitable for interventions with a temporary effect in stable, chronic conditions, where carry-over effect can be ”washed out” using a waiting phase between the interventions. In this study the treatment was assumed to work better early in the sick leave than later (that was also the reason for implementing a nine months' sick leave limit as exclusion criteria). The chronic stress condition is not a stable condition but is assumed to improve over time[18]. The treatment effects hopefully would be lasting and therefore would result in a carry-over effect or one could call it learning effect from the GIM phase to the TAU phase. For these reasons a cross-over trial had not been chosen as the focus of analysis even though it would have had higher test power than a parallel trial with the same number of participants.

The design can be characterized as a longitudinal design with repeated measurements. Repeated measurements both serve as a good source of information about the onset of changes and according to Thorpe et al. (2009) also add to the power of the study.

5.1.4. Model of design

A graphic model of the resulting design shows the times of treatment and measurements in the study.

[17] Carry-over effect means that the effects of the first intervention or treatment are influencing the effect of the next intervention.

[18] The progress probably is due to the health improving activities that the chronically stressed are implementing and/or the treatment that they are seeking.

Figure 5.1. Model of design

Questionnaires	A				B						A			B						A			B					A
Measurement of physiological effects	x										x									x								x
Group 1		GIM									TAU (Follow-up)																		
Group 2		TAU									GIM									TAU (Follow-up)									
Time (weeks)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	

Note. GIM means Guided Imagery and Music and TAU stands for Treatment As Usual. Time is time from randomization. Questionnaire B was a shortened version of Questionnaire A. Midpoint measurements (Questionnaire B) were taken after three weekly sessions; the last three sessions were biweekly.

The first nine weeks of the study represent the parallel group study, GIM versus TAU.

After waiting the control group (Group 2) received the same treatment as Group 1. This meant that the two groups were not treated completely equally in the study, as Group 1 had five measurements and Group 2 had seven measurements, and Group 2 stayed in the study nine weeks longer than Group 1. Data from the full range of the study (week 0-27) were used to find the probability of effects of early GIM versus late GIM.

5.1.5. Null hypotheses

The original hypotheses compared the effect of GIM and TAU, but as the design was changed, the hypotheses that have been tested in the study were expanded to both a between groups comparison of the period 0-9 weeks and a comparison of the effect of early GIM versus late GIM, investigating the whole range of data from baseline to follow-up. The null hypotheses are (in a short form, see full formulation with all variables in section 2.1):

1. GIM will not change measures of stress compared to treatment as usual in (a) self-reported psychological measures and b) physiological measures.
2. Early GIM will not change measures of stress compared to late GIM in (a) self-reported psychological measures and b) physiological measures.
3. Immediate Stress State before a GIM session will not be changed after the GIM session and Immediate Stress State will not change from before the first session to after the last GIM session.
4. Early GIM will not change the sick leave situation compared to late GIM.

The statistical methods for the testing of the hypotheses will be described in the statitistics section (5.9).

5.1.6. Power analysis

In order to estimate a sample size a power analysis was performed with the statistical package R. The power of a sample with 60 (70) subjects in two groups and a significance level=0.05 and effect size=0.4 (slightly below medium) was 0.86 (0.91), which was above the recommended minimum power 0.8 (Cohen,1988). A medium effect size was chosen because of the expectancy of moderate to high levels of change, and because of the high number of measurements in the study. The numbers 60 and 70 were chosen because a 10% dropout rate was estimated.

5.1.7. Randomization procedure and allocation concealment mechanism

The randomization procedure was carried out by the supervisor (Tony Wigram) with the assistance of Christian Gold. Wigram performed a simple randomization with 70 persons and two conditions (music therapy /control) in the statistical package R. It could be a problem to use simple randomization with small groups, but it was assumed that this group was large enough to reduce the risk for uneven numbers in the two conditions. The ID numbers of participants were continuous from 001 to 070.

Two similar lists with randomized numbers and related group numbers were kept at the supervisors' offices, and each time a new participants had assigned informed consent I asked for group affiliation (by telephone or mail). This procedure secured that neither the researcher nor the participants were influenced by any knowledge of group affiliation at the moment where decisions about allocation and informed consent was taken.

5.1.8. Eligibility criteria

The population targeted in the study was adults on sick leave from their work or studies with a diagnosis of stress related to their work situation. In order to get a homogeneous population that could benefit from a therapeutic process, the stress condition of the participants had to be severe enough to prevent them from working, but not so severe that they could not benefit from a short-term treatment. After a discussion with researchers from NFA the maximal sick leave period at inclusion was set to nine months. Both part-time and full-time sick leaves were accepted because part-time is applied in Denmark as a way to withhold contact to the workplace and prevent people from slipping out of the labour market. Persons suffering from severe burnout, psychiatric illness, physical illnesses (related to stress) or complex psychosocial problems had to be excluded as they needed a more intensive or longer treatment than could be offered in the project, and as their clinical situation was too complex when the aim was to measure the treatment effect on stress. As stress-related problems can lead to a series of physical and psychological illnesses, it was important to get as narrow criteria as possible in order to get a population with stress as the main problem.

Adults between 18 and 60 years old, suffering from work-related stress, on part-time or full-time sick leave for maximum nine months from work (or studies) from all kinds of professions (included musicians/music teachers) were accepted in the study. Depression and/or anxiety (non-clinical, milder degree), hypertension, burnout, milder heart problems/attacks were accepted in the study. Pregnancy and maternity leave following sick leave, and plans of onset of part-time work during treatment were accepted. SSRI-medication and sleeping medication, psychological or other kinds of psychotherapeutic treatment during the study were accepted and monitored during the study.

Participants with more than nine months of continuous sick leave or more than five sick leaves with a duration of two weeks or more in the past year except the present sick leave were not accepted. Stress-related physical illnesses such as fibromyalgia, chronic fatigue syndrome, whiplash, complex psychosomatic conditions and mental illnesses such as schizophrenia, mania, bipolarity, psychosis, major depression, PTSD, Complex PTSD or personality disorder of borderline type were not accepted in the study. Alcohol, medicine or substance abuse, suicidal threat, life threatening illnesses such as cancer within the past two years were not accepted in the study. Breast feeding was not accepted (because it would significantly affect the production of hormones).

5.1.9. Discussion of criteria

In the first description of the study, burnout was included together with stress as a possible diagnosis in the participants. However, as a result of supervision and communication with several advisers, the burnout diagnosis was excluded from the study to make the population more homogenous.

The upper age limit (60 years) was not set due to age discrimination but because it is possible to receive early retirement in Denmark at this age, and it was assumed that this might be the choice for many people after a stress-related sick leave instead of work return.

Various causes for work stress could for instance be work injury or poisoning by chemicals in the working environment, shift work, mobbing, sexual harassment, violent attacks, traumas at the working place etc. No exclusion criteria of work injury or stress after effects of work injury were established. The origins of stress could be imagined to vary very much between different professions. The possibility to restrict the recruitment to a single profession was considered, but was not implemented in the present study because of an interest in studying work-related stress problems in a broad sense, and because of recruitment considerations.

Regarding the decision of including musicians and music teachers in the study, it has been indicated that they respond differently to music non-musicians, and that they might be analysing music more than being reflexive about their own response to music (Vuust et al., 2009). On one hand musicians might have difficulties in using GIM as a method if they were on sick leave from a job with music, on the other hand they might respond better to music therapy than non-musicians causing more effective treatment results. The possibility of bias in the study with or without musicians was difficult to assess, and it was decided to include any musicians who possibly turned up. The argument for this was that the focus on stress would be the common ground for both musicians and non-musicians, and that the GIM method is flexible enough to take care of any specific needs. It could for instance be the use of music of another genre than the musicians were working with, or the support to focuse on the imagery and emotions instead of analysing the music.

5.1.10. Settings and locations

The clinical work and data collection were carried out at two locations. The first location was an occupational health department at Køge Hospital, in a province 30 km outside Copenhagen. The ward was placed in a barrack behind the hospital. There were secretaries and a waiting place in the ward. Two occupational health doctors and two part-time doctors had patients in the ward for evaluation of occupational health problems. Usually the doctors met with their patients one or a few times for evaluation of their health and psychosocial

situation and for advice or assessment of legal cases of work injury. The therapy sessions were carried out in an office equipped with a massage bed with pillow and blanket, and the music was played through a computer with a PC sound speaker system with sub-woofer specifically chosen for classical music (PC amplifier and speaker Apocalypse 5 with tube amplifier). The verbal conversations, mandala drawing and the measurements were carried out while sitting at a table. There could be some noise from the ward outside the door, and a carpet was laid out to dampen the sound of footsteps.

The second location was a hired room in a meditation centre. The room was equipped with massage bed with pillow and cover, and the music was played from CDs on a CD player with high quality loud speakers. In the room was a big table with chairs where the mandala drawing and measurements took place, and two arm chairs where the verbal conversation before the music journey took place. There were normally no other activities in the centre while the sessions were carried out, so it was very quiet.

5.2. Recruitment procedure

The plan for recruitment was a combination of referral and self selection. The recruitment procedure took place in collaboration with Køge Occupational Health department at Køge Hospital. The doctors had recently performed a research programme in which they collaborated intensively with social workers to get citizens on sick leave back into their jobs. The social workers from the three municipalities collaborating with the Køge department (Roskilde, Solrød and Køge) were contacted and in a one hour information meeting the social workers were asked to find participants among their clients receiving sickness benefit. In Roskilde only the leader of the job centre was receiving the information. E-mails with information for the social workers were sent out and material for the participants to hand out was sent in paper. The social workers referred one participant who did not meet the inclusion criteria. The doctors from the occupational health department referred ten persons to the study, eight of them were included in the study, and two of these inspired two more from their professional networks to get included.

5.2.1. Media and networks

A journalist of the Zealand Region wrote an article about the study in the quarterly regional hospital magazine. A press release to the local newspapers was sent out, and a weekend magazine wrote a big article with a photo. Information about the study was published on the homepage of the Danish GIM Society with links from the home page of Køge Occupational Health department and Danish Music therapy sites.

5.2.2. Leaflet

After three months it became clear that additional efforts had to be made to recruit participants. A leaflet with clear and short information about GIM, the study and the inclusion criteria including colourful pictures and an invitation to participate was produced, printed in 500 copies, sent to the local general practitioners and health centres and distributed to union offices from different professions (see Appendix 1). The leaflet was followed by a brief letter to the local general practitioners who were asked to hand it out to patients with stress induced sick leaves or place it in the waiting room. The leaflet was also placed in the waiting area at the occupational health ward. The leaflet can be seen in the Appendix 1. Seven participants

appeared because they have found the leaflet. Two of them worked at the hospital where the data collection was carried out.

5.2.3. Enlargement of the intake area

After six months' information e-mails were sent to the other occupational health clinics and private stress treatment centres on Zealand as well as to the local groups from the Danish Stress Association. No participants came out of this attempt. E-mails were also sent to a women's business network, resulting in 12 contacts but only from persons with stress-related sick leaves longer than nine months. The study was presented at a café meeting for people on sick leave (one contact with too long sick leave) and a church gathering for local citizens in North West Zealand (two participants). The last recruitment attempt after twelve months of data collection was to contact local union offices by telephone. The leaflet was mailed to the unions for further distribution among their members. This attempt also brought two participants.

5.2.4. Procedure of enrolment

Both clinician referred and self-referred potential participants were asked to call the researcher on the mobile phone or contact the occupational health clinic and leave their name and telephone number to the secretary. A possibility for e-mail contact was also provided. In the first phase of recruitment the contact was meant to be made by the social advisor, but it turned out that potential participants were able to sign up by themselves. Seventeen participants called on the mobile phone, using the information on the leaflet. Two participants made appointments with the researcher at the clinic.

Potential participants were invited to an individual information meeting including a screening procedure, where we could obtain the necessary information either to accept or deny participation. They were invited to bring a companion to the meeting, following the rules of the local Ethical committee. A meeting at the occupational health department was scheduled one week later and written information material about the trial was sent out together with an entry data form with screening questionnaires. The information material can be seen in the appendix.

The information meeting included a verbal introduction to the research project, the ethical implications and the rules and rights for persons participating a scientific study. I informed the potential participants about the randomization procedure and measurement methods in the study, especially the collection of saliva for cortisol analysis. They watched a 1 1/2 minutes long video film produced by the researchers at NFA about saliva collection. The participants were informed of the randomization procedure and the two possible treatment conditions. I explained the therapy method, played a small music example from the GIM repertoire (Warlock's *Pieds en l'air*) and presented three different examples of mandala drawings made by participants from the pilot study. The potential participants were offered the possibility to ask questions about all aspects of the experiment and the therapy.

5.2.5. Screening

I looked through the entry data form and posed explanatory questions in order to assess if the person fulfilled the inclusion/exclusion criteria. In order to assess the severity and duration of their history of stress-related problems the participants were asked to tell a short version of their history of sick leave. The total scores of the screening questionnaires were

calculated by the researcher and additional questions were posed if there were doubts about the results.

A change in screening procedure happened after two to three months. When the recruitment procedure had been carried out several times some participants who seemed to fit into the study presented with Major Depression and Generalized Anxiety scores over the cutoff limits in the screening scales. I decided to include persons who scored above the cutoff values (13 subjects scored above the cutoff for Generalized Anxiety, among them five subjects also scored over the cutoff for Major Depression). One of them also scored positive to all four questions in the PTSD screen, but during further discussion it became clear that he indication of PTSD was a misunderstanding of the questions.

5.2.6. Informed consent

According to the guidelines from the local Ethical Committee the participants were offered a week to think about their participation. However, all the participants decided to sign informed content already in the intake interview. They thereby were admitting that they had received sufficient written and verbal information about the experiment, method, advantage and disadvantage to make the decision about participation in the experiment. They admitted that they knew that the participation was voluntarily and that they could withdraw the consent at any time without loosing their right to receive treatment. They gave their consent to participate and stated that they had received a copy of the informed consent and the written information about the experiment. They gave consent to the extraction of biological material (saliva) and to the storage of it in a research bio bank. They also admitted that the use of photos of their drawings could be used in reports and presentations of research results in anonymised form. The informed consent was signed by both researcher and participant.

5.2.7. Implementation of randomization and blinding

The researcher informed the participant about group affiliation either at the intake interview if the randomization information could be acquired immediately or by a scheduled telephone call with the participant the day after the intake meeting.

There was no possibility to blind the participants as to who were receiving the studied treatment and who were not as it was obvious that they were randomized either to begin GIM treatment immediately or had to wait.

5.3. Ethical considerations

5.3.1. Data protection

The experiment was notified to the Data Protection Agency, and the procedures regarding protection of personal information were established according to the guidelines and the law. The experiment was approved by both the Ethical committee and the Data Protection Agency.

5.3.2. Procedures regarding collection and storing of biological material

The study involved the collection of biological material (saliva) and the required procedures defined by the Ethical Committee were carried out. These procedures included

verbal and written information to the participants about the storing of biological material, contact information allowing them to get acces to analysis results at any time, possibility of asking for destruction of the material at any time and the promise that the material would not be used for other analyses than described in the written and verbal information of the experiment. It was promised that the biological material would be destroyed at the end of the trial.

At the NFA the researchers normally send out analysis results with reference levels to the participants. I decided to ask the participants if they were interested in having their results sent out to them, and all the participants were interested.

According to the remaining data material in the study, information about the laws of data protection and destruction date of the material were also provided. Full access to and the right to withdraw the material from the study were granted as part of the ethical procedures. Promise of confidentiality according to the law of data protection was given.

I informed of the right to complaint if any inconveniences arrived and provided contact data for the Patient Board of Appeal. No fee and no payment of transportation were provided. This was a very important part of the guidelines from the Ethical Committee as the participation and staying in the experiment should not be guided by the urge to make money. The music CDs were to keep for free during and after the study.

5.3.3. Inconveniences and risks

A description of possible inconveniences that could occur as a result of participating in a therapy study was given in the information material for the participants. While no harming procedures of measuring blood pressure or the administration of saliva samples were known, a description of possible confrontation with negative memories and emotions in therapy was described as a risk. In order to take responsibility for any risk of retraumatization or a breakdown in the last session, the participants were informed that the therapist would work in a resource-oriented way and that they would be given instructions in how to stop any unpleasant experience with music and imagery if necessary. The use of music at home was also considered to be without any inconveniences as the music was designed to bring relaxation and well-being. Besides, the participants were granted the possibility to contact me by telephone during normal working days and hours for advice or support, if needed. It was also suggested that they could benefit from confronting and manage ”negative experiences” if it did not overwhelm them. The formulation of this in the participant information was:

> The therapy method is gentle and works to build up and support the person through positive inner images and through the guidance to relax and let go of stress. Memories can surface during the music therapy that call for processing, which there will be a good opportunity to do in a safe way (my translation, Appendix 1).

If they needed further therapy after the end of the six sessions, another therapist would be recommended.

5.3.4. Power issues related to the carrying-out of the experiment

The consideration of power issues regarding the relation between participants and therapist/researcher was discussed at one of the music therapy research seminars Dileo (2008). The fact that the therapist is both acting as therapist and researcher (double authority) can make it more difficult for some participants to back out of a situation or question an intervention, and some participants might try to satisfy the therapist/researcher instead of

focusing on their own issues. As the participants in this experiment were adults who until recently were healthy and resourceful individuals the problem of power issues was not as big as for instance when working with clients with severe psychiatric diagnoses or handicaps. However, it is not to be underestimated that the situation of sick leave and stress can cause personal crisis and uncertainty. The fact that stress is a diffuse condition and that there is no prescribed or ordained treatment can cause the participants to have a high degree of hope and expectation directed to the therapist/researcher.

To prevent getting a too authoritative role I chose to discuss the issue in the beginning of the therapies. Different ways for the participants to control the therapeutic situation were discussed. The participants were invited to share uncertainties about the treatment and the intervention along the way as the therapist would also do if it seemed appropriate. The participants were instructed that they were in their right to refuse any suggestion from the therapist, and they were instructed in different ways to stop imagery, music journey or other activities if they did not seem helpful. The participants were also informed that the results of the questionnaires would not be discussed during the therapies.

5.4. Intervention

A presentation of the intervention (GIM) can be seen in section 2.5 in the end of the literature review. Further specifications of the intervention will be presented in the following section.

5.4.1. TAU condition

The TAU condition – treatment as usual - did not consist of any scheduled treatment and served in the study as control condition. As no official prescribed treatment of stress is ordered in Denmark, it was up to the initiative of the single participant or his/her working place or social advisor to seek out treatment. According to the leading occupational health doctor Peder Skov the stress population is characterized by being very active to seek for improvement of their condition themselves (personal communication, July 2007, Køge Hospital, Skov). The types of treatment available could be consultations with the general practitioner, communication with a stress consultant or safety representative at the working place, consultations with a doctor at an occupational health clinic, medical investigation of for instance heart function, consultations with psychiatrist or psychologist, participation in courses in stress management or the identification of job competencies, participating in self-help groups, consultations with stress coaches or practitioners of complementary treatments as acupuncture, massage etc. As it is publicly well known that physical exercise and relaxation exercise can lead to stress reduction these activities would probably be engaged in by many participants. Thus the TAU condition could be described as a mix of different activities, some of them voluntary and some of them imposed by social authorities or offered by workplaces. Some of the participants might not be involved in any treatment.

The participants were free to use whatever kind of treatment they wanted besides the study, and I did not intend to control the use of treatment parallel to music therapy. Randomization ensured that the degree of other treatments would be distributed equally between groups. However, the number of sessions with other types of therapists were monitored by a scheme.

5.4.2. GIM condition

The GIM condition as described above included both GIM and TAU. The participants received six individual modified GIM sessions, which were found to be sufficient to induce therapeutic change in similar populations (see section 2.4.9). I chose to schedule the first three sessions weekly to familiarize the participants with the method and give them enough support to enter the therapeutic process, and the three last sessions biweekly to allow the participants to work more deeply and get more time to integrate their experiences between the sessions. The complete scope of nine weeks set the duration of each of the periods (TAU and GIM) in the design. Cancelled sessions were generally thought to be replaced as soon as possible so that all participants had all six sessions. The nine weeks' period could be expanded with a maximum of two weeks.

The carrying out of the GIM sessions happened in accordance with the general procedure for the method of individual GIM as described in the literature review (2.5). A number of modifications were made in order to adapt the method to the stress population.

1. The possibility of doing shorter music sessions (down to10 minutes)
2. The possibility of choosing music pieces outside the normal GIM repertoire
3. The possibility to have the participant sitting on a chair during the journey
4. The possibility to prolong the relaxation part of the induction and play music during the relaxation
5. The possibility to do shorter sessions (1- 1 1/2 hour) if the concentration and attention span of a participant were limited
6. Introduction of Music Breathing to short pieces of music (2-7 minutes) (Körlin, 2010)
7. Special focus on stress and work-related issues rather than a primarily open foci for the journeys
8. The possibility to work with renegotiation of specific problematic experiences (see 2.7.8.)
9. Instruction of how the participants could regulate or stop the music session if they felt overwhelmed (tell about their experience, ask the therapist for help, open eyes, ask for lower music or change of music, sit up)
10. Validation of resources in the journey imagery

The modification of the GIM method was described as possibilities of modification that could be applied if needed because GIM with the stress population was not described before in literature, and the estimation of the modification was based on a small pilot study. The adaptation of the possible modifications to each participant was intended to be guided by their particular problems and degree of stress in the situation.

The choice of music for the sessions was informed by the usual GIM procedures using the repertoire of tested predesigned music programmes. I also intended to do spontanous selection of music pieces including repetition of music pieces as described by Lisa Summer (2010) to support the processes of the participants as best as possible. In the first sessions a repertoire of 15 music pieces was used as a pool of music to use in the beginning of the therapies if I supposed the “beginner programs” to be too demanding. The criteria for selection of the pieces were: slow to moderate tempo (andante), low degree of dynamic, clear

melodic patterns, repetition in form such as ABA structure, a“warm” sound quality, positive or neutral mood. The music pieces were also given to the participants for listening between the sessions and continued use in the TAU phase after the end of therapy.

5.4.3. Home use of music

The CDs were handed out to the participants in the first session with a short verbal instruction. CD 1 was aimed at music breathing or music listening in a lying or sitting position, and the participants could choose whether they wanted to just listen, to relax to the music, or to re-imagine some of the positive images they had experienced during their journeys in the sessions. The music pieces were arranged in shorter sections with a duration of 18-20 minutes with and increasing dynamic and intensity, except for the fourth section that presented another music style (popular/meditation music). The four sections were intended to have an opening phase, a peak and a landing phase just as the usual GIM programs. The small programmes were tested by myself by listening to them both in a sitting and a lying position. The participants were encouraged to find the pieces or mini programmes on the CD that worked best for them.

The other CD was given as a help to fall asleep or to listen to during sleepless nights. It had no predefined sections. The participants with sleeping problems were instructed to listen to it in the evening just before bedtime or to have a set of headphones at the bedside.

A diary of the music listening episodes at home was prepared but was cancelled again as the amount of data collection and home work already was considerable.

The music pieces were chosen from the GIM repertoire (Music for the Imagination)[19], and the Music Breathing repertoire (Körlin, 2010). Some pieces were chosen from the ”Short Music Journeys” pieces used by GIM trainer Margareta Wärje (2008), and some were found by me. Cut 6 and 7 on CD 1 were among other reasons included because they were the pieces used the most in another GIM study with cancer survivors (Bonde, 2004). Number 7 is more dynamically varied than the other pieces but has a very beautiful violin solo. All the music pieces on the CD 1 except cut 1 and 10 were tested in group and individual settings by me with different populations with stress-related problems like anxiety, dysthymia and PTSD (Beck, 2007a, 2007b). The list of music pieces is presented, and if the pieces were taken from a GIM program the name of the programme is written in brackets.

The pieces of CD 1 : ”Mustress”

1. Mozart, W.A.: *Serenade no. 10 for 13 wind instruments in B-flat, K 361*. 6:12. (Music Breathing).
2. Beethoven: *5th pianoconcert , 2nd movement*. 7:45. (The Transitions program. Naxos 8.550290, Capella Istropolitana, Wordsworth/Vadar)
3. Puccini: *Madame Butterfly (Humming chorus).* 2:46. (The Caring program. Naxos 8.660015, Czecho-Slovak RSO/Rahbari/Slovak Philharmonic Chorus)
4. Warlock: *Capriol Suite (Pieds en l'air).* 2:21. (The Caring program. Naxos 8.550823, Bournemouth Sinfonietta/Studt).Bizet: *Intermezzo from Carmen.* 2:32. (The Creativity 1 program. Naxos 8.550742, Balint/Mercz)

[19] Barcelona publishers, 1996, editor Kenneth Bruscia.

5. Brahms: *Violin concerto (Adagio).* 8:56. (The Mostly Bach program. Naxos 8.550195, Slovak
6. Bach: *Concerto for 2 violins (Largo).* 6:47. (The Mostly Bach program. Naxos 8.550194, Capella Istropolitana, Dohnanyi/Nishizaki/Jablokov)
7. Williams, Vaughan: *Prelude to Rhosymedre.* 3:55. (Bonny's Nurturing program, Marriner, English Music for Strings, Capitol, Angel 36883)

8. Pachelbel: *Canon in D.* 6:11. (CD: The Pachelbel Canon and Other Baroque melodies. Orchestra de Jean Francois Paillard, RCA Victor 65468)
9. Glück: *Dance of the Blessed Spirits.* 6:08. (Music Breathing. Lugna Blå timmar CD 1)
10. Stamitz: *Cello concerto no 1 in G major (Andantino).* 5:25. (Music Breathing. Lugna Blå timmar CD 1)

11. Lövland, Rolf: *Song from a Secret Garden.* 3:32. (Secret Garden: Dreamcatcher, Philips universal)
12. Lövland, Rolf: *Heartstrings*. 3:22. (Secret Garden: Dreamcatcher, Philips universal.)
13. Kobialka, Daniel: *The riddle song*. 3:23. (Kobialka: When you wish upon a star)
14. Enya: *Day without rain*. 2:45. (Enya: A day without rain)

The pieces on CD 2 : ”Mustress Sleep”

1. Pärt, Arvo: *Spiegel im spiegel.* 10:43. (Music breathing. Pärt/ Berlin Philharmonic Wind Quintet/ Bergen Philharmonic Orchestra)
2. Widor: *Symphony for organ no 5 (Adagio).* 5:52. (Widor/Vierne/Preston, Deutsche Grammofon)
3. Nilsson, Stefan:*Vinterlandskapet.* 2:26. (Såsom i himlan, Soundtrack)
4. Nilsson, Stefan: *Amors Anding*. 2:05. (Såsom i himlan, Soundtrack)
5. Nilsson, Stefan: *Daniel og Lena.* 1:39 (Såsom i himlan, Soundtrack) .
6. Bliss: *Blissful Moment.* 2:17 (Afterlife, Music for dreams)
7. Skovgaard Petersen, Jan: *Dawn.* 3:27. (Spa & Wellness 1, Fønix musik)
8. Rosenlund, Carsten: *Horizon.* 4:49. (Spa & Wellness 1, Fønix musik)
9. Deva Premal & Mitem: *Om Namoh Bhagavate*. 7:12. (Music Breathing. CD:More than music, # 1)

The last piece on the Sleep CD was also used for Music Breathing.

5.5. Description of data collection tools: Questionnaires

5.5.1. Collection of personal datafulfills

A screening form including questions about relevant personal data were prepared to send out to the participants to fill in before the intake interview. The screening tools that will be described below.

The information asked for in the inclusion questionnaire was: contact information (name, address, telephone number, e-mail address). Information about work and sick leave; age, education, profession, date of sick leave, short description of the course of sick leave (successive periods of sick leave, part-time or full-time sick leave etc.), number of working hours before sick leave, diagnosis, chronic diseases and medication. Questions about other treatment at psychiatrist, psychologist, psychotherapist or being at a waiting list were posed. Questions about health included diet, exercise, alcohol and smoking habits, and an evaluation of the quality of physical and psychological health on two visual analogue scales from good to bad were included. Questions about the relation to music included active music listening, preferred genres, actively playing an instrument or singing in a choir at present or earlier in their lives. The participants were asked if they had used music or relaxation CDs as self-help tools to cope with stress. Finally they were asked if they suffered from tinnitus or had a high sensitivity to sounds.

5.5.2. Choice of questionnaires

The questionnaires for the study were chosen to assist the evaluation of the degree of stress in the participants during the study. As the definition of stress used in the study was based on the biopsychosocial model of health, the evaluation of stress had to comprise several areas, and to do that it was decided to combine different standardized scales. The complete battery of scales should not be too large, as the participants probably suffered from fatigue and cognitive distress and would possibly be tired and not fill in the whole questionnaire if it was too long. The following demands to the battery of scales to be included were:

1. Screening tools
2. A measure of work-related stress
3. A measure of physical stress symptoms
4. A measure of emotional state
5. A measure of sleep quality

5.5.3. Screening tools

To be able to comply with the exclusion criteria of Major Depression, PTSD and Generalized Anxiety some minor scales were sought for which also could be used as evaluation tools later in the evaluation procedure.

The WHO Major Depression Inventory was chosen because it was short (ten items) and had an adequate internal and external validity[20]. The total score ranges from 0 (no depression) to 50 (maximum depression). It has clear cutoff values. Total scores on or over 30 indicate major depression, scores from 25 to 29 indicate medium depression and scores under 20-24

[20] Beck's Depression Inventory and the Zung depression Scale were considered but were too long.

indicate mild depression. The questionnaire could be used as a diagnostic tool as it was coordinated with both DSM-IV and ICD-10 (Olsen et. al, 2003). The ten questions regarding sadness, lack of interest in daily activities, lack of energy, diminished self-esteem, guilt, lacking the zest for life, concentration problems, restlessness, sleep disturbance and change of appetite were answered indicating how frequently the disturbances had been experienced during the past two weeks, each on a Likert's scale with six different response categories from ”at no time” to ”all the time”. The inventory was translated to Danish by the Psychiatric Research Unit at Frederiksborg General Hospital[21].

The second screening questionnaire Generalized Anxiety Disorder-7 (Spitzer et al., 2006) was chosen because it was short and because generalized anxiety according to Wittchen et al. (1994) is one of the most common anxiety diagnoses (Wittchen et al., 1994)[22]. However, the scale was described to address several other anxiety disturbances. ”Though designed primarily as a screening and severity measure for generalized anxiety disorder, the GAD-7 also has moderately good operating characteristics for three other common anxiety disorders – panic disorder, social anxiety disorder, and post-traumatic stress disorder” (Spitzer et al, 2006). The total score ranged from 0 to 21, and the cutoff value for GAD was 10. The seven questions indicating how often the person during the past two weeks had been troubled by worries, restlessness, anxiety and annoyance were answered with Likert's scales with four options: not at all, several days, more than half of the days and almost every day. An additional question asked how difficult it was to cope with problems at home, at work or with other people. This question was not included in the total score of the scale. The scale was translated to Danish by myself and the translation was verified by my Danish supervisor (Professor Lars Ole Bonde).

The Primary Care PTSD Screen from the National Centre for PTSD in the United States was used as the third screening questionnaire (Prins et al., 1999)[23]. It was a very short (4 items) PTSD screening instrument, used for primary care in medical settings. It was answered by indicating yes or no to four questions concerning any overwhelming life experiences that still causes nightmares or intrusive thoughts, avoidance behaviour, the feeling of being on guard and numbness or isolation, as experienced during the past two weeks. All four items had to be positive to indicate PTSD. The scale was not a diagnostic instrument. The questions were translated by myself with validation from my Danish supervisor (Professor Lars Ole Bonde).

The MDI appeared to be frequently used in connection with the WHO-5 Well-being Index, which is a short form (5 items) that allowed more positive information of general health and absence of distress to appear (Bech et al., 2003). It was included as a fourth screening questionnaire to make a balance between the scoring of negative conditions with those of more positive conditions and to be able to catch up not only abscence of depression and anxiety but also presence of well-being and quality of life (for instance after treatment)[24]. The scale consisted of five questions about daily life quality /happiness and each were answered on a Likert's scale with six possibilities from “at no time” to “all the time. The total score was multiplied with four and went from 0 to 100. A scoring under 50 indicated a risk for stress and depression, and if the total score was under 52 or one of the answers was 0 or 1

[21] The scale was downloaded from http://www.who-5.org, August 2007.

[22] The scale was downloaded from http://www.patient.co.uk/doctor/Generalised-Anxiety-Disorder-Assessment-%28GAD-7%29.htm, August 2007.

[23] Retrived from www.ncptsd.va.gov/ncmain/ncdocs/fact_shts/fs_screen_disaster.html September 2007.

[24] The use of a quality of life scale, as for instance WHO-QOL-Bref or SF-36, was considered, but was found to be too general for the purpose of measuring work-related stress.

(positive energy a little of the time or not at all) a supplementary testing for depression was recommended.

The screening tools including the Well-being scale were administered at the intake interview and all scales except the PTSD scale were added to the total battery of questionnaires at the post and follow-up tests.

5.5.4. Work-related stress

The measurement of work-related stress was intended to be the primary outcome of the questionnaire part of the study. Percieved Stress Scale was chosen because it could be used for all kinds of stress, it was suiting for people out of work, and because it measured coping ability, which was found to be an interesting dimension in an effect study of therapy (Cohen, Kamarck & Mermelstein,1983; Cohen & Williamson, 1988)[25]. Alternative scales considered were Depression, Anxiety and Stress Scale (DASS), Daily Hassles (and uplifts) and the Holmes and Rahe Stress scale measuring major life events. Several validated scales of burnout were found to be inappropriate for persons on sick leave because they were asking questions about the working situation (Maslach Burnout Inventory, the Shirom-Melamed Burnout Measure and the Copenhagen Burnout Inventory).

The Perceived Stress Scale is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to test how unpredictable, uncontrollable and overloaded the respondents found their lives. There were three versions of the scale: 4-items, 10-items, or 14-items. The 10-item version was chosen since it had maximum reliability. The Perceived Stress Scale asked how often in the past two weeks problems had gone out of control etc., with five response categories on Likert scales ranging from ”never” to ”very often”. Three items were formulated positively, ”How often have you felt that things were going your way, that you felt in control, and that you managed the daily hassles/ felt on top of things”; these questions were reversed in the scoring procedure.

The scale assessed the amount of stress in one's life rather than in response to a specific stressor and had been widely used in studies of both mental and physical health. An American study established norm values according to gender, age and race, indicating an average PSS scoring of women as a little higher than that of men, and a norm generally falling with increasing age. The coefficient alpha reliability was .85-.87 (Cohen & Williamson, 1988). The authors demonstrated correlations between PSS and stress measures, self-reported health and health services measures, health behaviour measures, smoking status and help seeking behaviour. PSS has been used in a Danish health population study with 150.000 subjects (Larsen et al., 2011). The PSS scorings were divided in five parts, and the part of the population having most stress scored between 17 and 40. Total scorings over15 in PSS indicated a 64% probability of sick leaves over 15 days (Larsen & Kellenberger, 2008).

5.5.5. Work Readiness question

As I chose not to use work-related burnout scales, but still wanted to find out about how the participants were feeling about job return, I formulated an additional question about the readiness for work that the participants were feeling at the moment: ”How ready do you feel to go to work currently?” If they had already started to work, they could report how they felt about going to work. The question had five possible answers on a Likert's scale: not at all, a

[25] http://www.mindgarden.com/products/pss.htm *and www.danskselskabforfolkesundhed.dk*

little, to some degree, rather much, to a high degree. The question was added as the final question in the questionnaire battery.

5.5.6. A measure of stress load and symptoms

I was not able to find any internationally validated scale that measured the physical symptoms accompanying severe stress. The use of the physical stress symptoms part of a scale with both physical and psychological symptoms developed in the Danish Stress research project in the private Løkken Stress Centre in the Northern part of Denmark was permitted by one of the authors, psychologist Sarah Lundhus. The scale was named "Fysiske and psykiske gener" (Physical and psychological distress). The English name that I gave to it was "Physical Stress Symptoms". It included 16 items measuring how often physical distress was experienced during the past month in different parts of the body (ache in the head, neck and back, digestion problems, heart poundering, skin problems, eye flickering etc.), and the frequency of each item was indicated in a Likert's scale with four possibilities: never, frequently, several times a week or almost daily. As the scale was not tested for internal or external validity, I decided to calculate Cronbachs alpha when the number of applications in the study was known and present this in the results section.

5.5.7. Emotional state

The mood scale should be able to inform about changes of mood not only related to anxiety and depression, but also to other mood components related to stress such as tension and fatigue. The Profile of Moods States (POMS) was originally developed by McNair et al. (1971) with 65 items. A short form with 37 items (POMS-SF) was developed by Shacham (1981). The short form was chosen for this study because of its size but also because the long form POMS was to be used only by doctors and psychologists according to the administrators of the Danish version of the scale. Both Shacham (1981) who tested the scale in a cancer population (83 subjects), and later Curran et al .(1995) who tested the scale on 600 respondents from both clinical and healthy populations found a good correlation with the original POMS. Internal consistency (Cronbach's alpha) ranged between .76 and .95 for the sub-scales in POMS-SF and between .63 and .96 for the sub-scales in POMS. For the total score, the range was between .87 and .92 for POMS-SF and between .75 and .92 for POMS (Curran et al., 1995). According to the high reliabilty and internal consistency between the long and short forms, the results of this study can be compared to the reviewed GIM studies using the long form of POMS (2.4.9).

The POMS-SF consisted of 37 words describing emotions (i.e. sad, lively, tense etc.) covering six domains: fatigue-inertia, vigor-activity, tension-anxiety, depression-dejection, anger-hostility, and confusion-bewilderment. The words from different domains were mixed among each other, and the respondents answered to which degree in the past week the word covered how they feel. The five Likert scale categories went from "not at all" to "extremely". The Total Mood Disturbance score (TMD) was calculated using the sums of all the scores and subtracting the Vigor score. The TMD ranged from -17 to 80. The TMD became negative when the Vigor scorings exceeded the sum of negative emotions. Individual sum scores of the six domains could also be calculated.

The Danish version of POMS-SF was handed over to me by a colleague, and I have not been able to find out who has done the translation into Danish. The translation was checked for accuracy by the researcher and found satisfactory.

5.5.8. Sleep Quality

Sleep Quality is related to the production of cortisol and has been linked to stress (2.1.10). Åkerstedt and his colleagues at Karolinska Institute have been developing different scales and tools for studying sleep and sleep problems for many years, and their scales are widely used. I corresponded with Professor Töres Åkerstedt who send me three different versions including the "Sleep Diary" and permitted me to use his scales[26]. The exact version of the Karolinska Sleep Diary (Åkerstedt et al., 2002) that I finally included was handed to me and translated into Danish by researchers at the Danish National Research Centre for the Working Environment (NFA).

The scale included both quantitative and qualitative evaluations of sleep. Twelve questions about the frequency of sleeping difficulties experienced during the past two weeks (difficulties of falling asleep and waking up, many short awakenings during the night, less than six hours of sleep, not feeling fully rested in the morning, sleepiness during the day etc.). There were five answering categories in Likert's scales from "never" to "always/almost every day". Further questions about the times of falling asleep and waking up as well as an overall appraisal of sleep quality were posed. Sleep quality could be rated "excellent, very good, good, not so good, or bad". A total score based on the 12 questions was calculated. Two sub-scales were defined (Awakening Score and Disturbed Sleep Score) but they were not used in the present study. The information about time of falling asleep and waking up could also give a valuable information of change in sleep pattern, but was only used as background information in the present study.

5.5.9. Administration of questionnaires

The eight scales and the additional question were collected and given a uniform layout. The collection of questionnaires was equipped with a short instruction at the front page, and a space for writing the date of filling in the scale. In the end a space for additional comments was left. Before sending or handing out the questionnaires I noted the placement in the course of the experiment (pre-therapy, follow-up etc.) and the ID number of the participant.

The questionnaires were compiled in the following order:

1. WHO-5 Well-being Index (5 items)
2. The Generalized Anxiety Disorder-7 (7 items + coping question)
3. WHO Major Depression Inventory (10 items)
4. The Primary Care PTSD Screen (4 items)
5. Perceived Stress Scale - 10 (10 items)
6. Physical Stress Symptoms (Løkken) (16 items)
7. Profile of Moods States - SF (37 items)
8. Sleep Diary (12 items + 4 time categories + sleep quality question)
9. Work Readiness question (1 item)

Three different versions of the questionnaires were developed for the study: the questionnaire sent to participants before their intake interview (referral questionnaire) with personal data and screenings, a questionnaire with all scales except the PTSD scale for pre- and post-therapy tests (questionnaire A) (see Appendix 3 and 4), and a reduced questionnaire

[26] E-mail correspondance, 19 December 2006.

without the screening scales for mid-tests (questionnaire B). The argument for making a shorter version was that questionnaire B in most cases had to be filled in by the participants at home without the motivation of an upcoming meeting with the researcher.

5.5.10. Immediate Stress State

I developed a visual analogue scale to be filled in before and after every single GIM session to get information about the effect of the therapy on the immediate stress state (see Appendix 3). The items were planned to reflect the emotional and physical stress state as experienced in the moment of filling in the scale. A visual analogue scale was chosen to make the scoring quick and easy to administer. The eight dimensions of the scale were: mood (happy-sad), safety (safe – unsafe), worries (worried - no worries), energy level (tired -.full of energy), tension (tense - relaxed), restlessness (restless – calm), stress (stress – no stress), and pain (pain – no pain). To be able to assess how the other items related to "stress" as perceived by the participants, the item "stress" was put into the scale. The shaping of the items was inspired by the "Emotional Visual Analogue Scale" from a study of the effect of the well-being of singers (Grape et al., 2003). The mean of the eight items of the scale was defined as the Immediate Stress State. A score between 0 and 5 indicated a low state of stress and a score between 5 and 10 indicated a high state of stress. I hypothesized that the Immediate Stress State would decrease after a session, but I also considered the possibility of exhaustion or contact with negative emotions in therapy that could influence the Immediate Stress State so that it would increase after a session compared to before the session.

The scale was tested in the pilot study for comprehensibility and manageability, and as it worked well it was not changed.

5.5.11. Other Treatment form

As described above (5.4.1) a form to register other kinds of treatment during the project was filled in in the end of each period of the study (waiting, therapy, follow-up). The participants were asked about the number of consultations with psychiatrists, psychologists, psychotherapists, stress coaches, physiotherapists, acupuncturists/reflexologists, or other kinds of alternative or complementary therapists.

5.5.12. Work situation - follow-up

Many work stress studies include analyses of the financial losses that sick leave imposes on the society and the companies. If the study could prove that participants who received GIM returned to work earlier than those who did not, it would support the use of music therapy in the rehabilitation team of work-related stress. The use of information from a national database with information on sick leave compensation was planned for (the DREAM database[27]). DREAM is a database administered by the Danish Ministry of Work, from which information of absenteeism from work (the number of days on sick leave benefit) in a specified period and sample can be extracted with permission from the Ministry). The information of lenght of sick leave would be used to estimate if the sick leave periods were different in the the two groups, defined by the participants who received early GIM. Because of a considerable variation in social and economic situation among the participants and the small sample that was obtained I cancelled the data extraction from the DREAM database.

[27] Danish Rational Economic Agents Model database

Information about the work and sick leave situation at different phases of the participation was noted. As the use of the database was cancelled I decided to do an additional follow-up on the participants' work situation six months after the last GIM session. A form was developed where they could tick off their present sick leave or work situation.There were 14 categories included: being on sick leave, not being on sick leave anymore, working part-time, working full-time, (at the old or a new working place), starting a company, being at communal courses, being well but unemployed, being on holiday, having a flex-job, being on work training, maternal leave, sick leave with other illnesses than stress or early retirement. The form was mailed to the participants.

5.6. Description of data collection tools: Measurements of physiological effects

5.6.1. Blood pressure and pulse

Blood pressure and pulse were measured after 20 minutes of (sitting) rest using an Omron M6 Comfort device. The measurements were carried out by two different apparatuses of exactly the same design (one was the apparatus at the occupational health clinic, and the other was installed at the meditation center). The researcher put on the armband and administered the measurement. The participant was instructed not to talk or move the body during the measurement. The time, date and numbers of diastolic and systolic blood pressure and pulse were noted immediately in the data collection log of the participant. The pre-therapy measurement of blood pressure was done in the beginning of session one and the post-therapy measure of blood pressure was taken in the end of session six. All other measurements were done at intake and follow-up meetings.

Blood pressure was measured in two categories, systolic blood pressure representing the working phase of the heart and diastolic blood pressure representing the resting phase of the heart. The upper limits for a healthy blood pressure (systolic/diastolic) are 140/90 mmHg and the lower limits are 100/60 mmHg. Blood pressure values over 140/90 mmHg indicate hypertension**.**

A normal resting pulse rate for a healthy adult can range from 60 to100 beats per minute (BPM). Well-conditioned athletes may have a healthy pulse rate much lower than 60 BPM, in the range of 30-45 BPM. Brachycardia occurs when the pulse rate is below 60 per minute but is only usually symptomatic when below 50 BPM, whereas tachycardia occurs when the rate is above 100 BPM. During sleep, the pulse can drop to as low as 40 BPM; during strenuous exercise it can rise as high as 150–200 BPM[28]. High resting pulse has been connected to chronic stress (2.1.8).

5.6.2. Measuring hormones

An adequate balance between catabolic (mobilization of energy) and anabolic processes (growth, healing) is considered necessary for long-term health and survival. The biology of the stress system is very complex and the study of the coping ability was thought to be more dynamic when testing hormones both indicating the catabolic system (cortisol) and the anabolic system (testosterone). One way of categorizing metabolic processes whether at the

[28] Information retrieved from Wikipedia 1 September 2010

cellular, organ or organism level is that catabolism provides the chemical energy necessary for the maintenance of growth of cells. Anabolism is powered by catabolism, where large molecules are broken down into smaller parts and then used up in respiration. Anabolic processes tend towards "building up" organs and tissues. As discussed in the literature review cortisol has since long been connected to chronic stress, and the analysis of cortisol is an established procedure. Testosterone has only been used as biomarker of stress in a few studies (2.2.4).

5.6.3. Two measurement methods of hormones in saliva

The analyses of hormones were carried out in collaboration with the National Research Centre for the Working Environment. Their previous research had included studies of diurnal cortisol and the cortisol samples had been analysed with Radio Immuno Assays (RIA). At the onset of my study the NFA researchers on work stress planned to establish a new equipment for the analysis of small concentrations of salivary testosterone, melatonin and cortisol to be able to assess the diurnal disruption in night work, work without daylight and extended working periods: Liquid Chromatography with a double Mass Spectrometer (LC-MSMS). It has earlier been difficult to analyse so small amounts of hormones as for instance the concentration of testosterone in women or the concentration of melatonin during daytime hours. In order to be able to investigate the dynamics of the hormone system under stress, I was interested in the parallel analyses of several hormones, and decided to collect data for both kinds of analysis. The data from my study became the first to be analysed with the LC-MSMS equipment in Spring 2011. So two different collection procedures of saliva for the measurement of hormones were applied to the two kinds of analyses: a home collection for the RIA and a therapy office procedure for the LC-MSMS.

The participants had not originally been asked for their consent to the analysis of melatonin, and after having had the approval of the Ethical Committe, letters with a description of the study of melatonin and a request of added consent to the analysis of melatonin were sent out to all participants. They all answered and gave their consent.

5.6.4. Collection and analysis of saliva for RIA cortisol analysis

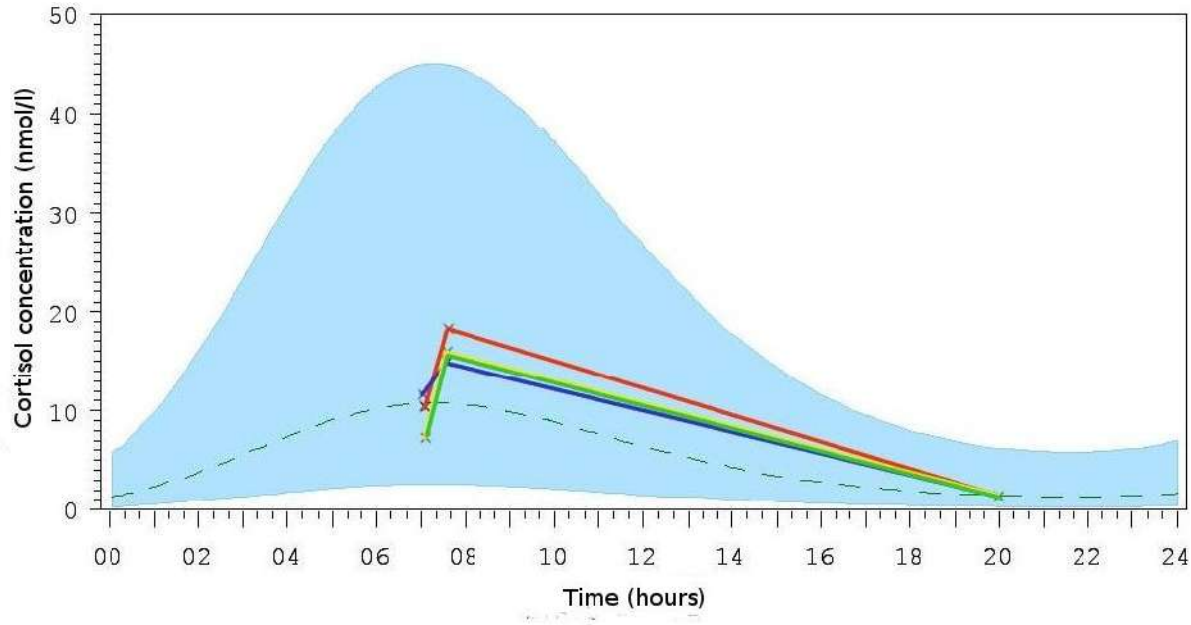
The diurnal cortisol pattern in healthy persons can be characterized by a steep upwards curve in the first half hour after the morning awakening, and afterwards the curve decreases during the day (see figure 5.2). During night sleep it falls to a minimum, and it starts to increase some hours before wake-up. To evaluate the development of the curve it is normal practice at NFA to measure cortisol three times: at wake-up, after 30-45 minutes, and late in the afternoon or in the evening (17.00-21.00). The measurement method is a gentle way to obtain data that connected to the stressed individual. "Salivary cortisol represents a simple, non-invasive, stress free measure that can greatly facilitate the longitudinal study of the HPA-axis activity in patients with psychiatric disorders and studies of effects of occupational stress" (Hansen et al. 2003).

The collection of saliva for the cortisol analysis was carried out by the participants at home in the morning and evening on the three (or four) measurement days during he study. They had been given a small written information about the procedure, and they could also retrieve the small video they had been watching at the intake meeting showing the collection of saliva from the internet if needed. The participants were instructed to place the first plastic tube (Salivette, Sarstedt Inc., Germany) with a cotton swamp at a table besides their bed. As they woke up in the morning, they were instructed to take the cotton sample in the mouth and

wet and chew it for two minutes. After that the cotton swamp was returned to the tube without touching it with the hands and the plastic cover was made to close the tube. After 30 minutes the procedure was repeated with another cotton swamp. The participants were not allowed to have any food or drinking in their mouth while wetting the swamp. Labels for the plastic tubes were filled in with name, date and time and the tubes were stored in the refrigerator. In the evening at around 8 p.m. the procedure was repeated with a third tube. It is a common practice when investigating cortisol and other biomarkers to ask for self-reported data to be able to identify confounding influences. A small questionnaire providing information about the cortisol collection day was filled in with specification of additional stressors, sleep quality, medication and having menstruation (women). The three samples were brought to the therapy office the following day or were posted to the NFA laboratory, as it were common practice in the studies at NFA. When I received the samples at the therapy office, they were immediately stored in a small box with cooling elements, and after the session two hours later they were brought to the research refrigerator at the blood bank of Køge hospital and stored at -70 degrees Celcius.When 10-15 samples had been collected I transported them to the laboratory in the box with cooling elements and they were stored in the research refrigerator at the NFA laboratory until the time of analysis.

The analysis was carried out with a radioimmunoassay (RIA) from Orion Diagnostica, Finland. The method has been used and evaluated by NFA (Hansen et al., 2003, 2008; Garde & Hansen, 2005). Comparison with other acknowledged methods and results from other laboratories had been included in the quality management/assurance (Garde, 2003). A reference curve for the healthy population has been established by NFA, and it was used as a background image when plotting the cortisol values in the study. The following example shows the mean values of the cortisol diurnal variation in the control group (Group 2).

Figure 5.2. Mean diurnal cortisol variation on reference chart, Group 2



Note. The lines connect mean cortisol concentrations at baseline (red), pre-therapy (blue), post-therapy (yellow) and follow-up (green). The wake-up time differed in the sample, but was here estimated to 7 o'clock for the whole group. Diurnal cortisol normally begins to decrease right after the peak at 30 minutes after wake-up, making a curved line, so the straight line from 30 minutes to evening is a best fit with three measures. The blue area is a reference

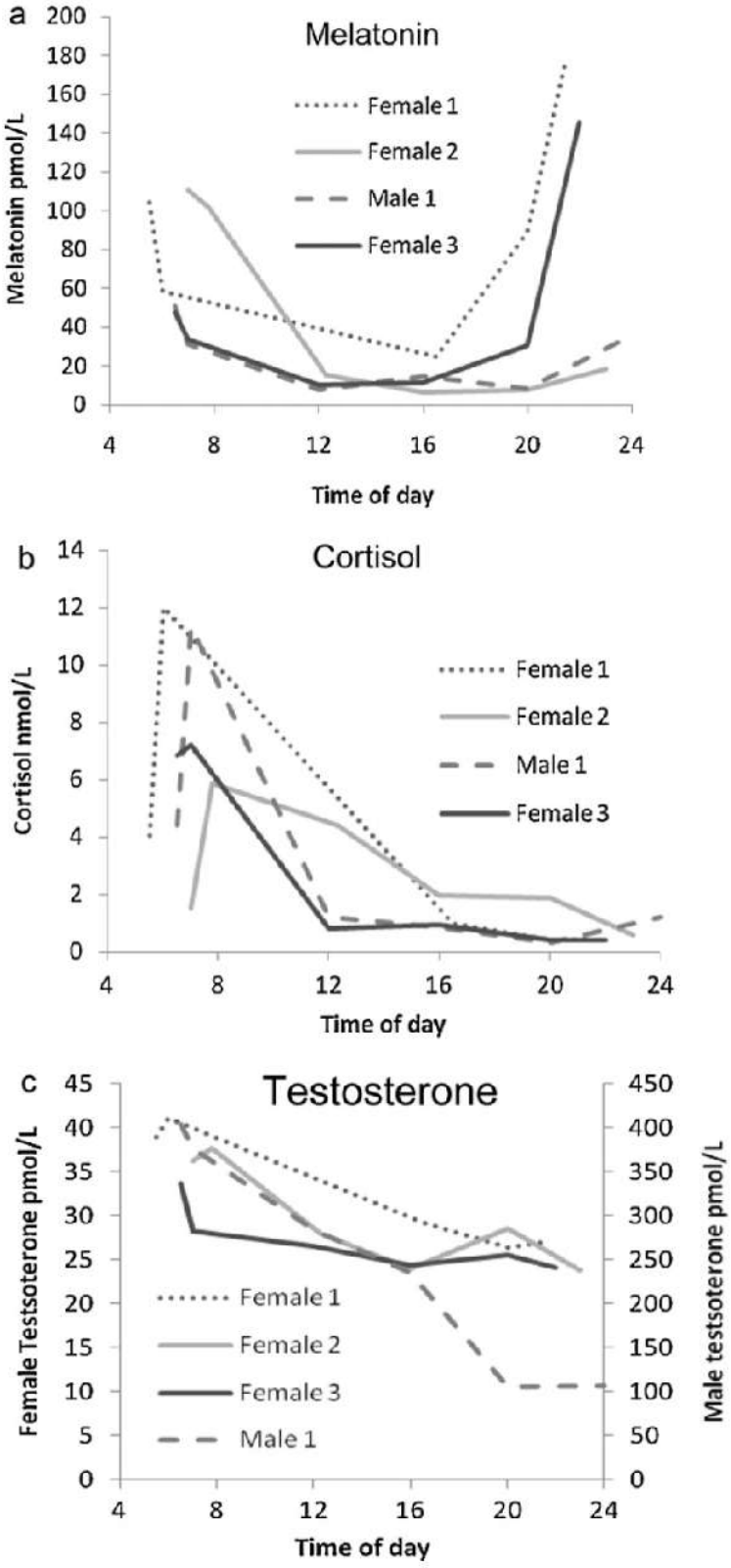
area for cortisol concentrations in a healthy population, and the dotted line shows the mean concentration during 24 hours (NFA, 2007).

5.6.5. Collection of saliva and analysis by LC-MSMS of testosterone, melatonin and cortisol

The collection of saliva for the liquid chromatography tandem mass spectrometry analysis took place in the therapy office. A sufficient amount of saliva had to be minimum 1 ml, which was more than collected in a Salivette tube, so the saliva was collected directly by spitting several times directly into a 10 ml polyethylene Nunc-Immuno tube (Fischer Scientific, Denmark). As the spitting procedure sometimes was experienced as a little indelicate to share with another person, I often left the room to make photo copies of the session transcripts for a minute while the collection of saliva took place. A label with date, time, "Testosterone" and ID was written by the therapist and placed on the tube after it had been closed with the plastic lit. At the first therapy session the saliva was collected before the therapy and at the sixth session it was collected after the therapy. At all other occasions the collection of saliva was performed in the end of the meeting. The saliva samples of each of the participants had to be taken at the same time of the day to control for diurnal variance. For practical reasons the time frame for the collection of saliva took place between 10 and 14. The tubes were stored in the box with cooling elements, and directly after the ending of the therapy/meeting the sample was brought to the refrigerator at the blood bank of Køge Hospital and stored at -70 degrees Celsius. Same procedure as with the other saliva samples was performed for transport to the research refrigerator at NFA (-70 degree). The saliva samples remained frozen two years before they were analysed. In a study by Granger et al. (2004) the storage of salivary testosterone at temperatures around -80 degrees did not change the testosterone concentration even in a storage period of two years. Storage around -20 degrees was found to increase the testosterone levels with about 6%.

LC-MSMS is an analytical chemistry technique that combines the physical separation capabilities of (high-performance) liquid chromatography (or HPLC) with the mass analysis capabilities of mass spectrometry. LC-MS is a powerful technique used for many applications which has very high sensitivity and selectivity (Ardrey & Ardrey, 2003). Generally its application is oriented towards the specific detection and potential identification of chemicals in the presence of other chemicals in a complex mixture. In this case a Liquid-Liquid extraction was used before the injection in the Liquid Chromatograph, and finally the mass spectrometer process was carried out, measuring the molecular masses of the hormones. Further technical specifications can be seen in Jensen et. al. (2011). According to the authors it is the first time to analyse these three different hormones in the same saliva sample. With the permission from the authors the results from a pilot study of the diurnal concentrations of the three hormones in four healthy adults with five samples during a day are presented (Jensen et al., 2011).

Figure 5.3. Measurements of melatonin, testosterone and cortisol in saliva from four healthy adults, analysed at NFA by liquid chromatography tandem mass spectrometry.



As the reference group was very small the comparison with concentrations in the study sample was carried out with caution.

5.6.6. Administration of data collection of questionnaires and measures of physiological effects

The complexity of data collection was managed by checking all occasions of handing or sending out material for each participant in a data collection log, where all the types of questionnaires, schemes, cortisol tubes etc. was ticked off when administered. The participants also got a paper with dates of sessions, meetings and data collection tasks. In the therapy office all the sessions and meetings were marked on a wall calender. The questionnaires and forms used in the study can be seen in Appendices 3 and 4.

5.7. Procedure of data collection

The whole procedure is shown in the presented table. The schedule shows the procedure for all the participants as carried out at in the period of August 2008-January 2010.

Table 5.1. Procedure of data collection

Week	GIM group participants	TAU group participants
0	Telephone contact: R sends referral scheme and written information about the experiment by post to P. Interview appointment.	Telephone contact: R Sends referral scheme and written information about the experiment by post to P. Interview appointment.
0	Interview: Collection of personal data and screening data. Inclusion/exclusion. Verbal information about the experiment and the therapy. Looking at video-film Listening to music piece. If yes to participation P signs informed consent. Randomization. Handing out Questionnaire A and cortisol test material (tubes, information scheme) to P. If group placement is known the study scheme is filled in with dates and handed out to P.	Interview: Collection of personal data and screening data. Inclusion/exclusion. Verbal information about the experiment and the therapy. Looking at video-film Listening to music piece. If yes to participation P signs informed consent. Randomization. Handing out Questionnaire A and cortisol test material (tubes, information scheme) to P. If group placement is known the study scheme is filled in with dates and handed out to P.
1	P fills in questionnaire and make home tests a day before first GIM session. First GIM session. Stress VAS before and after the session. Collection of questionnaire A, the 3 cortisol samples and cortisol scheme. Collection of saliva in tube for testosterone test. Blood pressure measurement. Handing out Music CDs.	P fills in questionnaire and make home tests a day before the meeting. Meeting: Collection of questionnaire A, the 3 cortisol samples and cortisol scheme. Collection of saliva in tube for testosterone test. Blood pressure measurement. Handing out Questionnaire B to P for filling in at home in week 3.
2	Second GIM session. Stress VAS before and after the session.	
3	Third GIM session. Stress VAS before and after the session. Handing out Questionnaire B to P for filling in at home before next session.	P fills in questionnaire B at home and posts it.
5	Fourth GIM session. Stress VAS before and after the session. Collection of Questionnaire B.	R receives Questionnaire B with the post from P.

7	Fifth GIM session. Stress VAS before and after the session.	R sends Questionnaire A and cortisol test material to P with a reminder of date and time for the first session.
9	Sixth and last GIM session. Stress Stress VAS before and after the session. Measurement of blood pressure and collection of saliva in tube for testosterone test after the session. Filling in Other Treatment scheme. Handing out Questionnaire A and cortisol test material with stamped envelopes and Questionnaire B with stamped envelope and date for filling in (in week 12) to P.	
10	P fills in questionnaire A and make home tests a day after sixth session and sends it in two different envelopes. R receives questionnaire A by post from P. Cortisol samples are sent direct to the laboratory by P.	P fills in questionnaire and make home tests a day before first GIM session. First GIM session. Stress VAS before and after the session. Collection of questionnaire A, the 3 cortisol samples and cortisol scheme. Collection of saliva in tube for testosterone test. Blood pressure measurement. P fills in Other Treatment scheme. Handing out Music CDs.
11		Second GIM session. Stress VAS before and after the session.
12		Third GIM session. Stress VAS before and after the session. Handing out Questionnaire B to P for filling in at home.
14	R receives Questionnaire B by post from P.	Fourth GIM session. Stress VAS before and after the session. Collection of Questionnaire B.
16		Fifth GIM session. Stress VAS before and after the session.
18	R sends out Questionnaire A and cortisol test material by post to P with a reminder of the follow-up meeting.	Sixth and last GIM session. Stress VAS before and after the session. Measurement of blood pressure and collection of saliva in tube for testosterone test after the session. Filling in Other Treatment scheme. Handing out Questionnaire A and cortisol test material with stamped envelopes and Questionnaire B with stamped envelope and date for filling in (in week 12) to P.
19	Follow -up meeting. Collecting Questionnaire A, cortisol samples and scheme. Measuring blood pressure and collecting saliva in tube for testosterone test. P fills in Other Treatment scheme.	P fills in questionnaire A and make the cortisol test at home and send it in two different envelopes. R receives Questionnaire A by post from P. Cortisol samples are sent direct to the laboratory by P.
22		Receiving Questionnaire B from P.
26		Sending out Questionnaire A and cortisol test material by post to P with a reminder of the follow-up meeting.
27		P fills in the questionnaire A and make the cortisol test and bring it to the meeting.

		Follow-up meeting. P collects Questionnaire A, cortisol samples and scheme. Measuring blood pressure and collecting saliva in tube for testosterone test. P fills in Other Treatment scheme.
35	Mail contact: sc about current work situation.	
44		Mail contact: sc about current work situation.

Note. GIM sessions are marked with yellow colour, the questionnaires are marked with light green and the physiological measurements with light red. R stands for researcher and P stands for participant

As can be seen in the scheme, it is the same procedure for the TAU group participants beginning in week 10 as it is for the GIM group participants beginning in week 1. The advantage of the data collection procedure was that the same procedures were being repeated, so once the participants had been through the baseline measurements no new procedures were imposed.

It was planned that most of the filling in of questionnaires should take place at home, so the presence of the researcher/therapist would not influence on the answers. The disadvantage with this procedure was that the exact time of the answering and the conditions of filling in the questionnaires could not be controlled and equalized between the participants, and there was a risk that the participant would forget to fill in the questionnaires or do the cortisol tests, or make mistakes when doing the cortisol tests. It was also planned that most of the questionnaires and cortisol samples should be made one day before the meeting with the researcher. The collection of VAS and testosterone samples all took place together with the researcher and this procedure could be controlled. The filling in of VAS took place while sitting at the table where also the verbal part of the therapies was carried out. The researcher did not look at the participant or comment during the scoring of the VAS. The VAS pre-test of the sessions was immediately hidden in the folder of the participant so that neither the therapist nor the participant would be able to see what was scored before the session when the post scale was scored.

To keep check of the whole data collection procedure, a special calendar was reserved for the appointments, and a data collection sheet was printed out for each participant and put in a folder with the ID number on.

It was expected that not everything would work out exactly as scheduled. A couple of procedures were invented to handle situations when something did not go according to the plan. If the participant had forgotten to fill in a questionnaire, the researcher gave her/him a new one to fill in in the office in privacy before the start of the session. If the date was missing on a questionnaire handed in by post, the researcher noted the date of arrival on the questionnaire. When a post-therapy questionnaire did not arrive by post after the sixth session, the researcher unfortunately was not able to contact the participant as it would have been a violation of the privacy regulated by the ethical guidelines of the Ethical Committee in the Region.

5.8. Scoring/handling of data

5.8.1. Storage of data

All transcripts, notes and questionnaires went into participant folders with ID numbers. The front page of the referral schemes had names, addresses and civil registration numbers, and these pages were stored in a locked drawer in the researcher's home. When the results of the hormone analysis arrived from the laboratory, they were locked up in the drawer as the paper sheets had both names and the Danish civil registration number on them together with the data. All referrals to participants in the computer documents were done with the ID numbers, and no names, addresses, workplaces or other confidential information was combined with the ID numbers.

5.8.2. Data scoring

All written data from questionnaires, hormone test results, blood pressure and pulse measurements were scored in one data sheet. Data from the referral schemes were included such as age, gender, profession, civil status, number of children, inclusion date, sick leave date, medication, diagnosis and use of music before inclusion in the study. The scores of all questionnaire items were transferred to the sheet.

5.8.3. Missing values in questionnaires

The question of missing values in the single questionnaires arose. Single items were not filled in in 10 cases, in two cases the GAD-7 coping question was not filled in, in one case half a sub-scale and in another case a whole sub-scale was left out. Several possibilities were at hand to take care of this: a) exclude all sub-scales with missing items, b) make assumptions of the missing items from the already scored (calculating means) or c) include the sub-scales with missing items accepting the margin of errors. I chose the c) model and included all sub-scales with more than 2/3 of the items scored, accepting a smaller total score. This meant that only one sub-scale was left out (the one with a whole missing sub-scale).

In 14 cases an item was filled in with a cross in the space between to categories or in two categories at the same item. I chose to score these items as decimals (i.e.0.5 or 2.5) to be as precise and close to data as possible.

5.8.4. Calculation of total scores

Total scores were not calculated manually to avoid mistakes, but were generated using the calculation's facility in the spread sheet using formulas to sum up the values of the single items, subtract reversed items etc.

5.8.5. Scoring of hormone data

The NFA laboratory sent the results of the RIA analysis of cortisol to the researcher in three portions. The results were written in data sheets with the applied confidence intervals. Along with the data sheets there were also CDs with the results scored in SPSS. As the statistical package used in this study was R and not SPSS the results were scored by hand into the big data sheet of the study. This procedure could have caused some errors, so the values were checked several times.

The analysis procedure could not handle doses smaller than 1.6 nanomoles/litre which was indicated as < 1.6 in the data sheet. In the calculation procedures described below (Reactivity and Recovery) the need for a differentiation of the small levels of cortisol was present and a randomization calculation of all the cells with values < 1.6 was carried out using the formula ”RAND (x) * 1.6”.

5.8.6. Calculation of Cortisol Reactivity and Recovery

Methodological considerations regarding the analysis of cortisol lead into looking at the Reactivity – Recovery model (Sluiter et al., 2000). The model was developed as a way to understand stress, and it has been implemented to analyse endocrinological data (Sluiter et al., 2000, Kudielka, 2010). The model is usually known to describe the reactivity and recovery taking place around a work task or work stress on both musculo-skeleton (strain), physical (pain) and endocrinological levels. Sluiter defined four degrees of recovery:

1. Reactivity (microrecovery): during task and minutes after task
2. Mesorecovery : between 10 minutes and 1 hour after task
3. Metarecovery: between 1 hour post work and up to 2 days after work performance without in between same task performance
4. Macrorecovery: between 2 days after task performance up to unknown number of days (holiday)

The four kinds of recovery could not be directly connected to the study because no “task” was involved other than the normal tasks on the day of cortisol measurement. The model served as an inspiration for the formulation of the reactivity and recovery in cortisol as it happened in a diurnal measurement.

The formulas used to transform data into reactivity and recovery values were based on percentages to eliminate individual differences of cortisol concentrations. The Reactivity was a way to describe the steepness of the morning curve between Cortisol Awakening Response (CAR) and the next 30 minutes.

The Reactivity was calculated with the formula ('+30 min'-CAR/CAR)*100%

The Recovery was a way to describe the decline of the curve from morning to evening, where the highest of the morning concentrations was used in the calculations.

The Recovery was calculated with the formula (([highest of morning values]-evening value)/[highest of morning values])*100%

The Cortisol Awakening Response was included in the analysis to be able to look for any effects from therapy on the single values of the wake-up concentrations.

5.8.7. Work/sick leave data

Data obtained from the participants during the time of participation in the study were scored by me at all times in four different categories: full-time sick leave, any sick leave, working minimum 30 hours a week and economic self-support. The definition of work included job, work trial (rehabilitation), flex-job, joining obligatory competency and job training courses and unemployment (looking for work). The data were treated as dichotomous variables.

Several problems related to the definitions of sick leave and work.

- Sick leave was from the start described as a continuum from full-time to part-time sick leave. In many cases of work-related stress job return happened as a stepwise process with few working hours in the beginning and full-time as an end point when good health had returned.
- The distinction of number of working hours per week between part-time and full-time was not defined from the beginning. In the investigation sick leave or no sick leave was defined as a dichotomous variable, and I decided to define "no sick leave" as working minimum 30 hours a week. This meant that participants on part-time sick leave in this category only would figure as having returned to work after they had reached 30 hours per week (this limit is also used in the administration of sick leave compensation). The limit would be unclear if there had been any participants working part-time before sick leave with stress (here are people working 25-30 hours a week). After stress sick leave some people also might find out that part-time work could be a more healthy way of living for them.
- The participants who were unemployed but no longer on sick leave were scored as "working" because they were no longer at sick leave but actively looking for work.
- The investigation of economic self-support was made in order to try to carry out a preliminary cost-benefit related analysis that could provide an impression of the effect of the therapeutic method in relation to public expenses. In the same case as with the part-time/full-time sick leave it can be difficult to define to which degree a person is economically self-supported. I chose the work/sick leave limit: over 30 hours of work delimits a self-supported subject. In cases of unemployment the participant was technically no longer on sick leave, but was still receiving benefit and was scored as not self-supported.

In two border cases I have been forced to define the scoring. One of the cases regarded a participant who went on maternity leave after a period of part-time sick leave with stress. After one year of leave it was planned that she should start to work gradually (but I did not receive the six months follow-up information about how the job return proceeded). Finally I decided to exclude her case from analysis of job return. The other case was a university student who as a consequence of work stress quit her student job. After a period of unemployment benefits she planned to return to her studies. She was scored as working and supporting herself both when she received unemployment benefits and study benefit ("Statens Uddannelsesstøtte, SU - The Danish students' Grants and Loans Scheme").

The question whether job return can be connected to the effect of therapy can not be answered directly by the data, but will be discussed in the mixed results interpretation.

5.9. Statistical methods

5.9.1. Intention to treat

All patients having been accepted in the study were included in the research following the principle of intention to treat, meaning that data from participants with protocol violations (i.e. not completing therapy) would be included in the statistical calculations.

5.9.2. Statistical analysis

The independent variable in the study is group (1 or 2) which is a dichotomous variable, and the dependent variable is stress which is a continuous variable. The dependent variable stress is described by eight different primary variables (Perceived stress, hormones (Cortisol (four variables), Testosterone and Melatonin) and nine secondary variables (Mood, Sleep, Physical Symptoms, Blood Pressure, Pulse, Work Readiness, Anxiety, Well-being and Depression. The problem of multiple testing has been considered, and was included in the interpretation of the analysis.

The two non-standardized scales (Physical Stress Symptoms and Immediate Stress State were tested for internal validity (Cronbach's alpha).

Data of all the variables were screened using baseline values. Psychological and physiological measures were presented in a scatter plot to look for relationships between variables.

Following confirmation of normal distribution (transformation if necessary), line graphs showing means and standard errors per group at each time-point were produced for all psychological and physiological variables.

The investigation of treatment effect was performed using an approach called generalized estimating equations (GEE) that was first proposed by Liang and Zeger (1986). The argument for using a linear effect model was that it is able to handle and include all measures of multiple data collection points, and that the model is tolerant to missing data. The GEE essentially extends generalized linear models to longitudinal data, and allows for the analysis of such data when the response variable cannot be assumed to be normally distributed. The procedure can be applied both with normally distributed response variables (as most outcomes in the present study) and with dichotomous response variables (as the sick leave data in this study).GEEs use a so-called “working correlation matrix” to account for correlations within subjects, in order to identify reasonable standard errors (robust SE's) (Everitt & Hothorn, 2006, p. 178). An “exchangeable” correlation structure was chosen for the GEEs because it reflects the correlational structure of the observed repeated measurements more adequately than independence (Everitt & Hothorn, 2006, p. 183). The robust z value indicated significance when smaller or bigger than 1.96. P-values were calculated for Group and Time.

In a few cases in the statistical analysis a simple linear model was applied because the GEE was not needed. It happened in the analysis of hormones in the parallel group analysis (GIM versus TAU) where only data from two measurement points were available.

All statistical procedures were carried out in R. The formulation of a model for the significance tests took two variables into consideration: the group (1 or 2) and the time (week 0-week 27). The confidence interval was 95% .

5.9.3. Effect sizes

According to Gold (2004) the calculation of effect sizes can help to identify clinically relevant information, and effect sizes can be used to communicate and compare research findings to other studies. ”Effect size calculations not only provide a clear measure of difference indicating effect, they can also reveal therapeutic effects that would provide some of the evidence searched for in evidence based medicine, and suggest a clinical benefit that warrants further investigation” (Gold, 2004, p. 94). Effect sizes based on Cohen's d were

calculated for all continuous, normally distributed variables (Cohen, 1988). Similarly, odds ratios were calculated for dichotomous variables (Everitt & Hothorn, 2006).

5.10. Validity - extraneous variables

5.10.1. Internal validity

The discussion of validity was placed here in the methods chapter so that actions to avoid potential threats to validity could be planned (Coolican, 2004). In the discussion chapter the evaluation of validity connected to the results was applied.

Potential bias was foreseen in the therapeutic value of the intake interview regarding the members of the control group. They might have benefited from already having told their story and reflect on the issues they would work with in therapy. The controls might also start to imitate the activities of the treatment group, for instance by getting stress relaxation CDs and listening to music at home. Simply to do something about their situation (being in a study, waiting for treatment) could also bring about a change for in for instance mood. These matters could minimize the outcome differences between groups, at least in the parallel groups trial. To reduce the therapeutic effect of the intake interview a neutral but friendly attitude could be applied. On the other hand it was difficult not to begin to relate to the participants and establish an inviting atmosphere to try to get them into the study. In order to find out if this threat to validity had any measurable effect, the effect size of the screening questionnaires could be compared to the other questionnaires as the screening questionnaires were filled in before the intake interviews. The controls could also be demoralized during the waiting time and get worse, which could result in a worsening of their scoring between baseline and pre-therapy.

Another threat to validity was the fact that the researcher and the therapist was the same person, and that the scoring of questionnaires was not totally hidden from the therapist's attention. This could lead to a behaviour of consciously or unconsciously pleasing the researcher/therapist, both as a natural way to give something in return for the therapy (that they did not pay for) but also as a way of being a "good client" and receive acknowledgement for their improvement. Some participants might also use the questionnaires (for instance the VAS) to obstruct to the treatment, to express their dissatisfaction with treatment or their general situation of helplessness, despair or rage. To avoid the impact of the combined roles on the questionnaire scoring I decided to avoid looking at, read or discuss the questionnaires handed in in the therapy hours, and establish a procedure where the questionnaires were immediately stored in closed folders.

A third extraneous variable would be if serious changes in the laws or administration of sick leave and compensation or other events related to the labour market took place in the time period of study. To be able to pay attention to this I inscribed for the weekly newsletter from the Ministry of work.

5.10.2. Construct validity/ reliability

As stress has been documented to be a complex concept, the threat to validity existed of not being able to target effect or change in a way that gave a true picture of the change. The biopsychosocial dimensions of stress were reached by using standardized scales and

physiological measurements that covered the biological and psychological dimensions of stress, but the social dimensions of stress were only measured by the job return parameters.

5.10.3. External validity

Generally the study was aimed at addressing normally healthy adults in the working force who experienced their first or second episode of severe work stress. However, there are some threats to external validity in the study, for instance the self-selection of the participants (maybe only highly educated people with an interest in music showed up) and the placement in the countryside (it was more difficult for the inhabitants in the capital to get into the study, maybe the stress level in the city is higher than in the countryside).

5.10.4. Extraneous variables

Naturally there will be a lot of confounding or extraneous variables in a real world study, and some of them as well as the planned actions to avoid their influence will be described. Some of the variables that are not being controlled will also be mentioned, and these will also be followed up in the discussion section.

As confounders in the study the sick leave/work situation probably would be an important confounder, if for instance participants change their sick leave or work situation or their status in the administrative social system during participation. This can not be controlled, and has to be monitored only. In the pilot study all of the three participants suffered significantly from fear of not being able to sustain their living in the future, and they were very dependant upon and anxious about decisions about their situation made by their social advisers. The impact of changes in work/sick leave situation both was a focus for the therapy and would also be monitored closely in the research.

Historical events taking place in the society of cause will also influence the stress level of the individual, and this will be taken into consideration.

Stress related to events in the private and family life of the participants will have a great impact on the stress level, and it sometimes can be difficult to separate this kind of stress effectively from work-related stress. Important events and changes would be monitored and also be part of the qualitative analysis in the case studies.

Differences between the two places of treatment could possibly establish a confounding variable. The amount of noise from outside the room where the sessions were carried out was considerable in the hospital setting and sometimes disturbed the relaxation and music listening. The meditation centre was more calm. This could maybe lead to better results for the participants treated in the private setting. Another difference was the influence of being in a hospital versus a private setting, where the degree of what one could call the ”clinical authority” might have been more clear in the hospital than in the private clinic, maybe leading to differences in the expectation of the participants (regarding the GIM treatment as established in the medical world or the alternative/complementary medicine world). All participants had their intake interview at the hospital office and as such had the same initial framework for their participation.

The differences of personality or state of health might also be differing between self-selected and referred participants

Another confounder could be seasonal variation, as the study was carried out in all seasons of a year. Depression has been closely associated to lack of light (winter depression)

(Webb & Pulg-Domingo,1995). This possible confounder will maybe be looked at in the exploration of the data.

Variation of response to the therapy method or stress symptoms between genders could also be a variable not controlled for and not studied so much.

Medication – sleep medication, antidepressants, hypertension medication – are generally prescribed in the stress population. All medication has been accepted in the inclusion criteria, but it can have a serious confounding effect on for instance sleep quality and quantity as well as for mood. It was monitored in the study, and it was considered to maybe identify relevant subgroup studies of for instance participants with antidepressants.

The influence of other treatment could also be a confounder that could not be controlled, but was monitored as already described.

Health-related behaviour could also be thought of as a confounding variable. A participant who smoked 20 cigarettes a day and never exercised might be more difficult to influence than a person with a more healthy lifestyle. The degree of smoking, alcohol intake and exercises was included in the intake scheme.

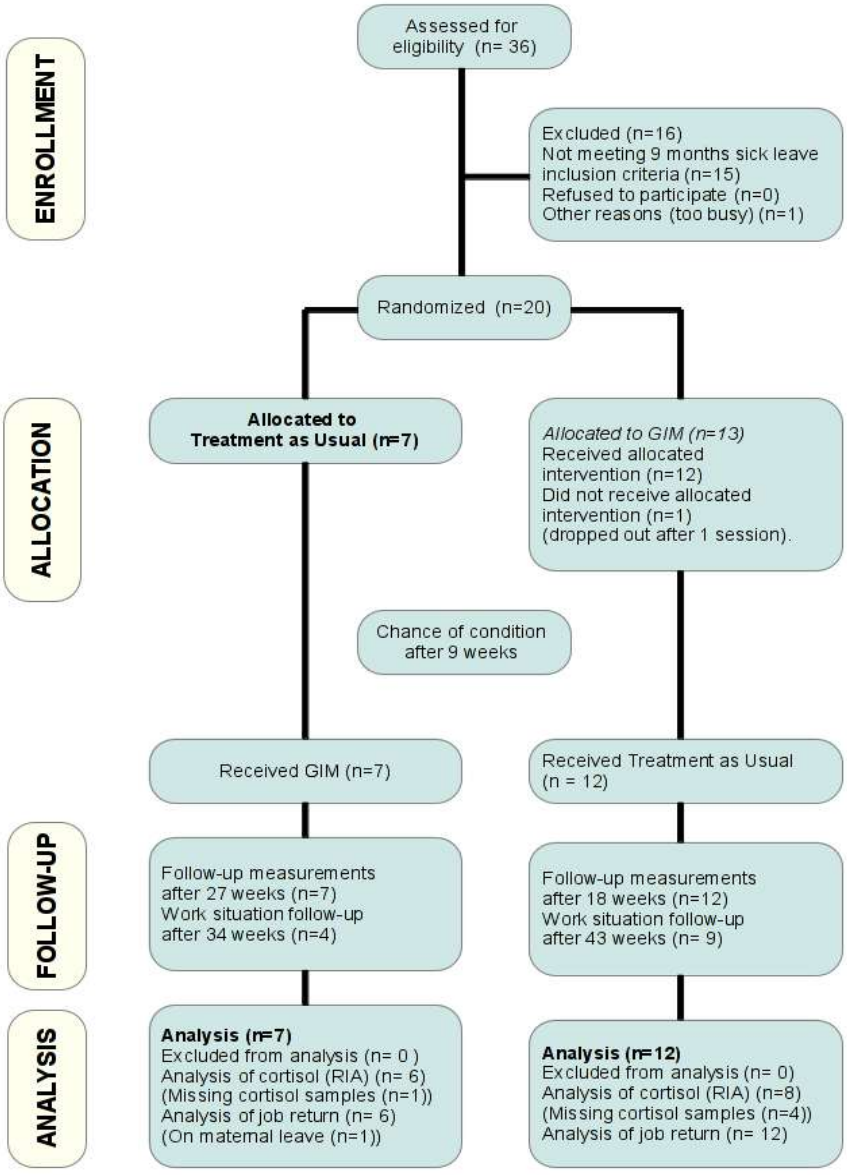
As already mentioned confounders to hormone measurements were considerable. Regarding cortisol gender, age, sleep quality, additional stress the day of measurement, medication, depression, women's menstrual phase, smoking, season of the year are all able to influence the level of cortisol. As the study was carried out with a relatively small population these confounders will not be recognized in the statistical analysis, but they was monitored by a small questionnaire and used to exclude odd analysis results if necessary. The gender difference in testosterone is remarkable as men produce a higher amount of testosterone than women and the testosterone data were separated for the two genders in the graphical analysis.

After having discussed some of the extraneous variables and the proposed actions to control or monitor them, the results of the clinical trial will be presented.

6. QUANTITATIVE RESULTS

6.1. Flow chart

Figure 6.1. Flow chart of the randomized controlled study



The flow chart shows that 19 subjects were included in the statistical analysis, 12 in the Group receiving GIM first and seven in the Group who received GIM after waiting. .

6.2. Description of the sample

As an investigation of the homogeneity of the two groups a description of baseline characteristics of the groups will now be presented.

Table 6.1. Baseline characteristics of the sample

Data type	All (n=19)	Group 1 (n=12)	Group 2 (n=7)
Average age (years)	44.5	42.8	56.1
Number of men	4	2 (17%)	2 (29%)
Number of women	15	10 (83%)	5 (71%)
Civil status (married/single)	13/6	8/4	5/2
Education (middle/high)	15/4	9/3	6/1
Leaders	4	2	2
Average number of sick leave weeks at inclusion	15.7	12	22
Part-time sick leave	5	3 (25%)	2 (29%)
Full-time sick leave	14	9 (75%)	5 (71%)
Medication (SSRI)	3	2	1
Previous use of music for stress reduction	6	6 (50%)	0

Note. All data are from the time of inclusion in the study. The civil status ”married” includes living with a partner.

As can be seen in the table the age of the participants at inclusion time was between 30 and 57 years with an average of 44.5 years. The average age in group 2 seems to be a little higher than in group 1. No younger persons under 30 years was included in the study.

Four males and 15 females participated in the study. Far more women than men participated in the study. The balance of gender was almost equal in the groups. There were no participants with an ethnic background other than Danish.

A number of 13 participants were married or living with a partner, and six were singles or divorced.

The participants were all educated on a middle to high level. Four had higher educations (academic degree), and 15 had middle high educations. No participants from the working class were represented. The participants were on sick leave from the following kinds of jobs: Four leaders of pedagogical personnel, one of these was also educated as psychoanalyst; three social pedagogues, one of them was also a ceramist; two clerks (book keeping and payroll in the communality and state offices), two school teachers, one of each of the following: salesman, network administrator, engineer, police assistant, priest, designer, dietitian and psychology student with a study job. It is notable that four of the participants had the same job type. One explanation is that the two of them recommended the participation in the research project to their colleagues on stress-related sick leave

The length of sick leave before inclusion was set to a maximum of nine months (equal to 38-40 weeks) as an inclusion condition. The participants had an average of 3.5 months or more precisely 15.7 weeks of sick leave before visitation. Group 2 seemed to have far more average weeks (22) than Group 1 (12) before inclusion. It means a difference of 2.5 months. This could point at stress symptoms in Group 2 being more settled and harder to change than in Group 1. Five participants were on part-time sick leave at visitation, and the main part, 14 participants, were on full-time sick leave. The balance between the groups was almost equal.

The participants in the study group were medicated for ailments connected to stress. Two were medicated for depression (SSRI) at inclusion, and one more began to take medicaments after the fourth therapy session to reduce her anxiety. When asked about medication in the visitation papers the following diagnoses were noted: Allergy (one medicated for asthma and one for CSM (perfume allergy), hypertension (one was medicated), gastric acid problems (one medicated). None of the medication is assumed to interfere with the therapeutic process, except for SSRI. The effect hereof is unknown and the distribution in the groups is almost equal.

Half of the members of Group1 used self- help music listening for stress reduction before they enrolled in the study, but none of the members of Group 2 did. This could probably mean that the participants without pre-experience with music would need more time to get suited to the treatment method and maybe not benefit as quickly as the average Group 1 member. None of the participants worked with music professionally. None of the participants played instruments or sang in a choir at the moment of inclusion, but five of the participants had earlier in their life been engaged in active music activities. Six of the participants used CDs with guided relaxation and/or stress management prior to their inclusion (three of the six used both music and guided stress management). Six of the participants had either a big interest in or professional education and skills regarding artwork.

6.2.1. Summary of group profiles

The groups seem to be almost equal, but there is some degree of random variation between the groups. Group 2 is characterized by higher age, more men, lower education, longer sick leave period before inclusion and no previous use of music for stress management. None of the differences were significant and I assessed that there was sufficient homogeneity to proceed with the statistical investigation between groups.

6.2.2. Reasons of sick leave

The reasons of sick leave were reported during the inclusion and the therapies. The stress experience was related to complex situations but could be split up in the following main types of actual problems.

Table 6.2. Types of stress related problems in the sample

Problem type	**Number of participants**
Problematic relation to manager	11
Problematic relation to colleagues (including mobbing)	8
Too much work/too demanding work	6
Problems related to private life	5

Problems related to clients, customers, pupils	3
Problems with physical environment (allergy)	1
Violence, physical work injury, sexual harassment	0

Note. More than one problem type for each participant explain that the total number exceeds 19.

It can be seen that the reported difficulties were primarily related to managers and colleagues and then to the amount of work and problems in private life. (However, it can be difficult to separate work stress and private life stress. It can also be difficult to separate work stress related to people and to work load, as the power to control the work load is the manager's, and the sharing of the work is related to colleagues; at least in some professions (see 2.2.1. Demand-Control model).

6.2.3. Other treatments

The distribution of numbers of other treatments in the study period is shown in a table. The number treatments represents all the different kinds of treatments that were listed in the Other Treatment scheme. No other treatments than in those in the scheme were reported. Visits at the general practitioner was not included.

Table 6.3. Number of other treatments in groups

Group	**TAU (Waiting) treatment sessions/mean**	**GIM treatment sessions/mean**	**TAU (Follow-up) treatment sessions/mean**
Group 1		27 (2.25)	18 (1.5)
Group 2	23 (3.29)	29 (4.14)	28 (4)

It can be seen that participants in Group 2 received a higher number per participant of other treatments than those in Group 1 and that the number of other treatments was increasing from waiting to GIM and was almost stable during the last two conditions. The participants in group 1 had fewer other treatments in the follow-up period than during the GIM therapy. The differences between the groups probably correspond with the longer sick leave period and higher average age for Group 2 compared to Group 1.

6.3. Missing data

6.3.1. Exclusion of participants in the diurnal analysis of cortisol

The home collection of cortisol samples for the diurnal analysis turned out to be problematic for some of the participants. In the following the word ”sample” is defined as one single saliva cotton swap, and ”test” is defined as the three samples of a measurement from one day of measurement.

If all tests were collected and analysed there should have been 12 x 3 and 7 x 4 tests =64 tests. Problems related to this are listed.

1. Three participants did not collect and send their post-therapy test (all other tests were collected by the researcher at meetings).

2. Some of the saliva samples contained too small amounts of saliva to be analysed in the laboratory (five samples).
3. In six cases the second sample was not made or it was taken in the afternoon and not 30 minutes after the first.
4. One follow-up test was missing
5. A number of the evening samples were taken after 20:00. Because the samples normally are < 1.6 already at 20:00, and because they all were below 1.6, I have included all evening samples even the two collected at 00:50 and 3:00 in the night.

A total of 48 out of 64 possible tests = 75% were complete, and 16 tests (25%) were missing (eight were totally missing and eight had missing samples). Nine participants had complete samples from all time-points. Five participants had only one complete test (002, 005, 010, 013, 018).

Looking closer at data, all of the five participants' one complete test revealed odd values, for example very high amounts of cortisol in their second and third sample, which risked to skew the analysis. Probably stress-related cognitive problems could have interfered with the compliance and correct administration of the collection of saliva. For example, some of these five participants forgot to note the time when they made the sample. Although I risked to loose power and to reduce the complexity of the analysis I decided to exclude the five participants in the analysis of diurnal cortisol. Thus the cortisol analyses of Awakening Responses, Reactivity and Recovery were carried out with eight subjects in Group 1 and six subjects in Group 2.

6.3.2. Single samples of Testosterone, Melatonin and Cortisol

The collection of saliva for the analysis of these three hormones was done in the therapy room by the researcher, and the number of samples were complete. The collection time was between 10.00 and 14.00. Three samples were not analysed due to too small amounts of saliva, and two Testosterone results were reanalysed at the laboratory because they had odd numbers. The second analysis resulted in a more normal value for one of the samples but still an unusually high Testosterone concentration for the other (103 pmol/l in a woman). I chose to include both values in the analysis. In order to distinguish between the different cortisol variables, this is called Cortisol LC, meaning cortisol analysed by Liquid Chromatography.

6.3.3. Missing questionnaire data

Not all the questionnaires were collected. Six questionnaires (32%) were missing at the post-therapy time-point; five of them were from group 1. At the follow-up mid-point eight questionnaires were not received (42%). At the rest of the time-points almost all questionnaires had been collected. The fact that so many data is missing at the post-therapy and follow-up time-points can have an effect on the results of statistical tests.

6.4. Reliability tests

6.4.1. Reliability of Physical Symptoms Scale

The questionnaire from Løkken Stress Center in Denmark, Physical Stress Symptoms, is not a validated scale. Cronbach's alpha was calculated to check for internal consistency. Using all scores of both groups, a sample size of 106 was reached with a number of items16. The Cronbach's alpha value was 0.79, which indicates a satisfactory internal consistency.

6.4.2. Reliability of Immediate Stress State (VAS)

The Immediate Stress State VAS was construed by the researcher (see 5.5.10.) and was used for the first time in this study. Cronbach's alpha was calculated using all scores. 226 questionnaires with eight items were collected. The Cronbach's alpha value was 0.90 which indicates a satisfactory internal consistency, thus the total score (mean value of the 8 items) can be used for the statistical analysis.

6.5. Data screening

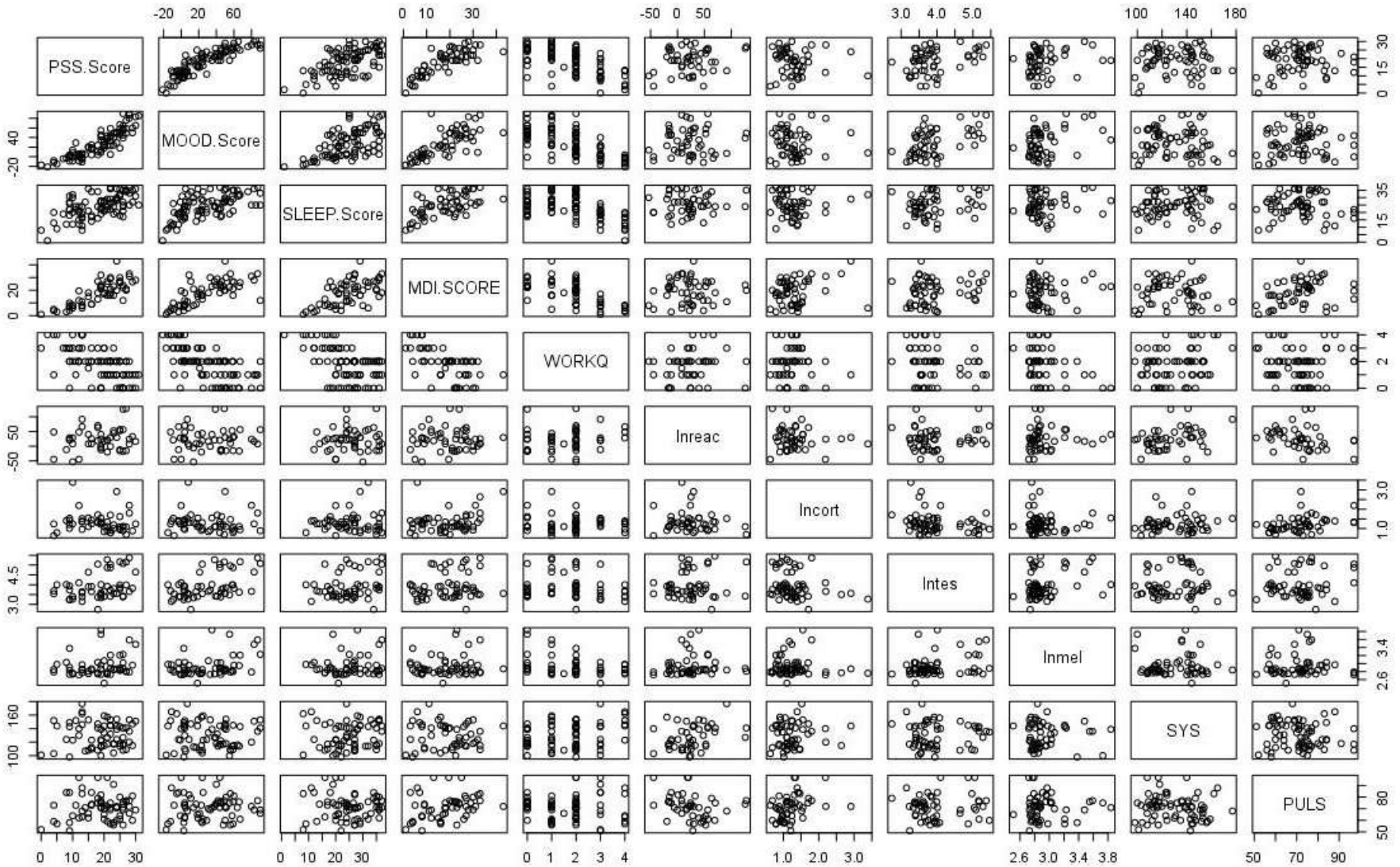
A data screening of all time-points and variables was made with histograms supplied by qq plots with lines. Plots for the total scorings of each questionnaire and all physiological data in the pre-test/pre-waiting condition (time-point 0) are presented in Appendix 4. The screening of the Immediate Stress State (VAS) data was made with the total scores from the first measurement in session one. Screening of job return data was made with baseline values.

The distribution of all the questionnaire data can be seen to be normal (Appendix 4) except for Work readiness, but even there it tended towards a normal distribution (i.e. bell-curve shape albeit with low resolution because only 5 values were possible (not shown)) when all data points were included. Plots for the physiological measures Blood Pressure and Pulse were normally distributed. Cortisol data (diurnal), Testosterone, Melatonin and Cortisol (single samples) were not normally distributed. All hormone data were log-transformed and after that they appeared normally distributed. Immediate Stress State data and job return data were normally distributed.

6.5.1. Correlation between physiological and psychological data

To examine how the different outcomes were related to each other, I explored the values of the most important outcome measures graphically as scatter plots, as shown in the following figure.

Figure 6.2. Scatter plots of Perceived Stress, Mood, Sleep Quality, Depression, Work Readiness, Cortisol LC, Testosterone, Melatonin, Cortisol Reactivity, Blood Pressure (Diastolic) and Pulse.


PSS.Score
MOOD.Score
SLEEP.Score
MDI.SCORE
WORKQ
Inreac
Incort
Intes
Inmel
SYS
PULS

Among the psychological scales the figure shows a very strong relationship between Perceived Stress (PSS.Score) and Total Mood Disturbance (MOOD.Score), and also a strong relationship between these two and Depression (MDI.SCORE). There also appeared to be a positive relationship between sleep disturbance (SLEEP.Score) and the former three, indicating that disturbed sleep is associated with high stress, bad mood, and high depressiveness. Work Readiness (WORKQ) was negatively related to all the above variables.

Among the physiological measures associations were generally less clear, but some associations were also seen. First, a negative connection between Cortisol LC (lncort) and Testosterone (lntes) was in accordance with theory (see 2.1.11.). Similarly, high values of Melatonin (lnmel) seemed to be associated with low levels of Cortisol LC and vice versa.

The most interesting question, though, was whether these two types of measures showed any clear relations. Here, no very clear connections were seen, but there were hints of some. Depression seemed positively correlated with Cortisol LC as expected (see 2.1.11) and with Pulse.

Lastly, high Melatonin was associated with low Readiness to Work.

As an exploration of data a number of correlations between different sorts of data is presented. Psychological data stems from the questionnaires and physiological data stems from blood pressure and hormone analysis

6.6. Statistical analysis

The statistical analysis will include graphic representations of the means of all variables. Generalized Estimation Equation changes for all variables will be shown for the parallel group analysis between GIM and standard care (week 0-9), and for the study of early intervention versus late intervention (week 0-27). The primary variables (Perceived Stress and hormones) will be described first, followed by the secondary variables (Mood, Physical Symptoms, Sleep Quality, Blood pressure, Pulse, Well-being, Anxiety, Depression and Work Readiness). After the presentation of all the single variables the significance and effect sizes will be summed up and supplemented by effect sizes for all variables.

Stress VAS data and job return data has also been analysed with Generalized Estimation Equations and will be presented with both graphical descriptions, tables of significance and effect sizes.

6.6.1. Information about line graphs

In order to visualize the differences between groups, means of total scores and physiological measures has been presented with line graphs. In the charts presenting questionnaire data, the y-axis has been extended to the outer limits of the single questionnaire, so that changes can be seen in the relation to the maximum scores. The dotted lines show the TAU (treatment as usual) condition and the full lines the GIM (Guided Music and Imagery) condition. Red colour shows Group 1 who started with GIM and blue colour shows Group 2 who started with TAU (waiting). The blue lines are longer than the red lines because Group 2 participants had an extra period of follow-up. The Standard Error of the Mean (SE) was calculated and shown with arrows for all time-points. The direction of the lines that indicate a progression of health state will be upwards for Well-being and Work Readiness, but

downwards for all the other variables. In some of the graphs cutoff values are inserted as green lines.

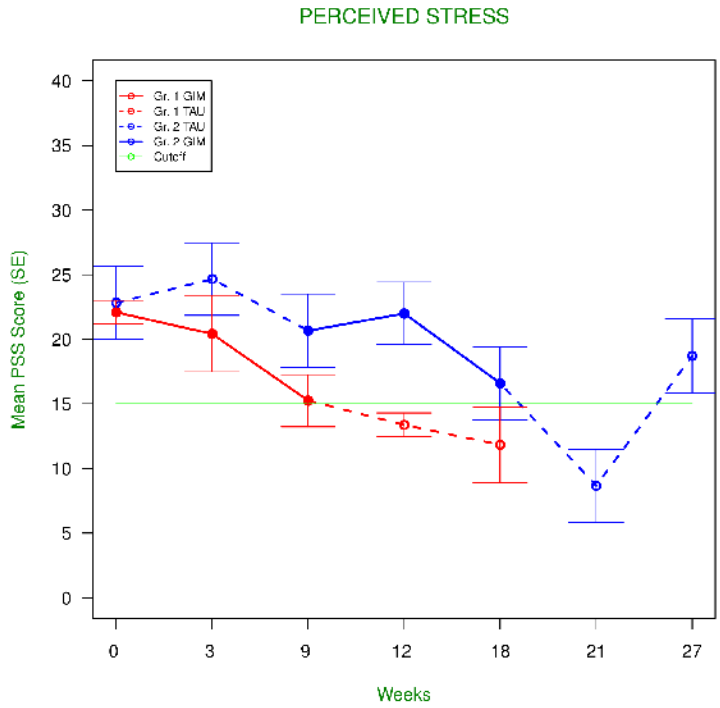
6.6.2. Information about GEE tables

The meaning of the concepts in the predictor column in the tables representing the GEE analysis will be explained. Based on the data GEE generates estimated parallel lines for each group. The estimate for Group signifies the distance between the parallel lines. Time (Week) explains the value that is added (or subtracted if the value is negative) for each subsequent week. Intercept and baseline are necessary for the model estimation but not of substantial interest. In this study I am only interested in the Group predictor because it is a between groups study, and the week predictor only tells that there is a change as times goes by. In addition to the estimates that show the size of any differences or changes as explained above, robust SE (the standard error of the estimate) is a measure of the precision, robust z is a test statistic based on the robust SE, and the p-value is calculated from the robust z. I have included significances for both Time and Group although only the group significance will be noticed. Predictors are in almost all tables Week and Group, but for Testosterone a third factor (Gender) has been included.

6.7. Primary variables

6.7.1. Perceived Stress

Figure 6.3. Group means – Perceived Stress



Note. Total scores over 15 indicated a heightened risk for stress-related sick leave (Larsen & Kellenberger, 2008).

The mean Perceived Stress score in Group1 passed the cutoff value at the ending of GIM, and Group 2 mean passed the line after post-therapy.

Group1 (red) is seen to have decreasing mean total scores of Perceived Stress from pre to post- therapy indicating an improved ability to cope with stress as a result of therapy. During follow-up the decreasing tendency of the line is continuing, indicating that the coping ability had a lasting effect and continued to improve after therapy.

In Group 2 (blue) the mean of Perceived Stress total is increasing and then decreasing under the baseline level during the TAU phase (week 0-9). During the GIM period it decreases even more as a total indicating an effect of therapy on coping ability. During the follow-up (week 18-27) Perceived Stress can be seen to decrease very much until midpoint. However, a closer examination of the raw data showed that only three questionnaires were collected from Group 2 at the follow-up mid-point (week 21), and those three questionnaires were handed in from the participants who already improved the most on all scores at post-therapy. This indicates that the steep fall of the curve in Group 2 from time-point 18 to 21 must be interpreted with caution. The line increases again to the last follow-up time-point to a level slightly above the post-therapy level. Unlike for Group 1 Perceived Stress as a whole grew a little higher than at post-therapy at the end of follow-up.

Within group effect size of the intervention in Group 1 (Cohen's d) was 1.25 (a large effect size). In Group 2 the effect size of treatment was 0.61.

Table 6.4. GEE changes in Perceived Stress

Perceived Stress Predictors	Estimate	Robust S.E.	Robust z	P-value	Significance level
Parallel groups					
Intercept	3.71	5.70	0.65	-	-
Baseline	0.79	0.22	3.54	-	-
Group	3.21	2.13	1.51	0.13	
Weeks	-0.39	0.23	-1.73	0.08	
Early/late GIM					
Intercept	4.03	5.06	0.80	-	-
Baseline	0.71	0.18	3.94	-	-
Group	5.08	2.01	2.53	0.01	**
Weeks	-0.34	0.09	-3.85	0.000	***

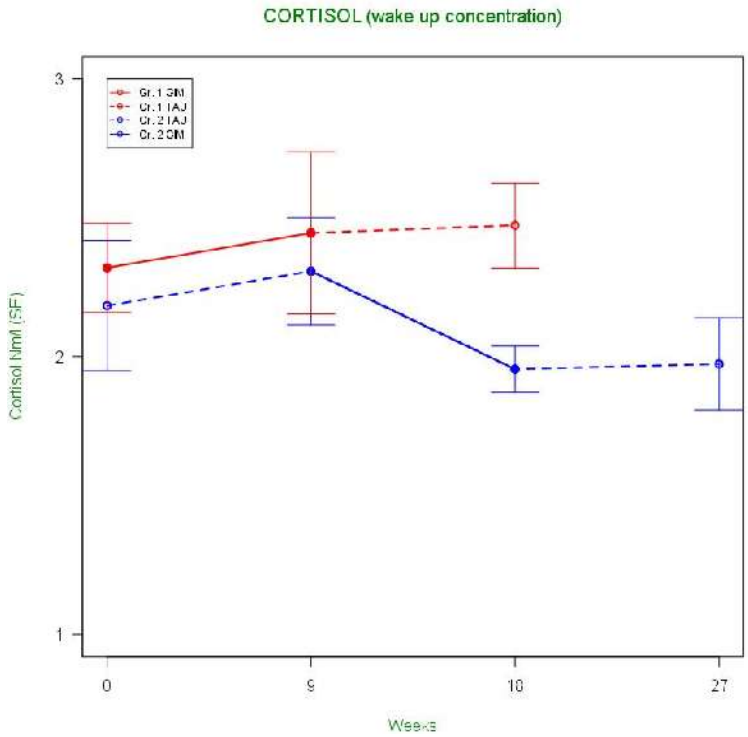
Note. Parallel groups included data from week 0,3 and 9 weeks. Early/late GIM included data from week 0, 3, 9, 12, 18, 21 and 27. Significance levels: $p<0.05$*, $p<0.01$**, $p<0.001$***.

The changes in Perceived Stress were not significant between GIM and TAU, but they were significant between early and late GIM, indicating an effect of early intervention on the ability to cope with stress.

6.7.2. Cortisol

All the following presentations of cortisol will be using log-transformed data.

Figure 6.4. Group means – Cortisol Awakening Response



It can be seen that the tendency of both groups is that the mean Cortisol Awakening Response increases during the first nine weeks. In Group1 it continues to increase slightly after therapy, whereas in Group 2 it decreases during the treatment phase, and is relatively stable during the follow-up period. The directions of Cortisol Awakening Responses in the two groups seem to be contrasting during GIM. At time-point 18 weeks the SE arrows are not touching each other indicating a difference between groups.

Table 6.5. GEE changes in Cortisol Awakening Response

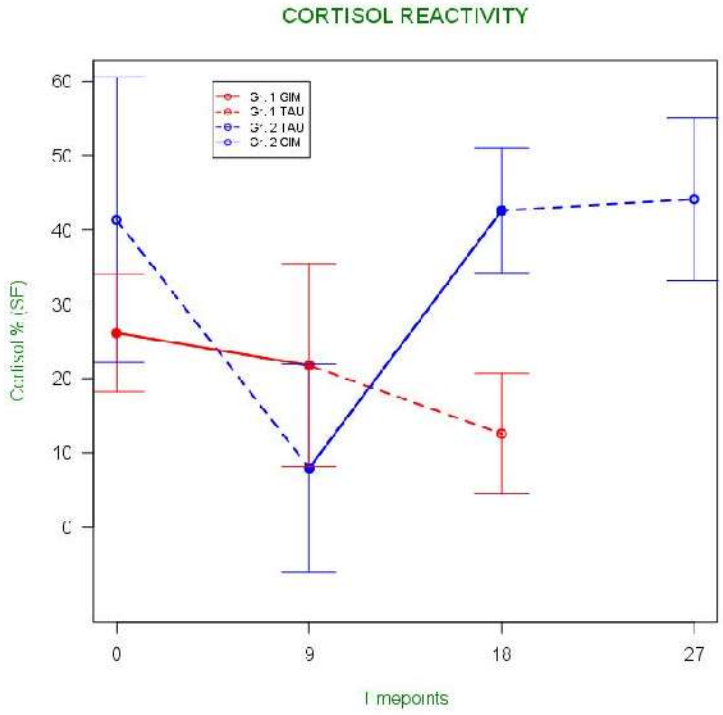
Awakening Cortisol Response predictors	Estimate	Robust S.E.	Robust Z Z > ± 1,96)	P-value	Significance level
Parallel groups					
Intercept	1.31	0.44	2.99	-	-
Baseline	0.46	0.14	3.22	-	-
Group	-0.31	0.18	-1.72	0.09	
Weeks	-0.0003	0.01	-0.02	0.98	
Early/late GIM					
Intercept	1.01	0.89	1.14	-	-
Baseline	0.63	0.29	2.18	-	-
Group	-0.69	0.03	-1.80	0.07	
Weeks	-0.53	0.27	-1.98	0.05	*

Note. Parallel groups included data from week 0 and 9. Early/lateGIM included data from week 0, 9, 18 and 27. The log-transformed values have been used for the calculation. Significance levels: p<0.05*, p<0.01**, p<0.001***. Sample size in Group 1/2 was 8/6.

No significant changes regarding Cortisol Awakening Response were seen between groups neither between GIM and TAU or between early and late GIM, but there is a tendency towards significance that might be able to prove in a larger sample.

Mean Reactivity and Recovery of the cortisol diurnal curve will now be presented.

Figure 6.5. Group means - Cortisol Reactivity



Note. Log-transformed data was used for the calculation of reactivity means. Reactivity is the percentage increase between wake-up and + 30 minutes in the morning. High reactivity indicate a steep morning curve.

The Reactivity can be seen to decrease a little bit from baseline to follow-up in Group 1. In Group 2 a steep decrease in reactivity can be seen at pre-therapy, but a similar steep increase back to the same level can be seen during the GIM phase. Only a little increase was seen from week 18 to 27 (follow-up). Generally Group 1 had much lower mean Reactivity levels than Group 2, except for the 9 weeks' measurement. As with wake-up concentrations the two groups are contrasting regarding the directions of the lines during the GIM phase.

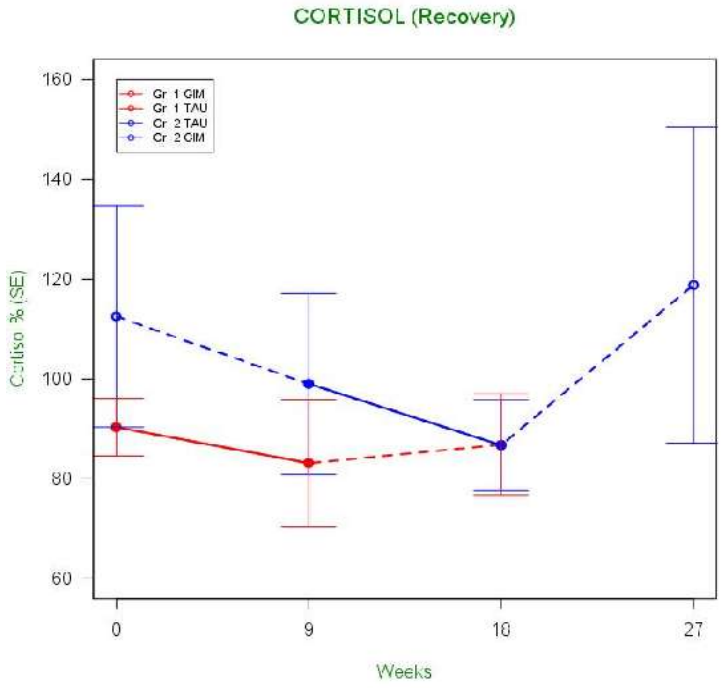
Table 6.6. Linear model and GEE changes in Cortisol Reactivity

Parallel groups	**Estimate**	**Standard Error**	**t value**	**P-value**	**Significance level (p<0.05)**
Intercept	5.80	14.66	0.40	-	-
Baseline	0.37	0.29	1.26	-	-
Group	-13.03	21.35	-0.61	0.56	
Early/late GIM	**Estimate**	**Robust S.E.**	**Robust z**	**P-value**	**Significance level (p<0.05)**
Intercept	-3.35	11.80		-	-
Baseline	0.05	0.19		-	-
Group	5.62	8.97	0.63	0.53	
Weeks	1.37	0.66	2.07	0.04	*

Note. Parallel groups included data from week 0 and 9, calculated by a linear model. Early/late GIM included data from week 0, 9, 18 and 27, calculated by GEE. The log-transformed numbers have been used for the calculation. Significance levels: p<0.05*, p<0.01**, p<0.001***. Sample size: n=8/6 in Groups 1/2.

There is no significant changes regarding Cortisol Reactivity between groups in either of the analysis

Figure 6.6. Group means - Cortisol Recovery



Note. Log-transformed data of cortisol data have been used for the calculations of Recovery. With non-logarithmic data the Recovery usely is be around 90%.

The Cortisol Recovery value shows the decline of the cortisol level between the highest morning and the evening concentrations. A high recovery value indicates a good recovery (optimally cortisol is at around 1-3 nmol/l in the evening). Group 1 mean Recovery seems to decrease a little after GIM and rise again during follow-up to almost the same level as the baseline concentration. Group 2 had a decreasing Recovery during waiting and through therapy, and an increasing Recovery towards follow-up, to an even higher level than baseline. Regarding Recovery the two groups seem to have similar directions of the lines in both conditions. Both group reduced their Recovery after therapy and increased it after therapy. That could be explained by a retarded effect of GIM (increase at follow-up) on the HPA-axis activity.

Table 6.7. GEE changes in Cortisol Recovery

Parallel groups	**Estimate**	**Standard Error**	**t value**	**P-value**	**Significance level (p<0.05)**
Intercept	75.18	23.46	3.21	-	-
Baseline	0.07	0.23	0.30	-	-
Group	15.79	20.30	0.78	0.45	
Early/late GIM	**Estimate**	**Robust S.E.**	**Robust z**	**P-value**	**Significance level (p<0.05)**
Intercept	52.93	35.28	1.50	-	-
Baseline	0.22	0.27	0.80	-	-
Group	9.73	13.07	0.74	0.46	
Weeks	0.93	1.40	0.66	0.51	

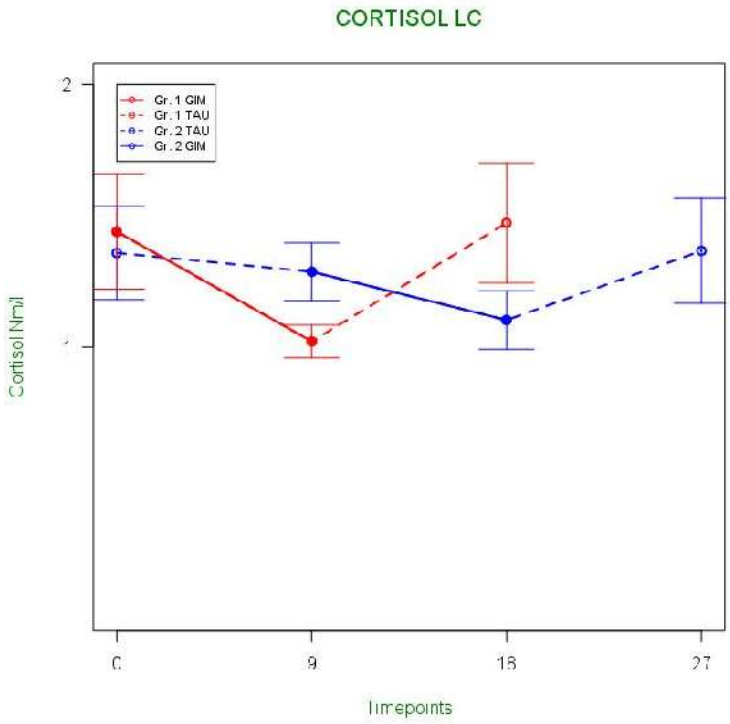
Note. Parallel groups included data from week 0 and 9, calculated by a linear model. Early/late GIM included data from week 0, 9, 18 and 27, calculated by GEE. The log-transformed numbers have been used for the calculation. Significance levels: p<0.05*, p<0.01**, p<0.001***. Sample size: n=8/6 in Groups 1/2.

There are no significant changes regarding Cortisol Recovery between groups in either of the analysis

In order to look for patterns in the RIA cortisol data that could not be explained by the analyses of reactivity and recovery, a semi-qualitative analysis of the individual cortisol data was carried out, where I plotted the concentrations of cortisol on the reference chart from NFA, as showed in 5.6.4. A lot of individual variation in concentrations and directions of change were seen. No clear pattern was found that could explain the variability in the data.

The next analysis of cortisol LC included all the participants. The samples were collected only once for each measurement time-point. All data were log-transformed The main part of the raw values of cortisol ranged between 1.8 and 5.0, with a few extreme values up to 30 nmol/l.

Figure 6.7. Group means - Cortisol LC



Group 1 had decreasing Cortisol concentrations during GIM and increasing Cortisol concentrations in the TAU phase but they were still lower than the baseline level. Group 2 had decreasing Cortisol concentrations in the first waiting TAU phase and Cortisol continued to decrease during GIM, but increased during the follow-up period to a level above the baseline level. The standard error arrows do not touch at week nine and 18, indicating a difference between groups. The group lines cross each other.

Table 6.8. Linear model and GEE changes in Cortisol LC

Parallel groups	**Estimate**	**Standard Error**	**t value**	**P-value**	**Significance level (p<0.05)**
Intercept	1.07	0.17	6.46	-	-
Baseline	-0.04	0.10	-0.36	-	-
Group	0.27	0.13	2.14	0.049	*
Early/late GIM	**Estimate**	**Robust S.E.**	**Robust z**	**P-value**	**Significance level (p<0.05)**
Intercept	0.64	0.19	3.43	-	-
Baseline	0.28	0.1	2.86	-	-
Group	-0.07	0.1	-0.71	0.48	
Week	0.01	0.01	1.18	0.24	

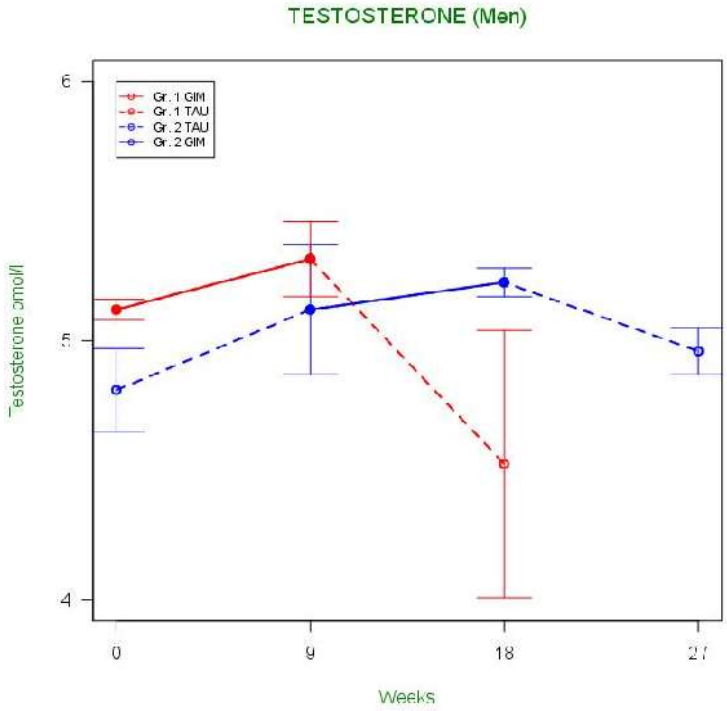
Note. Parallel groups included data from week 0 and 9, calculated by a linear model. Early/late GIM included data from week 0, 9, 18 and 27, calculated by GEE. The log-transformed numbers have been used for the calculation. Significance levels: p<0.05*, p<0.01**, p<0.001***.

Significant change can be seen between GIM and TAU for cortisol LC (p=0.049). No significance can be seen between early and late GIM.

6.7.3. Testosterone

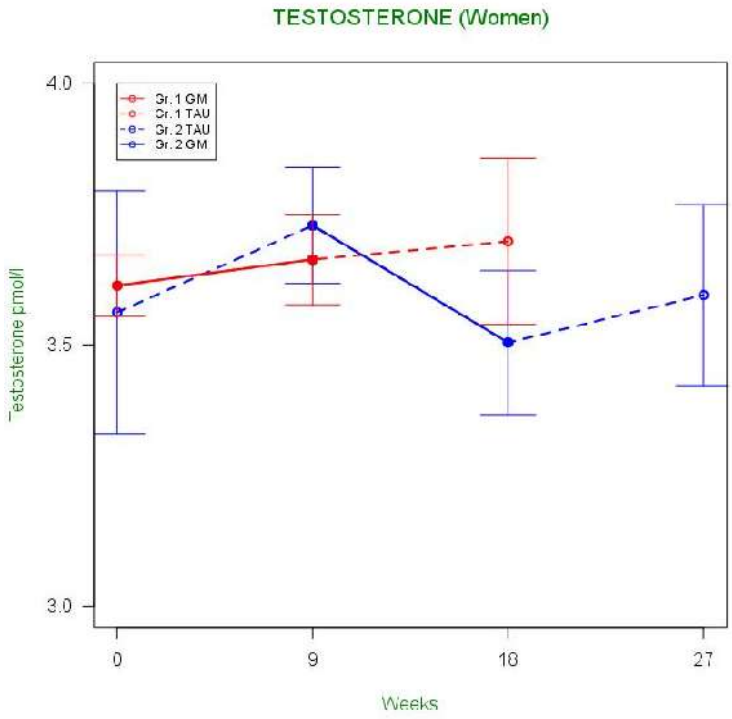
Testosterone data were split up into men and women because of the different levels of concentrations in the two genders. With support in the literature (2.1.11.) it was hypothesized that testosterone would increase as a result of therapy because the participants increased their ability to cope with stress and work problems.

Figure 6.8. Group means - Testosterone in men



It can be seen that Group 1 mean was higher than group 2 at baseline, but the lines cross each other between 9 and 18 weeks. Group 1 Testosterone concentrations in men increased during GIM and decreases again in the TAU phase, and there was some variation between the men (the big SE arrow at week 18). Group 2's Testosterone concentrations increased during the first TAU phase and continued to increase during GIM. Then they decreased during the follow-up period but not under the baseline level. Testosterone concentrations in both groups increased during GIM and decreased during the follow-up.

Figure 6.9. Group means - Testosterone in women



An increase of Testosterone was hypothesized, and this was seen in Group 1 but not in Group 2 when looking at the line as a whole. Testosterone concentrations seemed to increase after GIM in the women in Group 1, and continued to increase during follow-up. Group 2 Testosterone concentrations were increasing in the TAU periods, but decreasing in the GIM period. The differences in concentrations between time-points were much smaller among women than among the men.

Data from both men and women were used for the significance tests:

Table 6.9. Linear model and GEE changes in Testosterone (men and women)

Parallel groups	**Estimate**	**Standard Error**	**t value**	**P-value**	**Significance level (p<0.05)**
Intercept	0.22	0.44	0.50	-	-
Baseline	0.96	0.11	8.56	-	-
Group	0.14	0.15	0.93	0.37	
Early/late GIM	**Estimate**	**Robust S.E.**	**Robust z**	**P-value**	**Significance level (p<0.05)**
Intercept	4.24	0.95	4.46	-	-
Baseline	0.18	0.17	1.07	-	-
Group	0.05	0.13	0.42	0.67	
Weeks	-0.009	0.088	-1.18	0.24	
Gender	-1.13	0.28	-3.96	0.00	***

*Note. Parallel groups i*ncluded data from week 0 and 9, calculated by a linear model. Early/late GIM included data from week 0, 9, 18 and 27, calculated by GEE. The log-transformed numbers have been used for the calculation. Significance levels: p<0.05*, p<0.01**, p<0.001***.

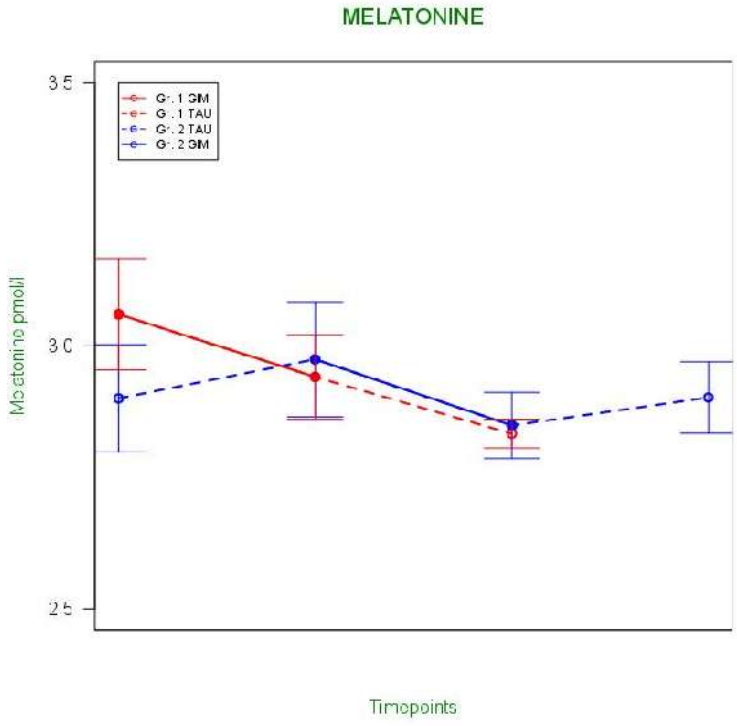
There are no significant changes in Testosterone regarding groups in either of the analysis As Testosterone concentrations is strongly related to gender this predictor was added to the early/late GIM analysis, and it proved that gender was highly significant as a predictor of Testosterone concentrations.

Ad hoc analysis of relationships between Testosterone and Full-time Sick Leave, Any Sick Leave, Cortisol LC or Perceived Stress were not significant.

6.7.4. Melatonin

Raw concentrations of Melatonin ranged from 12 to 47 pmol/l. Log-transformed values were used for the analysis.

Figure 6.10. Group means - Melatonin



Note. The Melatonin concentrations were log-tranformed.

The two groups differ at their initial baseline levels. In Group 1 the Melatonin concentration seems to decrease during the whole study. Group 2 concentrations increase during TAU periods and decrease during GIM, and finally land at a level close to baseline. The lines cross each other.

Table 6.10 Linear model and GEE changes in Melatonin

Parallel groups	**Estimate**	**Standard Error**	**t value**	**P-value**	**Significance level (p<0.05)**
Intercept	2.41	0.63	3.82	-	-
Baseline	0.17	0.20	0.84	-	-
Group	0.06	0.14	0.44	0.67	
Early/late GIM	**Estimate**	**Robust S.E.**	**Robust z**	**P-value**	**Significance level (p<0.05)**
Intercept	2.50	0.47	5.25	-	-
Baseline	0.16	0.15	1.07	-	-
Group	0.06	0.10	0.61	0.54	
Weeks	0.007	0.003	-2.13	0.03	*

Note. Parallel groups included data from week 0 and 9, calculated by a linear model. Early/late GIM included data from week 0, 9, 18 and 27, calculated by GEE. The log-transformed numbers have been used for the calculation. Significance levels: p<0.05*, p<0.01**, p<0.001***.

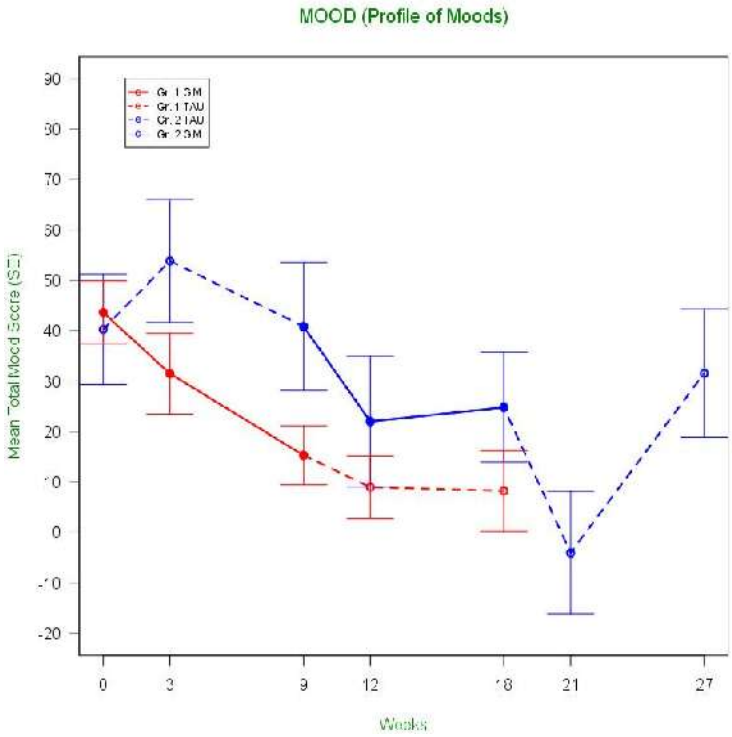
It can be seen that Melatonin did not change significantly between groups.

The possibility of correspondence between Melatonin and Sleep Quality or Fatigue (a sub-scale from the POMS) could be assumed, and ad hoc analyses were carried out. Fatigue was significantly correlated with Melatonin (p=0.02).

6.8. Secondary variables

6.8.1. Total Mood Disturbance

Figure 6.11. Group means - Total Mood Disturbance



Looking at Group 1, the mean Total Mood Disturbance is decreasing continuously from pre-therapy to follow-up, with a more steep curve during therapy than during follow-up. Group 1 at post-therapy and follow-up was near value 0 where only vigour and no negative mood states were reported. In Group 2 the TMD curve is seen to increase and decrease again during the first waiting period and during therapy it is slightly decreasing. During the follow-up it is decreasing and increasing with a more steep curve to a level just above the post-therapy level (similar to Perceived Stress). The standard error bars are not touching each other except at 0 and 18 weeks indicating a difference between groups.

Table 6.11. GEE changes in Total Mood Disturbance

TMD predictors	Estimate	Robust S.E.	Robust z	P-value	Significance level (p<0.05)
Parallel groups					
Intercept	13.44	9.69	1.39	-	-
Baseline	0.56	0.19	2.98	-	-
Group	21.63	7.84	2.76	0.006	**
Weeks	-1.89	0.74	-2.54	0.01	**
Early/late GIM					
Intercept	4.91	10.42	0.47	-	-
Baseline	0.58	0.21	2.72	-	-
Group	25.09	8.14	3.08	0.002	**
Weeks	-1.06	0.25	-4.21	0.000	***

Note. Parallel groups included data from week 0,3 and 9. Early/late GIM included data from week 0, 3, 9, 12,18, 21 and 27. Significance levels: p<0.05*, p<0.01**, p<0.001***.

As can be seen the change in TMD was highly significant regarding groups both between TAU and GIM and between early and late GIM.

In order to explore which of the sub-scales of Profile of Mood States changed most, an investigation of the sub-scales between groups (week 0-9) has been made.

Table 6.12. GEE changes and effect sizes in POMS sub-scales, between early and late GIM

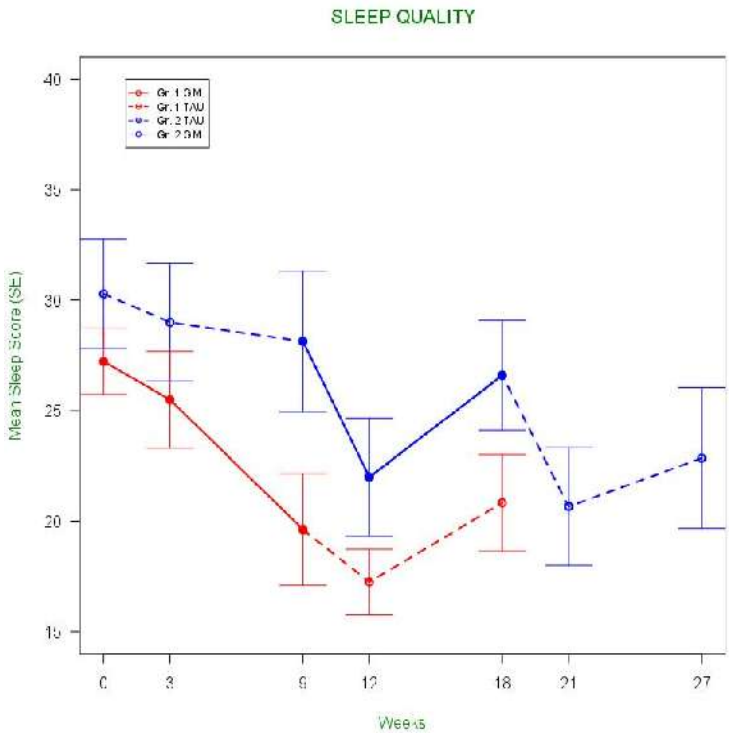
POMS Sub-scales	Robust z	P-value	Baseline Estimate (SD)	Effect size
Tension	3.27	0.001***	0.31	0.69
Anger	2.09	0.04*	3.33	0.42
Fatigue	2.31	0.02*	4.20	0.44
Depression	3.78	0.0002***	0.79	0.64
Vigour	-2.54	0.01**	-4.40	0.57

Note. Significance levels: p<0.05 * , p<0.01**, p<0.001***. Negative chance in Vigour means increased vigour

All sub-scales changed significantly, but considering the multiple testing (Bonferoni) factor, Tension and Depression came out as the sub-scales that were changed most evidently. All effect sizes were medium large. Those for the largest Tension and Depression were 0.62 and 0.69, again indicating the changes in these two sub-scales as relatively larger than those for Anger, Fatigue and Vigour.

6.8.2. Sleep Quality

Figure 6.12. Group means - Sleep Quality



Sleep Quality was improving (lower total scores meant higher Sleep Quality) the whole time until midpoint follow-up (week 12) in Group 1. The mean score in the final follow-up increased to a level slightly higher than post-therapy. In Group 2 Sleep Quality was zig zagging up and down, but seemed to be improving throughout the study for each period. Sleep Quality seemed to change more during the GIM period in Group 1 than in Group 2. The SE arrows do not touch each other at 9 and 12 weeks' measurement points indicating a difference between groups.

Table 6.13. GEE changes in Sleep Quality

Sleep Quality predictors	**Estimate**	**Robust S.E.**	**Robust z**	**P-value**	**Significance level (p<0.05)**
Parallel groups					
Intercept	11.39	4.85	2.35	-	-
Baseline	0.57	0.16	3.56	-	-
Group	4.14	2.13	1.95	0.05	*
Weeks	-0.67	0.28	-2.39	0.02	*
Early/late GIM					
Intercept	4.18	5.49	0.76	-	-
Baseline	0.77	0.2	3.93	-	-
Group	3.06	2.62	1.17	0.24	
Weeks	-0.27	0.04	-6.24	0.000	***

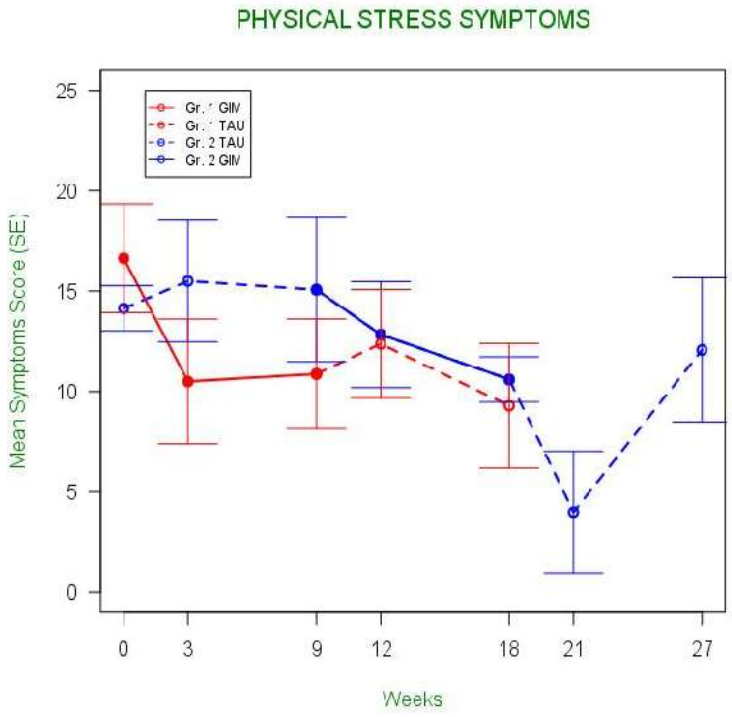
Note. Parallel groups included data from week 0,3 and 9. Early/late GIM included data from week 0, 3, 9, 12,18,21 and 27. Significance levels: p<0.05*, p<0.01**, p<0.001***.

An exact significant change in Sleep Quality was seen between GIM and TAU in the parallel groups analysis.

Ad hoc analysis of any correlation between Sleep Quality and Melatonin was not significant.

6.8.3. Physical Stress Symptoms

Figure 6.13. Group means - Physical Symptoms



The mean total scores of Physical Symptoms can be seen to be different at baseline between the two groups. In Group1 the level of Physical Symptoms was reduced to a large degree already from pre-therapy to 3 weeks into therapy. From there it increased slightly to the mid follow-up time-point (week 12), and then it decreased again towards the last follow-up time-point where it ended up lower than at post-therapy. Group 2 seems to have slightly increased Physical Symptoms from baseline to the beginning of therapy. During therapy a decrease to a level under the beginning of therapy can be seen. As with Perceived Stress the level of Physical Symptoms seems to decrease dramatically from post-therapy to the mid-point follow-up, and increase again to the last follow-up time-point, reaching a level slightly above the post-therapy level. The SE arrows touch each other at all time-points.

Table 6.14. GEE changes - Physical Symptoms

Physical Symptoms predictors	Estimate	Robust S.E.	Robust z	P-value	Significance level (p<0.05)
Parallel groups					
Intercept	-0.38	2.53	-0.15	-	-
Baseline	0.68	0.18	3.79	-	--
Group	5.67	2.75	2.06	0.04	*
Weeks	0.04	0.36	0.12	0.90	
Early/late GIM					
Intercept	2.20	3.58	0.61	-	-
Baseline	0.6	0.24	2.44	-	-
Group	4.24	2.93	1.45	0.15	
Weeks	-0.13	0.10	-1.35	0.18	

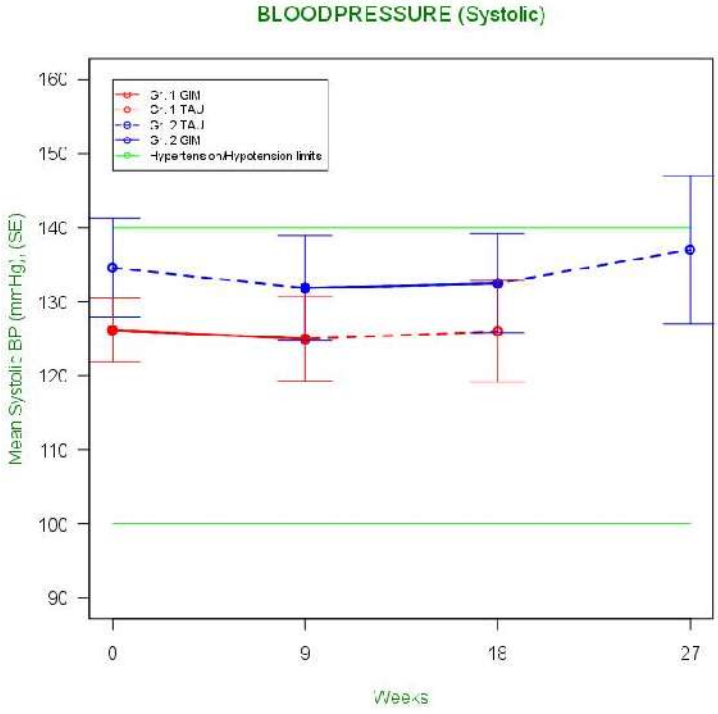
Note. Parallel groups included data from week 0,3 and 9. Early/late GIM included data from week 0, 3, 9, 12,18,21 and 27. Significance levels: p<0.05*, p<0.01**, p<0.001***.

There is a significant change between GIM and TAU regarding Physical Symptoms, but no significant difference between early and late GIM.

6.8.4. Blood Pressure

Blood Pressure is presented with green lines above and under the results representing the values between which the Blood Pressure is estimated to be healthy. Systolic and Diastolic Blood Pressure relate to the working and the resting states of the heart.

Figure 6.14. Group means – Systolic Blood Pressure



No significance between groups can be seen regarding Systolic Blood Pressure.

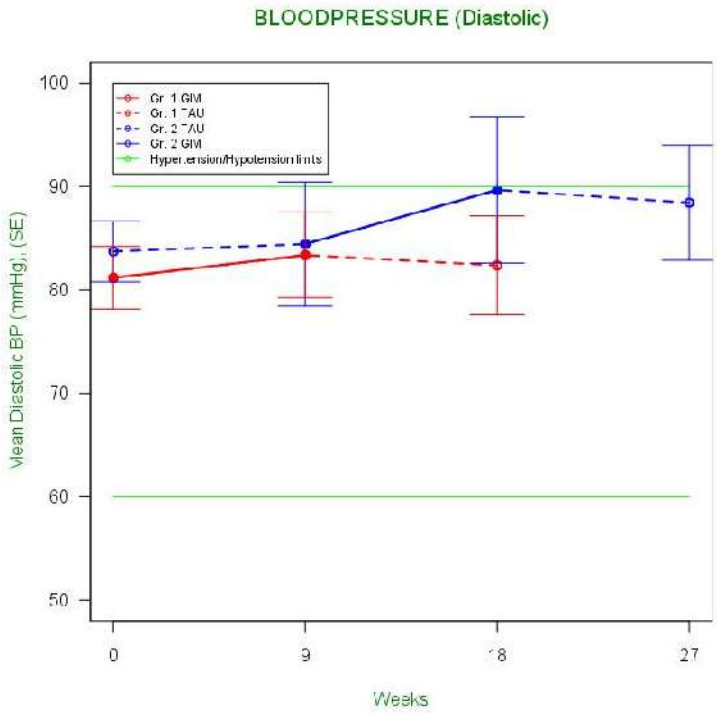
Table 6.15. GEE changes in Systolic Blood Pressure

Systolic Blood Pressure	Estimate	Robust S.E.	Robust z	P-value	Significance level (p<0.05)
Parallel groups					
Intercept	32.71	31.04	1.05	-	-
Baseline	0.77	0.21	3.66	-	-
Group	-0.68	5.24	-0.13	0.90	
Weeks	-0.36	0.95	-0.38	0.70	
Early/late GIM					
Intercept	23.95	23.68	1.01	-	-
Baseline	0.82	0.17	4.86	-	-
Group	3.59	4.79	0.75	0.45	
Weeks	-0.06	0.24	-0.25	0.80	

Note. Parallel groups included data from week 0,3 and 9. Early/late GIM included data from week 0, 3, 9, 12,18,21 and 27. Significance levels: p<0.05*, p<0.01**, p<0.001***.

No significance between groups can be seen regarding Systolic Blood Pressure.

Figure 6.15. Group means - Diastolic Blood Pressure



Both means lie in the upper part of the area of healthy blood pressure. It can be seen that the average Diastolic Blood Pressure in Group 1 seem to increase a little bit during therapy and decrease again during follow-up. The average blood pressure in Group 2 increases during therapy to a level close to the upper limit for healthy blood pressure meaning that several of the values must lie above this limit. At follow-up the mean value decreases a little but it is still higher than at pre-therapy.

Table 6.16. GEE changes in Diastolic Blood Pressure

Diastolic Blood Pressure	**Estimate**	**Robust S.E.**	**Robust z**	**P-value**	**Significance level (p<0.01)**
Parallel groups					
Intercept	-8.56	23.63	-0.36	-	-
Baseline	1.10	0.26	4.25	-	-
Group	-2.88	3.89	-0.73	0.47	
Weeks	0.44	0.42	1.05	0.29	
Early/late GIM					
Intercept	-0.8	17.76	-0.04	-	-
Baseline	1.02	0.20	5.11	-	-
Group	1.46	2.99	0.49	0.62	
Weeks	0.10	0.13	0.8	0.42	

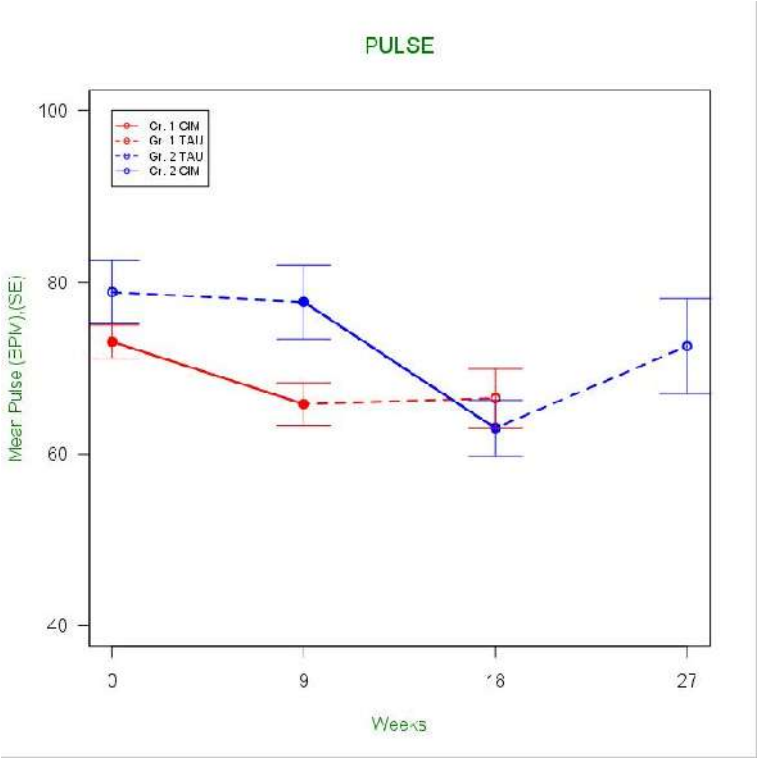
Note. Parallel groups included data from week 0,3 and 9. Early/late GIM included data from week 0, 3, 9, 12,18,21 and 27. Significance levels: p<0.05*, p<0.01**, p<0.001***.

There are no significant changes between groups regarding Diastolic Blood Pressure.

An ad hoc analysis of the change of Blood Pressure in a hypertension subgroup was carried out. Hypertension is defined by a Systolic Blood Pressure over 140 mmHg and a Diastolic Blood Pressure over 90 mmHg. Subgroup analysis of participants with versus without hypertension (defined exclusively as Systolic Blood Pressure greater than 140 mmHg at baseline) indicated that early GIM had a positive effect on Systolic Blood Pressure for those with hypertension (GEE estimate 18.43, $z = 4.03$, $p < .001$) but not for those without (GEE estimate 2.29, $z = 0.49$, n.s.). However, the subgroup with hypertension was small ($n = 6$).

6.8.5. Pulse

Figure 6.16. Group means - Pulse



Note. The outer limits for resting pulse in healthy adults are 100/40 BPM, these limits are set as the borders of the figure.

Both groups have high resting Pulses at the beginning of the study at around 75-80 BPM. The measurements after therapy at time-point 9 and 18 indicate a decrease of the Pulse in both groups towards a normal level. In both groups, and most clear in group 2 the mean Pulse increased at follow-up but not to the level at the beginning at the study. This indicates that even if there has been a skewing effect of the GIM session at the post-therapy measurement, as earlier mentioned (6.7.1.), an effect on Pulse from pre to follow-up can be seen. The SE arrows do not overlap at nine weeks indicating a possible effect of GIM in Group 1.

Table 6.17. GEE changes in Pulse

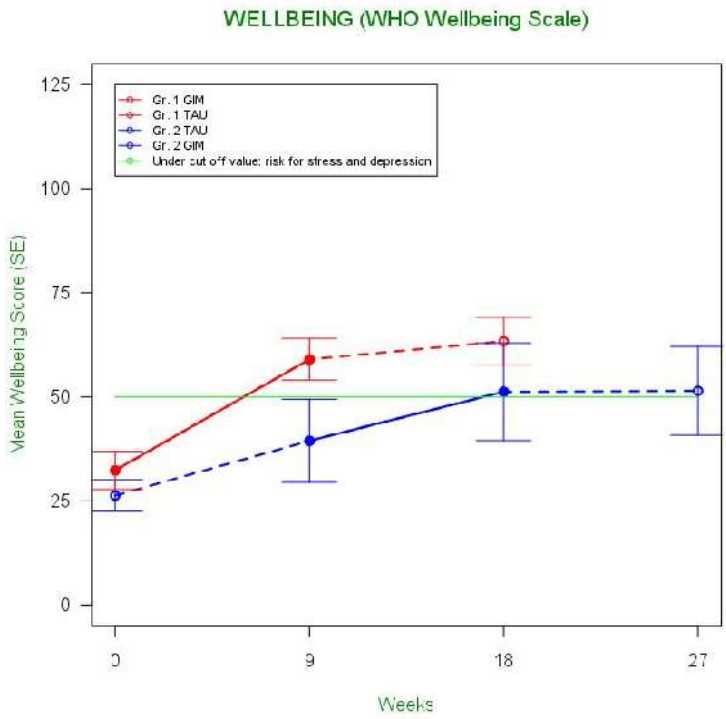
Pulse predictors	Estimate	Robust S.E.	Robust z	P-value	Significance level (p<0.05)
Parallel groups					
Intercept	10.45	11.19	0.93	-	-
Baseline	0.83	0.16	5.32	-	-
Group	6.49	3.67	1.77	0.08	
Weeks	-0.51	0.45	-1.13	0.26	
Early/late GIM					
Intercept	13.40	7.99	1.68	-	-
Baseline	0.77	0.11	7.05	-	-
Group	0.02	2.92	0.01	0.99	
Weeks	-0.11	0.16	-0.70	0.48	

Note. Parallel groups included data from week 0,3 and 9. Early/late GIM included data from week 0, 3, 9, 12,18,21 and 27. Significance levels: p<0.05*, p<0.01**, p<0.001***.

No significant changes were seen between groups or with time regarding Pulse.

6.8.6. Well-being

Figure 6.17. Group means - Well-being



Note. According to the scoring guide, values under the cutoff value (50) indicate a risk of stress and depression.

It can be seen that the the Well-being scores increase from pre to post-therapy regarding Group 1. From post-therapy to follow-up the average Well-being score is only increasing a little bit. Regarding Group 2 the Well-being scores are increasing during the waiting period and continue to improve with almost the same gradient to the post-therapy time-point, but flatten from post to follow-up. During the whole participation period, there is an increase of ca. 25% of the total scale in both groups. At nine weeks the standard error arrows do not touch each other indicating that the difference between the groups is beyond the measurement error. The means of both groups pass the cutoff line during treatment phase and stay there at follow-up, indicating that risks of stress and depression are no longer present.

Table 6.18. GEE changes in Well-being

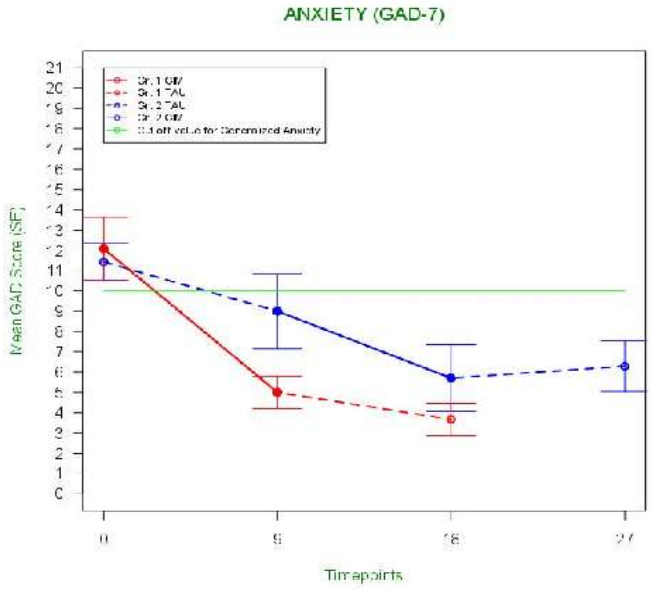
Well-being predictors	**Estimate**	**Robust S.E.**	**Robust z**	**P-value**	**Significance level (p<0.05)**
Parallel groups					
Intercept	29.58	9.43	3.14	-	-
Baseline	0.53	0.35	1.51	-	-
Group	-19.11	0.75	-2.18	0.03	*
Weeks	1.54	0.90	1.70	0.09	
Early/late GIM					
Intercept	40.71	8.76	4.65	-	-
Baseline	0.29	0.26	1.13	-	-
Group	-15.33	8.99	-1.7	0.09	
Weeks	0.71	0.44	1.61	0.11	

Note. Parallel groups included data from week 0,3 and 9. Early/late GIM included data from week 0, 3, 9, 12,18,21 and 27. Significance levels: p<0.05*, p<0.01**, p<0.001***.

There are significant changes in Well-being when looking at parallel groups, but not between early and late GIM.

6.8.7. Generalized Anxiety

Figure 6.18. Group means - Generalized Anxiety



The level of Generalized Anxiety was moving downwards in a steep curve from pre- to post-therapy in Group 1, and from post-therapy to follow-up it still declined in a less steep curve. Group 2 had a decreasing mean Anxiety level during the waiting period. During therapy it seems like the Anxiety level is decreasing with a slightly larger gradient. In the last TAU period the level of Anxiety increased a little. At nine weeks the standard error arrows do not touch each other, as they do at zero and 18 weeks.

As a result of further exploration of raw data it was found that the participants with initial total scores >10 indicating Generalized Anxiety passed under the cutoff lines of the scale during the participation, and in the end nobody scored over 10.

Table 6.19. GEE changes in Generalized Anxiety

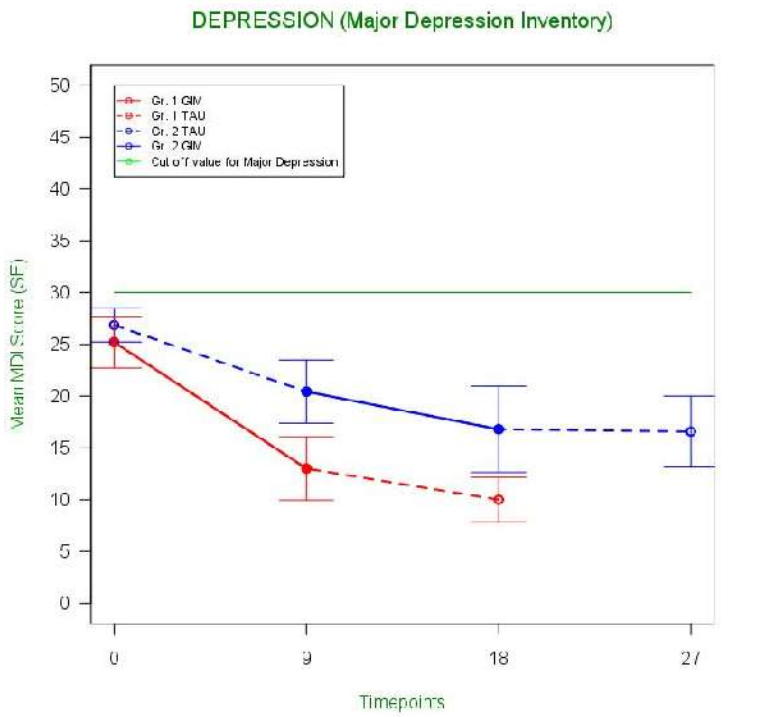
Generalized Anxiety predictors	**Estimate**	**Robust S.E.**	**Robust z**	**P-value**	**Significance level (p<0.05)**
Parallel groups					
Intercept	0.11	2.81	0.04	-	-
Baseline	0.32	0.19	1.63	-	-
Group	3.86	1.52	2.53	0.01	*
Weeks	0.15	0.18	0.83	0.41	
Early/late GIM					
Intercept	3.50	1.80	1.95	-	-
Baseline	0.22	0.13	1.71	-	-
Group	3.53	1.35	2.61	0.009	**
Weeks	-0.13	0.05	-2.73	0.006	**

Note. Parallel groups included data from week 0,3 and 9. Early/late GIM included data from week 0, 3, 9, 12,18,21 and 27. Significance levels: p<0.05*, p<0.01**, p<0.001***.

There are significant changes in Generalized Anxiety both between early and late intervention and between GIM and TAU.

6.8.8. Depression

Figure 6.19. Group means - Depression (MDI)



Mean depression scores in Group 1 decreased a lot during GIM and continued to decrease during TAU. The level of Depression in Group 2 decreased during the whole study, but not with the same impact as Group 1. The SE arrows did not overlap at 9 and 18 weeks.

As a result of an exploration of raw data it was found that the participants with initial total scores >30 indicating Major Depression passed under the cutoff lines of the scale during the study, and in the end nobody scored over 30.

Table 6.20. GEE changes in Depression (MDI)

Depression predictors	**Estimate**	**Robust S.E.**	**Robust z**	**P-value**	**Significance level (p<0.05)**
Parallel groups					
Intercept	18.92	16.14	1.17	-	-
Baseline	0.05	0.47	0.11	-	-
Group	6.36	3.60	1.77	0.08	
Weeks	-0.76	0.72	-1.06	0.29	
Early/late GIM					

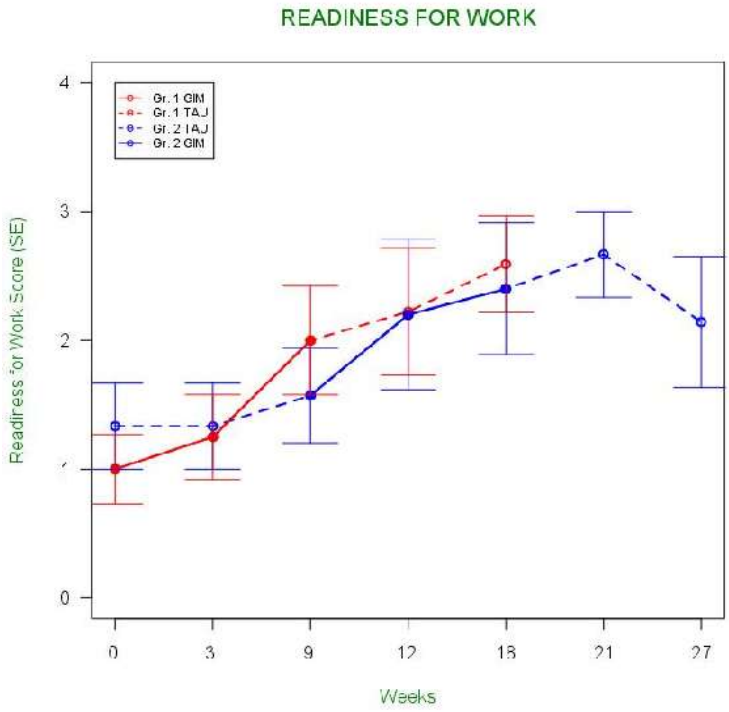
Intercept	8.78	7.71	1.14	-	-
Baseline	-0.05	0.22	-0.24	-	-
Group	7.79	3.24	2.40	0.02	*
Weeks	0.26	0.16	-1.65	0.1	

Note. Parallel groups included data from week 0,3 and 9. Early/late GIM included data from week 0, 3, 9, 12,18,21 and 27. Significance levels: p<0.05*, p<0.01**, p<0.001***.

There was a significant change between groups regarding Depression, indicating that early GIM had an influence on the severeness of Depression.

6.8.9. Work Readiness

Figure 6.20. Group means - Work Readiness



Readiness for work seemed to improve throughout the study in both groups, although it decreased a little in Group 2 in the last six weeks of the follow-up. The standard error arrows are overlapping at all time-points indicating that the differences between groups are small.

Table 6.21. GEE changes in Work Readiness

Work Readiness predictors	Estimate	Robust S.E.	Robust z	P-value	Significance level (p<0.05)
Parallel groups					
Intercept	0.22	0.33	0.66	-	-
Baseline	0.79	0.22	3.55	-	-
Group	-0.45	0.34	-1.33	0.18	
Weeks	0.10	0.05	2.20	0.03	*
Early/late GIM					
Intercept	0.71	0.45	1.58	-	-
Baseline	0.73	0.28	2.61	-	-
Group	-0.58	0.35	-1.66	0.10	
Weeks	0.05	0.01	4.22	0.000	***

Note. Parallel groups included data from week 0,3 and 9. Early/late GIM included data from week 0, 3, 9, 12,18,21 and 27. Significance levels: p<0.05*, p<0.01**, p<0.001***.

No significant changes were seen in Work Readiness between groups.

6.9. Summary of GEE and effect sizes for groups

The next four tables will show GEEs of all variables, first on questionnaire results between GIM and TAU and between early and late GIM, and after that on the measurements of physiological effects (hormones and blood pressure) between groups related to GIM/TAU and on early/late GIM. A general rule of effect sizes is that 0.2 is a small effect, 0.5 a medium effect and over 0.8 a large effect (Gold, 2004).

Table 6.22. Effect sizes of self-reported measures for GIM versus TAU

Variable	GEE estimate of group effect	Baseline SD	Effect size
Perceived Stress	3.21	4.60	0.70
Total Mood Disturbance	25.09	24.12	1.04**
Sleep Quality	4.14	5.64	0.73*
Physical Symptoms	5.65	7.21	0.78*
Well-being	-19.11	13.94	1.37*
Anxiety	3.86	4.41	0.88*
Depression	6.36	7.21	0.88
Work Readiness	-0.45	0.86	0.52

Note. GEE estimates and significance levels are taken from GEE models (Tables 6.4., 6.10., 6.12. -13. and 6.17.-20.). Baseline SDs are calculated from baseline values. Effect sizes (Cohen's d) were calculated by dividing the GEE estimates by the baseline SDs. The signs of the effect sizes were reversed when applicable so that a positive effect size always reflects superiority of GIM. Significance levels: p<0.05 *, p<0.01**, p<0.001***.

There are significant changes between groups regarding Total Mood Disturbance, Physical Symptoms, Sleep Quality, Well-being and Anxiety.

The parallel group effect sizes of of Well-being and Total Mood Disturbance are very large, the effect sizes of Perceived Stress, Anxiety and Depression are large, and the effect sizes of Physical symptoms, Sleep Quality and Work Readiness are medium.

Table 6.23. Effect sizes of self-reported measures for early versus late GIM

Variable	GEE estimate of group effect	Baseline SD	Effect size
Perceived Stress	5.08	4.60	1.11**
Total Mood Disturbance	25.09	24.12	1.04***
Sleep Quality	3.06	5.64	0.54
Physical Symptoms	4.24	7.21	0.59
Well-being	-15.33	13.94	1.10
Anxiety	3.53	4.41	0.80**
Depression	7.79	7.21	1.08*
Work Readiness	-0.58	0.86	0.67

Note. GEE estimates and significance levels are taken from GEE models (Tables 6.4., 6.10., 6.12. -13. and 6.17.-20). Baseline SDs are calculated from the baseline values. Effect sizes (Cohen's d) were calculated by dividing the GEE estimates by the baseline SDs. The signs of the effect sizes were reversed when applicable so that a positive effect size always reflects superiority of early GIM. Significance levels: $p<0.05$ *, $p<0.01$**, $p<0.001$***.

Early GIM caused significant changes in Perceived Stress, Total Mood Disturbance, Anxiety and Depression.

Effect sizes between groups (early/late GIM) were very large regarding Perceived Stress, Total Mood Disturbances, Well-being and Depression. It was large regarding Anxiety and medium regarding Sleep Quality, Physical Symptoms and Work Readiness.

Table 6.24. Physiological effects of GIM versus TAU

Variable	GEE estimate of group effect	Baseline SD	Effect size
Blood Pressure (Systolic)	-0.68	16.00	0.04
Blood Pressure (Diastolic)	-2.88	9.42	0.31
Pulse	6.49	8.13	0.80
Cortisol Awakening Response	-0.31	0.54	0.57
Cortisol Reactivity	-13.03	43.99	0.30
Cortisol Recovery	15.79	42.91	0.37
Cortisol LC	0.27	0.63	0.43*
Testosterone	0.14	0.64	0.22
Melatonin	0.06	0.34	0.18

Note. GEE/linear models estimates and significance levels are taken from GEE models (Tables 6.14.-16. and 6.5.-9.). Baseline SDs are calculated from baseline values. Effect sizes (Cohen's d) were calculated by dividing the GEE estimates by the baseline SDs. The signs of the effect sizes were reversed when applicable so that a positive effect size always reflects superiority of GIM.

There was one single significant result in the measurements of physiological effects between GIM and TAU conditions, namely Cortisol LC. The effect size for Pulse were large, the effect sizes for Cortisol Awakening Response were medium and for Cortisol LC almost medium, and the rest were small.

Table 6.25. Physiological effects of early versus late GIM

Variable	GEE estimate of group effect	Baseline SD	Effect size
Blood Pressure (Systolic)	3.59	16.00	0.22
Blood Pressure (Diastolic)	1.46	9.42	0.15
Pulse	0.02	8.13	0.00
Cortisol Awakening Response	-0.69	0.54	0.02
Cortisol Reactivity	5.62	43.99	0.13
Cortisol Recovery	9.73	42.91	0.23
Cortisol LC	-0.07	0.63	0.11
Testosterone	0.05	0.64	0.08
Melatonin	0.06	0.34	0.38

Note. GEE estimates and significance levels are taken from GEE models (Tables 6.14.-16. and 6.5.-9). Baseline SDs are calculated from baseline values. Effect sizes (Cohen's d) were calculated by dividing the GEE estimates by the baseline SDs. The signs of the effect sizes were reversed when applicable so that a positive effect size always reflects superiority of GIM.

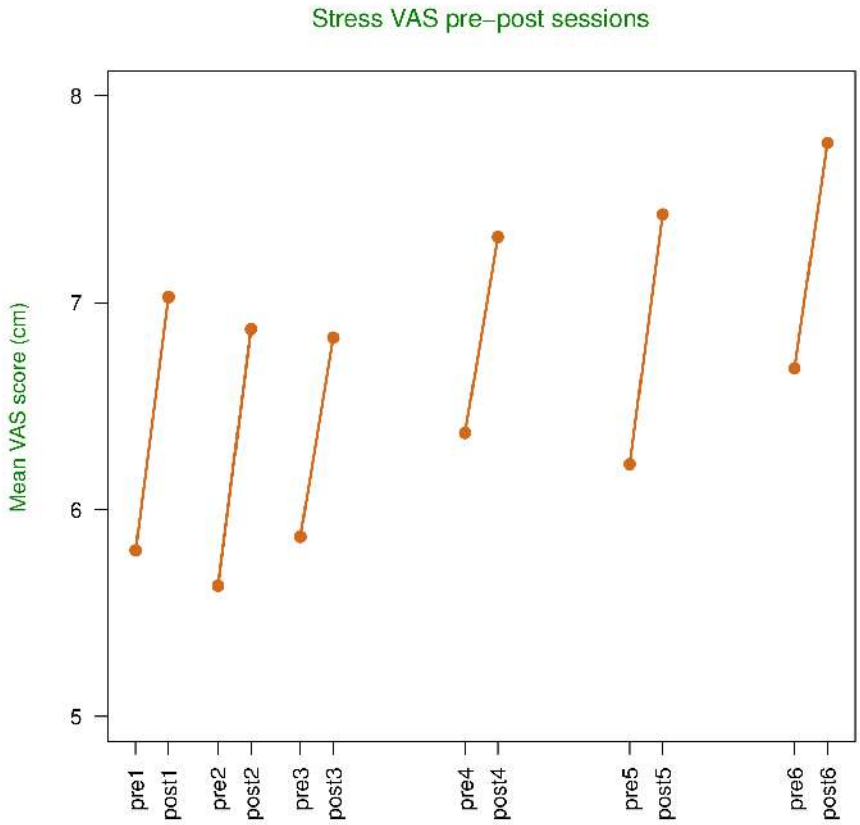
There were no significant effects among the measurements of physiological effects between early and late GIM. Effect sizes were small or very small for all variables.

6.10. Analysis of Immediate Stress State

The following part of the statistical analysis is not a between groups analysis, but a within groups pre-post analysis. The Immediate Stress State was measured by a Visual Analogue Scale that was filled in before and after all six therapy sessions for all subjects. The scale included eight items: Stress, Mood, Pain, Safety, Worry, Tension, Restlessness and Fatigue. Higher scores indicated less stress, lower scores indicated more stress.

The development of the mean total scores will be presented in graphic form:

Figure 6.21. Mean total scores of Immediate Stress State (VAS) pre-post sessions



Note. The sessions are shown on the x-axis, session 1-3 were weekly and session 4-6 were biweekly. The level of the y-axis is narrowed to 5-8 cm instead of showing the whole range (0-10 cm). Higher scores means less stress.

It can be seen that all the mean scores increase from pre to post sessions, indicating a reduction of stress level as an immediate effect of the single GIM session. There is also a positive development from the beginning of therapies to the end of therapies, which can be seen by the increasing levels of both pre and post scores from the first to the sixth session. A jump upwards meaning a relief of stress state after the third session can be observed, and similarly after the fifth session another improvement of the mean stress level can be observed.

6.10.1. Immediate Stress State significance tests

Table 6.26. GEE changes in Immediate Stress State

Immediate Stress State predictors	**Estimate**	**Robust S.E.**	**Robust z**	**P value**	**Significance level**
Intercept	5.51	0.33	16.57	0.000	***
Sessions	0.17	0.07	2.59	0,01	**
Whole therapy (time)	1.08	6.71	4.97	0.000	***

Note. Session no means the differences in the single sessions, and session time means the difference of the whole therapy course. Significance levels: $p<0.05$ *, $p<0.01$**, $p<0.001$***.

Significant changes in Immediate Stress State total scores could be seen both between the sessions and from the beginning to the end of therapy.

6.10.2. Effect sizes of sub-scales of Immediate Stress State

Exploratory analysis of the eight sub-scales of the Immediate Stress State VAS were carried out.

Table 6.27. Immediate Stress State sub-scales' effect sizes from pre and post the whole therapy course

Immediate Stress State VAS sub-scales	Estimate (session.time)	SD	Effect size
Stress	1.59	2.20	0.72
Worry	1.47	1.79	0.82
Mood	0.83	2.15	0.39
Restless ness	1.20	1.79	0.67
Pain	0.37	2.92	0.13
Fatigue	1.1	2.08	0.53
Tension	1.40	2.14	0.65
Safety	0.77	2.19	0.35

Note. The estimates are taken from GEE analysis (not shown), baseline SDs are calculated from total scores before the first session. Effect sizes (Cohen's d) were calculated by dividing the estimates by the baseline SDs.

The sub-scales Stress, Worry, Restlessness, Fatigue and Tension (relaxation) had large effect sizes. Mood (sad - happy) , Pain and Safety had small to medium effect sizes.

6.11. Job return

The participants' work situations was monitored throughout the study. An extra follow-up mail was send out six months after the follow-up meeting to ask for the participants' current work situations.

Four binominal variables in relation to job return were defined, covering different aspects of sick leave and work situations.

1. ”Full-time Sick Leave” defining full-time sick leave compared to no sick leave or part-time sick leave
2. ”Any Sick Leave” defining both part-time and full-time sick leave compared to no sick leave
3. ”Working” where work was defined as minimum 30 hours of work in a week, work includes job, work training, studies, courses, flex-job and unemployment. Unemployment is included because it implicates that one is no longer at sick leave but actively looking for a job.

4. ”Economically Self-supportive” is included as a cost-benefit alike analysis, where earning money from working is compared to receiving benefits either because of sick leave or unemployment. One participant was on maternity leave (after a stress breakdown) throughout the participation and was excluded from this part of the study.

Two ways of presenting the development in job return will be outlined. A descriptive statistic table of the percentage of participants on full-time sick leave or working will be used to compare the study to similar studies. A logistic regression will be performed and analysis using GEE will look for significance in any of the parameters Full-time Sick Leave, Any Sick Leave, Working and Economical Self-support.

6.11.1.1. Descriptive statistic description of job return

Table 6.28. Percentage of participants on job return variables at baseline and follow-ups

Groups	Baseline n=18	Follow-up (9 weeks after therapy) n=18	Follow-up (6 months after therapy) Group 1 (n=9) Group 2 (n=4)
Full-time Sick Leave, Group 1 n= 12	7 (58%)	2 (17%)	2 (22%)
Full-time Sick Leave, Group 2, n=6	4 (67%)	1 (17%)	0
Full-time Sick Leave total	13 (72%)	3 (17%)	2 (15%)
Working, Group1, n= 12	4 (33%)	10 (83%)	6 (67%)
Working, Group 2, n=6	3 (25%)	5 (83%)	3 (75%)
Working total	7 (39%)	15 (83%)	9 (69%)

Note. Working was defined as part-time or full-time work, work training, unemployment, courses or studying minimum 30 hours a week. In the six months' follow-up not all participants provided information about their work situation (13 out of 18) and it can not be directly compared to the nine weeks' follow-up (marked with grey background colour). (The two persons on sick leave from Group 1 at nine weeks follow-up were still on sick leave at six months' follow-up, and the one person from Group 2 did not report at six months follow-up).

It can be seen that in the start 72% of the participants were on full-time sick leave, whereas only 17% of the participants were on sick leave at the nine weeks' follow-up. 39% of the participants were working at baseline, but 83% were working at nine weeks follow-up.

At the follow-up six months after end of of treatment 11 participants worked on usual terms, five received social benefits, and the situation of three was unknown.

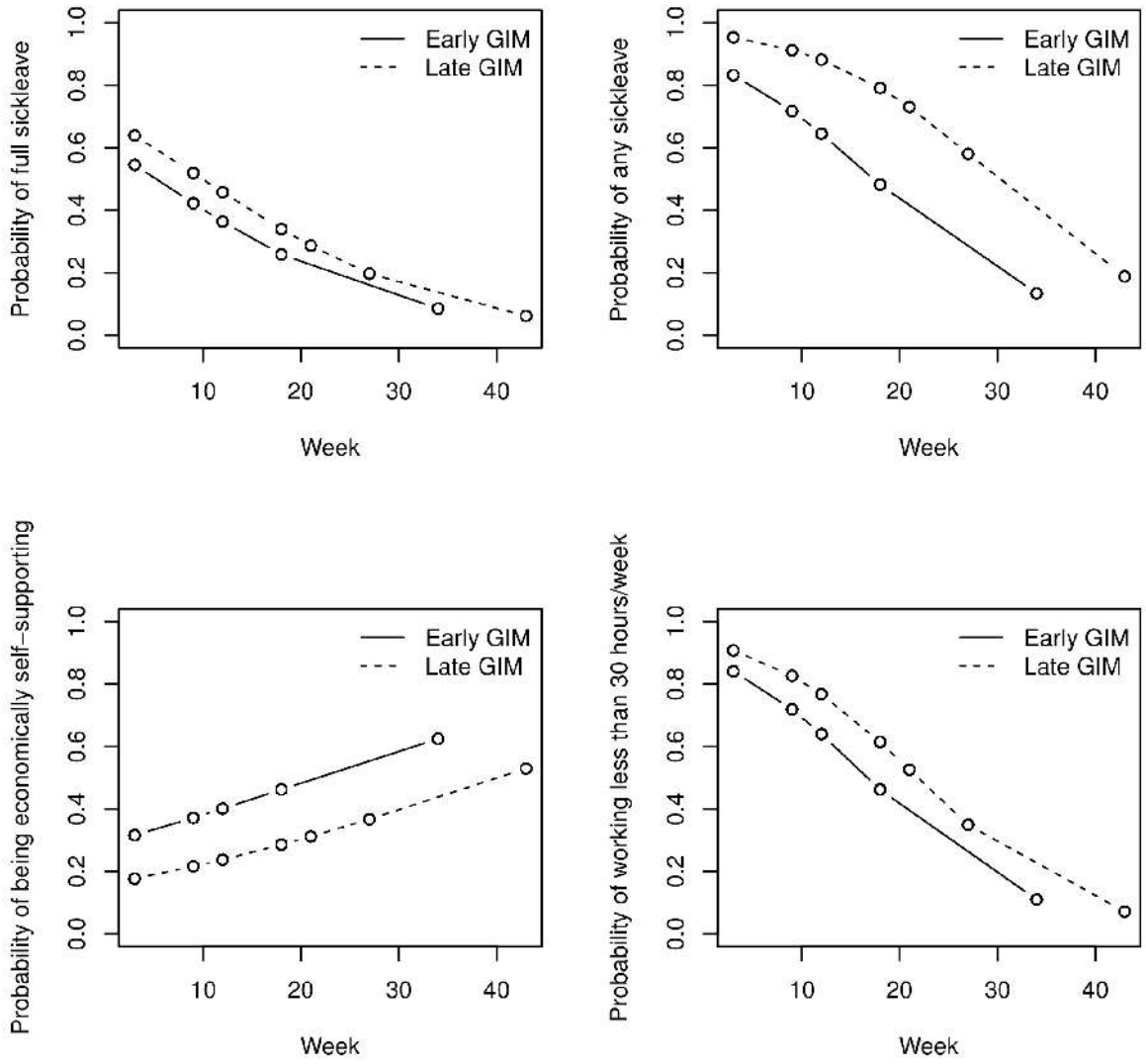
I have thought about the factors that kept the three participants who continued to be on sick leave from recovering. One was diagnosed with PTSD after the follow-up, another had been diagnosed with PTSD 10 years ago and might still be influenced by it, even though I did

not consider it at the intake interview because she did not indicate PTSD symptoms on the screening questionnaire. The third one had no specific extra diagnoses and was looking actively for ways to get back to work.

6.11.1.2. Statistical analysis of job return

A logistic regression was applied on the difference between early or late GIM and the results are presented in the following figure.

Table 6.29. Probabilities of Sick Leave, Working and Economical Self-support between early and late GIM



The figure indicates a difference and possible probability of significance between groups in the two variables Any Sick Leave (full-time or part-time) and Economic Self-

support. The groups seem to be more equal regarding being on Full-time Sick Leave and Working. The following calculations analysed the potential relationships.

Table 6.30. GEE changes in Full-time Sick Leave between early and late GIM

Predictors	Estimate	Robust S.E.	Robust z	P value	Odds
Intercept	0.43	0.56	0.77	-	-
Group	0.39	0.92	0.42	0.67	1.48
Week	-0.08	0.03	-2.97	0.00***	0.92

Note. Data from week 0-43 were used. Odds is the calculated exponential estimate (calculated for Group). Significance levels: p<0.05 *, p<0.01**, p<0.001***.

Table 6.31. GEE changes in Any Sick Leave between early and late GIM

Predictors	Estimate	Robust S.E.	Robust z	P value	Odds
Intercept	1.94	0.62	3.13	-	-
Group	1.41	0.86	1.64	0.10	4.08
Week	-0.11	0.03	-3.50	0.00***	0.89

Note. Data from week 0-43 were used. Significance levels: p<0.05 *, p<0.01**, p<0.001***.

Table 6.32. GEE changes in Working between early and late GIM

Predictors	Estimate	Robust S.E.	Robust z	P value	Odds
Intercept	2.03	0.66	3.05	-	-
Group	0.62	0.83	0.75	0.45	1.86
Week	-0.12	0.03	-3.57	0.00***	0.89

Note. Data from week 0-43 were used. Work was defined as >30 hours pr week, including work, work rehabilitation, courses, flex job, unemployment. Significance levels: p<0.05 *, p<0.01**, p<0.001***.

Table 6.33. GEE changes in Economically Self-supportive between early and late GIM

Predictors	Estimate	Robust S.E.	Robust z	P value	Odds
Intercept	-0.90	0.63	-1.43	0.15	-
Group	-0.76	0.91	-0.84	0.40	0.47
Week	0.04	0.02	1.68	0.09	1.04

Note. Data from week 0-43 were used. Significance levels: p<0.05 *, p<0.01**, p<0.001***.

There were no significant differences as a result of early versus late GIM in any of the four analyses of job return. The odds ratios ranged from 0.47 to 4.08. The 4.08 ratio was found in the Any Sick Leave variable.

In an ad hoc analysis of relationship between job return and the self-reported Work Readiness no significant relationship was found.

6.11.2. Rejection of null hypotheses

All the research questions with subsequent null hypotheses will be listed, and the rejected hypotheses will be marked by bold writing.

1. GIM will not change self-reported psychological measures of stress compared to treatment as usual.

a) Perceived Stress

b) **Total Mood Disturbance - Rejected**

c) **Sleep Quality - Rejected**

d) **Physical Symptoms - Rejected**

e) **Well-being - Rejected**

f) **Anxiety - Rejected**

g) Depression

h) Work Readiness

2. GIM will not change physiological measures of stress compared to treatment of usual

a) Cortisol Awakening Response

b) Cortisol Reactivity

c) Cortisol Recovery

d) Cortisol (LC) - Rejected

e) Testosterone

f) Melatonin

g) Blood Pressure (Systolic)

h) Blood Pressure (Diastolic)

i) Pulse

3. Early GIM will not change self-reported psychological measures of stress compared to late GIM

a) Perceived Stress - Rejected

b) Total Mood Disturbance - Rejected

c) Sleep Quality

d) Physical Symptoms

e) Well-being - Rejected

f) Anxiety - Rejected

g) Depression - Rejected

h) Work Readiness

4. Early GIM will not change physiological measures of stress compared to late GIM

a) Cortisol Awakening Response

b) Cortisol Reactivity

c) Cortisol Recovery

d) Cortisol (LC)

e) Testosterone

f) Melatonin

g) Blood Pressure (Systolic)

h) Blood Pressure (Diastolic)

i) Pulse

5. **Immediate stress state before a GIM session will not be changed after the GIM session - Rejected**

6. **Immediate stress state will not change from before the first session to after the last GIM session - Rejected**

7. Early GIM will not change the sick leave situation compared to late GIM

a) Full-time Sick Leave

b) Any Sick Leave

c) Working (minimum 30 hours a week)

d) Economically Self-supportive

6.11.3. Summary of quantitative results

The whole analysis resulted in significant changes in self-reported questionnaire data between GIM and TAU in the following variables: Mood, Physical Symptoms, Sleep Quality, Well-being and Anxiety. All questionnaire effect sizes between GIM and TAU were in the range 0.52-1.37. Significant changes of early intervention were found in the following variables: Perceived Stress, Mood, Well-being, Anxiety and Depression. The effect sizes between 0.54-1.11. One significant change between GIM and TAU was found in Cortisol LC.

Effect sizes of physiological measures between GIM and standard care ranged from 0.04 to 0.57, and in pulse it was 0.80. Effect sizes between early and late GIM ranged from 0 to 0.38.

Highly significant changes in total scores of the Immediate Stress State pre and post the single sessions and from first to sixth session were found.

No significant results on job return were found, but a tendency towards relationship between early intervention and any kind of sick leave and between early intervention and economic self support was observed, and might be supported in further research. 83% of the participants were no longer at sick leave at the nine weeks' follow-up.

7. QUALITATIVE METHODS

7.1. Introduction

This part presents the methods developed to answer the third research question: How are experiences of the body self in relation to music during GIM sessions related to experiences of coping with stress and work, and influencing the participants' reports of their lived lives?

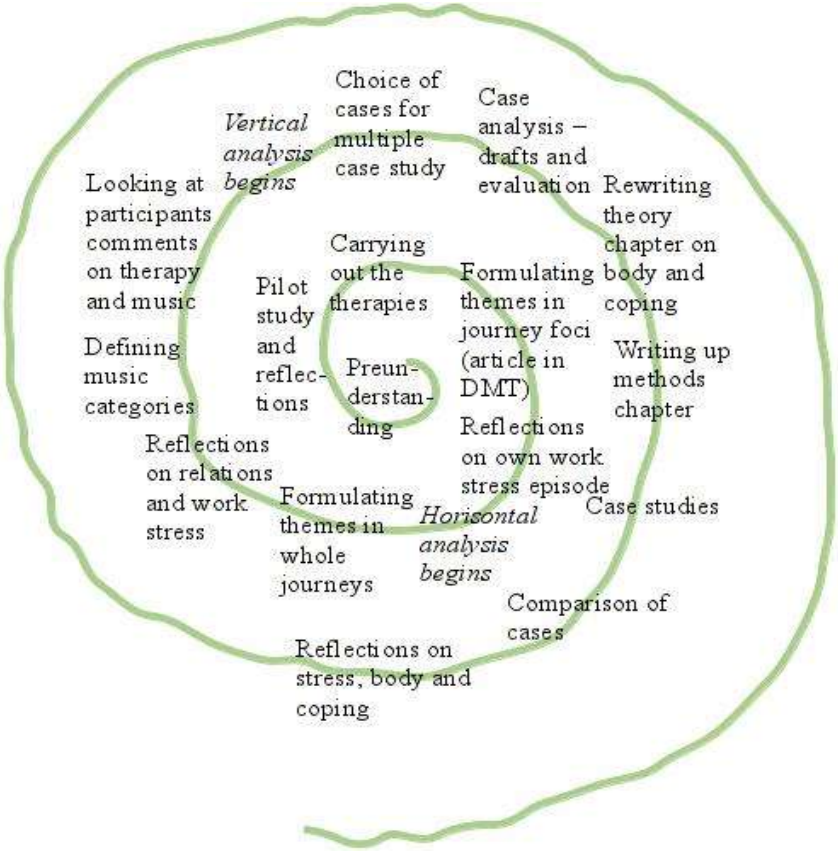
The design of the qualitative analysis was originally defined as flexible, and the method has been developed as an emergent process during the analysis process.

The understanding and definition of the applied qualitative methods will be presented, and after that a more elaborated description of the analysis process will be described including the changes that took place along the way.

The methods for the qualitative analysis and their philosophical background were not described in detail in the elaborated proposal but were shaped during the process. The methods will be described in retrospect as they emerged during the course of the analysis. To illustrate the process of emergent analysis first a list of the steps in the process of developing the method will be presented, and then a hermeneutic spiral showing the interaction between the methods and analysis will be shown.

1. Pre-understanding of stress, embodiment, GIM, trauma, research
2. Preparation: Reading about work stress, stress reactions, coping
3. Defining method as hermeneutic and emergent with a focus on embodiment, inclusion of a multiple case study
4. Pilot study, case analysis of the release of a freeze state (PhD seminar)
5. Carrying out experiment and data collection
6. Writing up a peer reviewed article about stress and music therapy (Beck, 2010), first thematic analysis
7. Participation in qualitative research seminar on embodiment; inspiration to read van Manen.
8. Carrying out horizontal analysis with emphasis on deductive thematization
9. Further reading about multiple case analysis
10. Writing up methods chapter
11. Carrying out vertical analysis: case studies
12. Comparing case studies
13. Further reading about mixed methods
14. Converging results with results from RCT

Figure 7.1. Hermeneutic spiral showing the process of qualitative analysis



The presentation of the methods will be guided by the structure:

1. Philosophy
2. Methods
3. Specifications of the use of methods.

7.2. Hermeneutic phenomenological analysis

7.2.1. Hermeneutic Inquiry

Among many traditions of qualitative analysis I have chosen to work primarily in the hermeneutic tradition as described by Gadamer (1975). Doing a hermeneutic inquiry establishes a relation to the data material, where ”truths” or scientific findings emerge as a process of mindful embeddedness in the data material during the search for meaning and understanding. I find this method fitting especially well for a study of processes of GIM therapy, where the complexity of imagery can be interpreted at deeper and deeper levels much like the interpretation of dream material. Several doctoral researchers in GIM have worked with hermeneutic inquiry (for instance Bonde, 2004, and Summer, 2010). Bonde (2004) studied the metaphor, the hidden meaning that emerges through imagery, and the narratives and self-understanding of six cancer survivors using Ricoeur's theories. Summer (2010)

studied a music-centered way of describing and working with the GIM method, illustrated by six individual single sessions.

Hermeneutic analysis has been described as an art or a technique more than as a method, and was presented having its roots in the oracle in Delphi and the theological interpretations of holy texts (Kenny et al. in Wheeler, 2005). In postmodern hermeneutics ”text” is also defined as action, art and nonverbal expression such as music therapeutic communication or sensations. The importance of situatedness is underlined as a premise of the hermeneutic analysis, ”In a postmodern research climate, the researcher must situate him- or herself or provide the story of how he or she comes into the research or the study. Situating oneself satisfies the qualitative research criteria of trustworthiness, transparency and authencity” (Kenny et al. in Wheeler, 2005, p. 336). According to Kenny and colleagues ways to situate oneself could be a ”stance of the researcher” or a self-hermeneutic, where the personal, social and philosophical beliefs prior to reported findings are stated. This procedure secures that the starting point of the researcher is clarified and that the researcher's biases will be reported, and it also helps to keep the integrity and coherence of the methods.

In the hermeneutic analysis the way of working has been described as a hermeneutic circle. Entering the circle is a process of consciousness. ”The circle is the way in which access to the phenomenon is achieved, and there is always a deeper meaning assigned and uncovered...The hermeneutic circle is as much a way of working through our own translations as it is our insights that then are uncovered and renamed..” (Kenny et al. in Wheeler, p. 341). The German philosopher Heidegger discussed the circle not as much as a method but as an attitude to the process of interpretation. He described the circle as a ”fore-structure” of his concept ”Da-sein” or ”Being-in-the-world”. He formulated how entering the circle meant to work through one's pre-knowing and open up to ”the things themselves” (which I understand as a phenomenological regard).

> In the circle there is a positive possibility of the most primordial kind of knowing, and we genuinely grasp this possibility only when we have understood that our first, last and constant task in interpreting is never to allow our fore-having, fore-sight, and fore-conception to be presented to us by fancies and popular conceptions, but rather to make the scientific theme secure by working out these fore-structures in terms of the things themselves (Heidegger, 1962, p. 195).

He also mentioned that as researchers (philosophers) we cannot get free of our preconceptions; on the contrary, as they have led us to pose the research question, they are part of the consciousness and process. Thus the hermeneutic circle is also a way to acknowledge the circle-shaped argument; that we ask a question and search the answers in a circular movement: ”But if interpretation must in any case already operate in that which is understood, and if it must draw its nurture from this, how is it to bring any scientific results without moving in a circle, especially if, moreover, the understanding which is presupposed, still operates within our common information about man and the world” (ibid, p.194). I consider “to draw nurture from” the research question and fore-knowing a good way to acknowledge the amount of work that has already been made when embarking on an inquiry. It also seems to me that a central questions in a hermeneutic analysis are: how do I avoid to only justify my own preferred ideas with support of the text/data, how do I keep myself open to discover something that I did not expect or know that I was looking for, without getting far off the road from my research question? It obviously requires a certain discipline and self-analysis to perform this kind of analysis.

Gadamer, who was inspired by Heidegger's philosophy, also named the pre-structures ”pre-understanding”. Gadamer described understanding as an act of interpretation that could

most effectively be practiced by approaching a person, or a text, with a very specific kind of open mind poised at the balance point between being completely open to the point of view of the other and at the same time staying in tune with one's own being, one's own point of view. In Gadamer's view, maximal understanding occurred when being at this balance point - neither lost in the other person's belief system nor caught up in one's own inner arguments and self-justifications: ”Working out appropriate projections, anticipatory in nature, to be confirmed by ”the things themselves” is the constant task of understanding. The only ”objectivity” here is the confirmation of a fore-meaning in its being worked out” (Gadamer, 1975, p. 270).

In practice working in the circle includes a moving back and forth between raw data and interpretation, interchanging between understanding and interpretation or interchanging and balancing the parts and the whole. As the process of interpretation produces new insights and meanings, qualities and understanding, returning to the raw data deepens this interpretation and opens up to new layers in the analysis, and so forth. The hermeneutic spiral is a metaphor of the iterated processes of rounds in the circle illustrating that the same questions and investigation of data still enter new levels of understanding.

Research on other human beings and their experience of life involves the cognitions and interpretation that they make themselves. In therapeutic processes the understanding that the clients achieve of themselves has a high priority. Giddens (1987) formulated the hermeneutic processes involving people instead of texts as ”double hermeneutics”. Both the researcher and the participants are involved in the interpretative circles going back and forth in time when working out the therapeutic understanding needed for improving health. This is especially true in GIM, where the therapist after the music journey asks questions rather than interprets the journey allowing the client to associate and create her or his own meaning of the imagery content. The double hermeneutics will in this study be limited to the therapeutic sessions and the follow-up meeting where the participants reflected on their own imagery and processes. In the interpretation and analysis of the transcripts done by the therapist after the completion of data collection and therapy, ”single hermeneutics” will take over in a dialogue with the participant's own interpretations and experiences.

Another aspect of hermeneutics that I find interesting to include because I am going to work with embodiment and body imagery is the thinking of hermeneutic interpretation as an embodied process with data that are partly nonverbal. The American music therapist and researcher David Aldridge wrote (2011),

> What our bodies express is an important part of communication, thus I refer to gesture and dialogue as an “embodied hermeneutic”. My intention is to place hermeneutics, as the interpretation of experience, within the location of the body, and a moved body at that. Thus hermeneutics, as the art of understanding, is not solely speech dependent but action dependent within a dialogue that interprets human actions, gestures and utterances. One person may gesture but it is the other person that gives meaning by completing the gesture”[29].

This way of understanding hermeneutics is especially relevant for music therapy where an important part of the interaction is nonverbal and based on “tacit knowing” as an embodied and nonverbal kind of knowing (Polanyi, 1983, first published in 1966).

According to the clarification of the researcher's fore-structures and pre-understanding I think there is a difference between situating oneself as a researcher in the theoretic landscape and clarifying one's pre-understanding of the research question. It seems like it represents two different levels of the situatedness of the researcher. In the beginning of the results chapter I

[29] Retreived 25.11.10 from http://web.mac.com/nordoff_robbins/David_Aldridge/Performing_health.html

will present a ”stance of the researcher” with a description of my theoretical situatedness and my foreknowing and understanding of the research question (parts of this have already been described in the introduction and theory chapters (1 and 2)). In between the interpretation of data, I will also present some of my reflections on the overall theme of work stress and GIM as they occurred during the yearlong process.

To sum up: Achieving deep insight and finding new meaning in a text by surpassing one’s own preconceptions and allowing the text or the story of another human being to open itself up on its own premises is the focus for the hermeneutic analysis. The present analysis as a whole is guided by the hermeneutic interpretation and the constant critical look at fore-knowing held up against the participant's experience and perspective. However, I have found it useful to add one or two other perspectives to focus the methodology of the study.

7.2.2. Researching lived experience

The hermeneutic phenomenological tradition as described by Max van Manen has for me served as a way to clarify the finding of themes in lived experience. Van Manen described his method as phenomenological hermeneutics. ”It is the phenomenological and hermeneutic study of human existence: phenomenology because it is the descriptive study of lived experience (phenomena) in the attempt to enrich lived experience by mining its meaning; hermeneutics because it is the interpretive study of the expressions and objectifications (texts) of lived experience in the attempts to determine the meaning embodied in them”(van Manen, 1997, p. 38). Van Manen thus combines and interchangeably uses the hermeneutic approach with the phenomenological approach, in that he states that both approaches can be called interpretative ways to catch meaning and describe the world. When involved with research on ”lived experience” one, according to van Manen and similar to Gadamer/Heidegger, must try to seize the non-thematic pre-reflective consciousness of being in the world and give reflective expression to it. Van Manen gave a metaphor of lived experience as the flow of breath in the body:

> Lived experience is the breathing of meaning. In the flow of life consciousness breathes meaning in a to and fro movement: a constant heaving between the inner and the outer...There is a determinate reality-appreciation in the flow of living and experiencing life's breath. Thus, a lived experience has a certain essence, a ”quality” that we recognize in retrospect (ibid, p. 36).

The method of catching meaning and finding the uniqueness and hidden essence in lived experience is reflexive writing. Reflexive writing can fail to elucidate the lived experience for example by only producing conceptual accounts, journalistic accounts, personal opinions etc. A good description resonates with our sense of lived life. It is ”validated by lived experience and it validates lived experience” (ibid, p. 27). According to van Manen a good description is rich, deep and full, and invites the reader into a dialogue. He also mentioned the silence as an important part of writing – an existential, ontological silence behind thoughts and words. In the present study the lived experience of music, silence, inner responses to music and tacit embodied knowledge are some of the breathing flows that the analysis tries to access and translate into writing.

Even though van Manen did not regard the methodology of the research as fixed, but rather saw it as an explorative journey, he provided six methodical structures for use in a dynamic interplay (ibid, p. 30):

- turning to the phenomenon which seriously interests us and commits us to the world, turning to the nature of lived experience

- investigating experience as we live it rather than as we conceptualize it – standing in the midst of life and all its shared relations in all its modalities and aspects
- reflecting on the essential themes which characterize the phenomenon – looking for the essence behind the appearance
- describing the phenomenon through the art of writing and rewriting – bringing into speech that which shows itself precisely as it shows itself.
- maintaining a strong and oriented relation to the phenomenon
- balancing the research context by considering parts and whole

All of the six structures have been adapted in the present inquiry. The third method, reflecting on essential themes, will particularly be guiding the analysis and development of themes from the data material, and in the following I will try to encircle what is meant by a theme.

7.2.3. Formulation of themes

The identification of themes, categories or issues is a central way to make structure in an analysis. Van Manen described how the formulation of themes in a text can be done with ethical sensitivity, and that there are more ways of doing this. He meditated over the definition of a ”theme” in the following sentences (ibid p.87-88).

1. Theme is experience of focus, of meaning, of point.
2. Theme formulation is as best a simplification.
3. Themes are not objects one encounters at a certain point or moment in a text.
4. Theme is the form of capturing the phenomenon one tries to understand.
5. Theme is the needfulness or desire to make sense.
6. Theme is the sense we are able to make of something.
7. Theme is the openness to something.
8. Theme is the process of insightful invention, discovery, disclosure.
9. Theme is the means to get at the notion.
10. Theme gives shape to the shapeless.
11. Themes describe the content of the notion: a good theme formulation somehow seems to touch the core of the notion we are trying to understand
12. Theme is always a reduction of the notion.

Given the aim to reflect on the unreflected stream of lived experience, to me the formulations ”giving shape to the shapeless” and ”to capture the phenomenon” seem to be central. The formulations ”needfulness or desire to make sense” and the required ”openness” to the theme have inspired me as a researcher to be sensible, involved and deeply reflective in order to be able to extract ”emerging lived meanings” from the data material.

Van Manen specified three ways to uncover or isolate thematic aspects of a phenomenon in a text: the holistic or sententious approach, the selective or highlighting approach, and the detailed or line-by-line approach (ibid p. 92-93). The selective approach focuses on sentences in the text, and the line-by-line focuses on single lines. When using the

holistic approach, as will be done in this analysis, one tries to attend to the text as a whole and ask: ”What sententious phrase may capture the fundamental meaning or main significance of the text as a whole?” (ibid p. 93). The meaning is expressed by trying to formulate such a phrase. Van Manen exemplified this with a text of a mother's concern for her boy who refused to do his homework. The sententious phrase was,”A parent's need to know how to act tactfully toward a child in the child's best interest.” This sentence actually surprised me as it was adding quite another perspective to the text than could be found directly. In a way it transcended the text and brought in another dimension probably as a result of the reflection of the researcher and the researcher's central interest of improving the conditions for ethics and tact in relation to children. The example has served as a motivation to allow myself to try to go inside and above the texts in my data material, realizing, if possible that to do this elegantly requires mastery and training.

7.2.4. Multiple Case study

The Danish professor of sociology Bent Flyvbjerg, who has worked intensively with case studies, wrote, “..summarizing case studies is often difficult, especially as concerns case process. It is less correct as regards case outcomes. The problems in summarizing case studies are due more often to the properties of the reality studied than to the case study as a research method. Often it is not desirable to summarize and generalize case studies. Good studies should be read as narratives in their entirety” (Flyvbjerg, 2006, p. 241). He is not speaking of multiple case studies but I find it important to remember his view in order to maintain the narrative quality of a series of case studies.

There is a broad tradition of case studies in music therapy, using a web of theories and methods (Aldridge, 2005; Bruscia, 1991). The case study has been described as the opposite to the experimental trial: ”Case study research, be it quantitative or qualitative, is perhaps the most promising form of inquiry to counter the quantitative experimental group design as advocated by evidence-based medicine” (Smeijsters and Aasgaard, in Wheeler, 2005, p.453). In this study the case study hopefully will not figure as a counter to the experimental trial, but as a completion. In the overall design the case study is intended to shed light on and broaden the understanding of the processes underlying the statistical results. The case study also serves to explore the main themes of the first horizontal analysis in further detail. The case study can thus be defined as explorative rather than evaluative, it is illustrative more than theory-testing or theory- producing. It is retrospective because it looks back at cases that have been completed. According to the GIM researcher Denise Grocke four different case study designs have been applied to investigate GIM phenomena: the individual case study, the collective case study, the negative case study and the heuristic case study (Grocke, 2004). In the present GIM study, a collective or multiple case study has been chosen: ”The collective case study describes several clients who have an aspect of common need, where the commonalities between the clients are noted and identified” (Grocke, 2004, p. 102). In a multiple case study of GIM with 20 men carrying AIDS virus, common themes in the different therapies (as for instance initial imagery of deceased family members, forgiving others, getting even with death and life) were the findings of the study (Bruscia, 1992). In Clark's study of four GIM cases she looked for traits of Cambell's Hero's journey across the cases (Clark, 1995). There are obviously both deductive and inductive modes of carrying out the multiple case comparison.

Baxter and Jack in their article on qualitative case study methodology wrote that a multiple case study

> ...enables the researcher to explore differences within and between cases. The goal is to replicate findings across cases. Because comparisons will be drawn, it is imperative that the cases are chosen carefully so that the researcher can predict similar results across cases, or predict contrasting results based on a theory (Baxter & Jack, 2008).

Unlike the described attitudes to multiple case comparison, Robert Stake who worked with methods of multiple case studies in social sciences discussed the use of comparison as a contrast to the ”thick descriptions” of a phenomenological study, where exactly the particularities make the case special: ”In such particularities lie the vitality, trauma and uniqueness of the case” (Stake, 2006, p. 83). He names the use of the multicase study as selected cases chosen for better understanding of the ”quintain”[30], without giving up attributes to comparison, but leaving it up to the reader to eventually compare the cases. He stated, ”The ideal for most naturalistic, holistic, ethnographic and phenomenological case studies is to provide description: subjective, potentially disciplined interpretation; a respect and curiosity for culturally different perceptions or phenomena; and empathic representation of local settings. Avoiding stereotypes is part of the ethic. Direct comparison is somewhat out of place in such a mix”. (ibid, p. 84). However, the rest of his book is employed with methods to merge and compare findings across cases.

The discussion of using case narratives versus carrying out a comparison went on in my mind for some time, and I finally decided that in this multiple case study the exploration and investigation of different kinds of processes in the four chosen cases will be done with an analysis of each case according to the themes in the research question. Instead of doing a case comparison, the findings will afterwards not be directly compared or put into schemes but will be reflected on across cases in the form of reflexive writing.

As seen below, the choice of cases will be based on principles of diversity, so it will be hypothesized that the findings will also be contradictory and diverse. The cases hopefully will provide an understanding and produce new knowledge of various ways to cope with work stress in GIM.. In order to be able to compare the findings from the four case studies in a reasonable way, I will develop a work sheet and organize themes for the comparison that have to be clear-cut, even with the risk of simplification or reduction of the nuances of the first findings.

7.2.5. Method of selecting the cases

Selection of cases can be guided by different criteria. Flyvbjerg (2002) described two main criteria as a) random selection (providing possibility for generalization within the population or subgroup) and b) information oriented selection (where the expectation of obtaining information content is in focus). In the latter type there can be the possibility of choosing

1. Extreme or outlier cases (that can provide unusual or special information)
2. Cases with maximal variation (to obtain information on the significance of different circumstances for case process or outcome)
3. Critical cases (that makes it possible to make a logical deduction: if this is valid for this case it is valid for all cases)
4. Paradigmatic cases (that makes it possible to develop a metaphor for the research area).

[30] A concept meaning the target of the study; ”for the proverbial blind men describing the elephant, the elephant is the quintain” (Stake, 2006, p. 6)

In the present study I have chosen the maximal variation of cases because I would like to identify how the imagery of embodiment and work stress processes is experienced by persons with different gender, age, profession and stress symptoms. I identified the following criteria for the selection of cases:

- They should divert regarding the following categories: study group 1 or 2, gender, age and profession
- They should shed light on different themes and journey styles
- They should each represent varying themes from the main theme analysis
- They should be rich, complex and personal
- Despite their individuality they should also be representative of different sorts of problems typical of work-related stress

At last I thought of the possibility to add a negative case, in order to fulfil claims of validity/trustworthiness (Smeijsters, 1997). A negative case in this study could have been a case where a participant dropped out or felt worse after the treatment, or a case where the protocol had to be changed profoundly in order to serve the participant's needs. According to these criteria none of the cases could be defined as negative cases.

7.3. Validity of the method

Claims of trustworthiness as an umbrella concept of validity, reliability and generalizability will be described as a way of securing the quality of the qualitative analysis, and the ways that the study fulfils the claims will be lined up.

7.3.1. Trustworthiness

In order to secure the scientific integrity of a case study trustworthiness and authenticity have been defined as central concept by Lincoln and Guba (1986). Four ways of obtaining trustworthiness were described by Smeijsters and Aasgard: Credibility, dependability, confirmability and transferability (Smeijsters and Aasgard, 2005, p. 444-45 based on Smeijsters, 1997). These categories are relevant for the whole qualitative study and will be further explored:

The credibility criteria refers to the connection between the reconstructions of the researcher and the reality of the ”constructors of the original multiple realities” (Smeijsters and Aasgard, p. 445). Are the patterns ”sound, well grounded and valid as experienced by the participants”? (Smeijsters, 1997, p. 39) . He also mentioned that, ”The procedure researchers use to increase the probability of obtaining credible findings, show that they try, for instance, to prevent distortions, selectivity, and biases. Researchers want to identify relevant characteristics, those things that really count” (ibid, p.38). According to Smeijsters, the credibility could also be called a form of ”internal validity” that can be strengthened by using a multiple case study approach, where treatment is replicated (ibid, p. 33). Smeijsters further discussed to what degree the researcher looks for connections and relationships, rather than for causality.

In order to obtain trustworthiness in the present study the themes interpretations and relationships between imagery content and concepts have to make sense in relation to the participants. I do not understand it the way that the interpretations have to be fully agreed

upon or accepted if I had made a member check, but rather that they should seem meaningful and relevant to the life themes and experience that they describe.

Dependability is about the way of exploring data: the need to make sure that all data have been accounted for and all reasonable areas have been explored. Smeijsters (1997) mentions that concepts as ”interreliability” and ”intrareliability” are at work, and that repeated observations and multiple perspectives can be applied to ensure the dependability of the analysis. In the horizontal analysis all data will be analysed and accounted for, and in the vertical analysis (case studies) I will present the cases as long narratives so that the interpretation of the chosen issues (body imagery and coping) can be regarded in context. As hermeneutic analysis includes going back and forth between interpretation and analysis there will be much checking for dependability.

Confirmability is about the possibility for an independent auditor to check the chain of evidence leading to the research findings. Smeijsters (1997) discussed the concept ”objectivity” as part of the confirmability, and the importance to secure that the findings come from data and not from the researcher's preconceived ideas etc.. In order to fulfil this prerequisite of trustworthiness there will be a record of the phases of interpretation (hermeneutic cycles) and the steps in the analysis. The interpretation of data will be based on material to be found either in the long narratives or in the appendix, so that the process is presented clearly and transparently.

Transferability is about the description of data, in order to make it possible for other researchers to look for similarities in their own data material. The possibility of transferability is very important in order to add to the body of knowledge on a subject. The way to obtain transferability is to make ”multilayered description of the original context” (ibid, 9. 39). Smeijsters also links transferability to ”external validity” (ibid, p.39) or the possibility to use the findings in a similar condition, not to confuse with generalization that he thinks is not possible with unique human processes.

In the present study I intend to describe the background detailed and vividly as a means to maintain the multilayered character of the material and to enable transfer of the findings to similar situations or clients.

Other tools to obtain trustworthiness will be: repeated analysis, peer debriefing, using different theoretical perspectives, different kinds of data and triangulation.

Repeated analysis: this way of establishing trustworthiness will come about naturally as the hermeneutic analysis works in circles: interpretation, looking back at data, new interpretation et cetera. The analysis of the cases already began while the therapy took place, and later on each of the cases has been analysed at least two times.

Peer debriefing has been used to some extent, as the results of the analyses have been presented and discussed at PhD seminars in the Music Therapy Graduate School. In May 2008 I did a presentation of the results from the pilot study with one case study. I presented the theory and ideas behind the qualitative part of the study with an analysis of mandalas from a pilot case, and in 2011 I presented the results of the qualitative analysis. One of the case studies of the vertical analysis was presented at an international PhD seminar for qualitative researchers at Copenhagen University in 2010, and also in 2010 a case was presented at the European GIM conference. I have also had monthly peer meetings with a PhD student working with qualitative methods from 2008 to2010 where great many of the questions connected to the analysis have been discussed. Feedback from all these presentations has been integrated in the analysis.

The use of different theoretical perspectives: As described in the literature review, several perspectives have been guiding the analysis. The analysis of embodiment and body imagery is guided by traumatology (Levine, 1997; Rotschild, 2000), by theory on metaphors (Johnson, 2007), by theory of illness narratives (Frank, 1995), and by knowledge of the brain processing of sensory information. The analysis of coping has been guided by theories of emotional coping (Lazarus,1999), by theories of coping in GIM (Goldberg, 2002), and by theories of recovery from trauma (Levine, 1997).

Using different kinds of data: Several types of data are involved in the analysis. Written transcripts from therapies, quotations of the participants' own interpretations and evaluations, mandala drawings as well as music playlists will be used as data. As already mentioned, the use of a negative case could have been a way to shed light on the other findings. One of the pilot therapies ended prematurely after four sessions and may in a way serve as a negative case because the participant was suffering from severe burnout with cognitive disturbances, and did not have enough energy to meet for the last sessions.

Use of triangulation: The use of triangulation has not been a primary source of trustworthiness as I am the only researcher to analyse data. However, some use of triangulation will be made as the qualitative data will be compared to the quantitative data in each of the case studies.

I have prepared a member checking phase of the final interpretations of the four cases.

Structured interviews of the four case study participants were also originally planned for, but because of lack of time and the complexity of the study I had to leave it out.

7.4. Data collection and handling of data

The data included the therapist's transcripts and notes from the sessions. During the verbal conversation at the intake interview, at the data collection meetings and at the follow-up meetings I made notes of the conversation. I did not write down word for word except when the participants spontaneously came up with evaluation statements about their therapies. These statements were written down. The participants filled in a form where they wrote personal data relevant for the study such as age, profession, date of sick leave, civil state etc. In the GIM sessions I made brief notes of the verbal conversation before and after the music journey. As the journey began I noted the focus of the journey, the choice of relaxation method and the music programme. During the GIM journey I wrote all the words that were spoken by the therapist and the participant. In order to obtain specific information of the bodily processes I also observed the movements and expressions of the participants during their journeys and made notes on observed changes of bodily position, yawning, reddening cheeks, crying, laughing etc. The noting of bodily cues are not a standardized part of noting in the GIM method.

In the end of the sessions I photographed the mandala drawings by placing them on the noticeboard, using a Sony DSC-V1 camera with flash. At the sixth session the participants brought all their mandalas and put them on the noticeboard for a discussion of the whole process. I also took a picture of all the mandalas together for all participants. The photographs were stored on the hard disk of my computer, (and backed up on the server) and they were numbered with participant ID and session numbers.

7.5. Ethical considerations

Van Manen (1997) described the responsibility one must take as a researcher for the changes the research can produce – in participants, in other persons influenced by the study, in institutions, and in oneself as a researcher. Both positive and negative influences can appear. The ethical considerations concerning the study and the ethical scientific committee have already been dealt with in the chapter on Quantitative methods. I will supply this by ethical considerations specific for the qualitative part of the study.

7.5.1. Ethics in connection to participants

I have been paying special attention to the ethical considerations regarding the sensibility of data in the study. Transcript data from GIM journeys include written notes about experiences of the participant when being in an altered state where the openness to unconscious material is more easy and unguarded than in normal and daily conscious states and conversation. Some of the observations of the therapist also included the observation of bodily processes such as yawning and sighing that neither is part of what a person controls is nor is brought into awareness in a normal therapeutic conversation. All the same, such observations are traditionally noted in GIM transcripts. Accordingly, a researcher must handle this data material with great tact, and the respect for the participants must be guarded by all means. It is important that the participants who gained confidence in me as a therapist also can feel secure, respected and protected by me as a researcher. The ways to accomplish this have firstly been to exclude from the analysis all personal data that could identify the participant., Secondly, I have formulated two guidelines for the analysis that concerned my attitude to the analysis: 1) The analysis should be written in a way where ”it could have been me”: I have tried to write in an empathetic way with the ”third person's perspective” in mind: what I thought and wrote about a participant I should be able to present to this participant so that he op she would be feel respected or even proud of him/herself. 2) I have been inspired by Arthur Frank's studies in illness narratives and the story of the illness told about and through the body (Frank, 1995). I would prefer the analysis to be an empowerment narrative both for the participants (if they ever read it) and for other people suffering from chronic stress. This means that the purpose of the analysis was not to interpret and expose the individual as by a dissection, but to find the common in the individual and try to tell a healing story.

This attempt could have some biases, for instance if there were any negative consequences of the therapies taking place or even negative cases they risked to be disregarded. I have taken this into consideration, having tried more to refine the attitude towards the material.

7.6. Overview of the whole analysis

The structure of the analysis will be shortly outlined, and then a description of the methods and sequencing of the single parts will be presented.

1. Researcher’s stance and pre-understanding (self-hermeneutic)
2. New understanding gained from the pilot study with three persons
3. Horizontal analysis of all 19 cases
    a) Main themes in journey foci

b) Short descriptions and short narratives
c) Main themes in whole journeys
d) Participants' comments to therapy
e) Music: categories of the repertoire
f) Participants' comments on the use of music CD at home

4. Reflections on relations and work stress

5. Vertical analysis: multiple case study.

In each of 4 cases:

a) case contextualization
b) case description
c) short comment from therapist
d) analysis of body process, coping and life changes
e) use of music in relation to body and coping
f) questionnaire data and physiological data

6. Cross case comparison and synthesis

7. Summary of findings

7.7. Specification of methods in the horizontal analysis

The horizontal analysis of the complete transcript material (all 19 cases) produced an overview of the complete material and the themes that occurred. The process was guided by the attempt to "let the material speak" and not exclusively much by the focused themes from the research questions. This phase of the analysis was meant to serve as a background material for the case studies but also to serve as an exploration of which issues the participants worked with in their attempt to recover from stress.

Already during the data collection and working with the therapies, I as both a therapist and a researcher started to establish a first impression of typical themes. I made notes in my research diary. What surprised me was that as the inclusion and treatment of participants took place over a period of 1 1/2 year it seemed as if each new subgroup of two-three participants uncovered a new facet of being on sick leave with stress.

Right after finishing the data collection I did an initial analysis of themes based on the foci of the journey. The focus of a journey was identified through the communication before the journey and was repeated after the guided relaxation as the traveller entered the music listening phase of the journey. Looking at the foci of all the journeys as they were expressed by the therapist in the transcripts, eight main themes were identified. I made a list of all the foci and grouped them. Afterwards I grouped the eight themes into three meta-categories. The main theory that seemed to inspire the formulation of meta-categories was stress as trauma and the recovery from trauma (Levine, 1997; Körlin, 2005; Beck, 2010). A list of the eight themes can be seen in the appendix.

The main part of the horizontal analysis was carried out one year after finishing the data collection (where I worked with the quantitative data). Having waited a year made me able to leave the identification with the therapist role and be more settled in the role as researcher and interpreter.

7.7.1. Methods for the definition of short descriptions and narratives

I read all the notes and transcripts for each case and looked at the mandalas. After having read a session transcript a period of contemplation of the imagery and process was carried out, as the material was very multifaceted and moving. I used van Manens holistic approach and formulated sententious phrases of 1-2 lines for each of the six journeys of all the participants. Some of the descriptions presented core imagery[31], some presented processes and some descriptions tried to catch the theme or themes of the sessions. Processes of a journey could be the progression of action or surrender, developing metaphors, the transformations or the unfolding narrative. The themes could be the content of the journey, or an expression of which feeling, quality, life issue or pattern the journey was touching. The process at times felt reductive as the richness of the material was difficult to condense. The process also was highly interpretative, as another person might have attached weight to other aspects of the sessions. I tried to look through the whole web of sub-themes in the single journeys and to capture what seemed to be the essence of the journey. I went back and forth between phrase and data until I felt that the phrase was satisfying and covering. I called these phrases or condensations of each journey "short descriptions" and organized them in a spread sheet.

In order to capture the essence of the whole of the single therapy course, I also used the holistic approach to formulate sententious phrases about the content or direction of each complete case. I called these phrases "Short narratives" and added them to the spread sheet. I formulated the narratives shortly after having worked with a complete case. Sometimes the narrative fell into place immediately, and sometimes it had to be reformulated several times. After having formulated the narrative, I looked at the six short descriptions of the sessions to see if there was a logical connection between the short descriptions and the narrative. I used Frank's three illness narratives: chaos, restitution and quest (Frank, 1995) as a help to formulate the phrases (for instance "a quest for freedom and new strength"), but after having formulated all the short narratives, I divided the narratives into two different categories. One was the identification of already known narratives types such as the three mentioned above. In some of the cases there was a development from restitution to quest which I marked with an arrow. The other category of short narratives was a reformulation of the first narratives so that they told the unique story of each of the therapies not related to already known narrative types. The two categories of short narratives were placed under the short descriptions in the spread sheet under the labels: narrative of the therapy course and narrative type.

7.7.2. Method for the identification of main themes

The purpose of identifying main themes has been to try to get an impression of which kinds of themes are at work in the GIM therapies with this special population and of how often the different kinds of processes are represented in the material. The method used for the identification of the main themes across all the GIM journeys was an emerging method based on the hermeneutic circle of going back and forth between themes and data. In an attempt to understand and uncover the inherent experiences connected to bodyself and coping in the whole material I searched for "typical" issues, scenery and processes. I could have chosen to

[31] "Core imagery" is defined in the GIM literature as the central, most significant and important imagery content of a journey (Bonde, 2004).

use a qualitative method that was very systematic, for instance ”qualitative coding” (Robson, 2011, p. 467) where each imagery type or scenery could have been coded, all codes could have been labeled and the labels grouped together in themes. Even though this could have helped me to deal with the large amount of data, I also wanted this part of the analysis to be open to underlying structures and meaning (in alignment with the hermeneutic attempt to uncover the unknown). By doing so I risked to overlook some data, or to stick to already identified patterns as described by Robson. On the other hand, I had to trust my unconscious and ”dreamlike” processing that I connected to my understanding of the ”spirit of GIM”.

My first thought was that the eight main themes that I had identified earlier from the journey foci (while writing about the study for a journal, see the spiral figure 7.1) could serve as the core part of the main themes. But as I came closer to the description of unfolding journeys, I discovered that there were other themes much more important than the initial eight themes, and I had to start all over again[32].

In the phase of working out the themes I truly got into a phase of incubation (a working phase from heuristic analysis formulated by Moustakas (1990)) where all the data were processed ”under the surface” and I had to wait for the result to manifest. It was a feeling of being under water and swimming in an ocean of imagery content without any clear contours. After some time I became able to formulate new main themes and I worked on a way to separate them from each other. The selection of main themes was at times complicated, as the nature of GIM is to process a variety of themes in intertwining modalities. The identification of main themes, thus, both served as a way to clarify tendencies in the material and compromised the complexity and process-related qualities of GIM work. Hence, the identified themes are not to be regarded as a final definition of the single journey since many, but not all, of the journeys are a web of side-ordered themes and processes. To be as true to the material as possible, the main theme of the single journey was estimated with caution.

I identified 16 themes, which I later reduced to14 themes because the two last ones were represented in only one to two journeys. I did not exclude the last two themes because they were not important, but because I found it more interesting to describe main themes that were represented in many journeys. The excluded themes are described in the results chapter. Actually, the quantification of the journeys played a role in the process. I sorted out the journeys in a spread sheet in order to see how many times each of the themes was represented. After having placed more journeys under a main theme, I consulted the journey transcripts again to see if the journey still fitted there. Each of the journeys was offered the place in one or two categories to catch the complexity as truthfully as possible. I allowed each journey to cover maximum two of the themes. Using the quantification helped me to get an overview over the material. In some cases I also looked at the mandala drawings because they often served as a way to identify which part of a journey had been the most important for the traveller.

After having finished the process I began to look for a way to organize the 14 themes in a structure of meta-categories. As I worked with this, I discovered that I was not working so much with the stress as trauma idea anymore, but that I got increasingly interested in how the themes were connected to different kinds of relationships. More details of this process will be described in the results chapter. As I looked for sorts of relations in the themes, I discovered that I needed to reorganize some of the themes, and actually I changed three main themes and

[32] The first definition of themes was established only when looking at the foci of sessions. It is obvious that as the GIM journeys unfold it often happens that the actual process differs from the initial focus, and in some cases the journey takes a totally new direction. Therefore it could be foreseen that an identification of themes of the journeys based on the whole transcripts would differ from the first draft.

moved some of the journeys around. This second process actually shed light on the degree to which new layers of meaning can influence the interpretation and categorization of the raw data. The process of going back and forth between transcripts, main themes and meta-categories was like holding a fluent and vibrating material in the hands, where the choice of focus would crystallize into a certain structure. Another structure could also have emerged from another focus, and the process of getting deeper and deeper into the material and to gain insight into new kinds of structures could have been continued. I used saturation or the feeling of having reached a plateau as a guiding principle of when to stop the interpretation. This process taught me a great deal about how a new idea or a new layer of interpretation can influence the whole structure and the results of the analysis.

In order to be able to present the main themes in an understandable way I decided to find an example from the journeys for each of the themes. I took one example from almost each of the participants so that a broad tapestry of examples could be weaved. As I formulated the single example as close to the transcript as possible but also with a few descriptions of the relation to their lives (as intended in the research question), I also found it appropriate to add a comment to each of the examples. In these comments I allowed myself to interpret the journeys relating to each topic or theme so that the meaning of the theme could unfold and get life.

The horizontal analysis could have been completed here. But in order to be able to analyse the topic using several sources of data, I decided to add a few more perspectives to the horizontal analysis.

7.7.3. Method for the analysis of the participants' evaluation

This part of the analysis was very short and regarded the participants' spontaneous verbal evaluations of the therapy as they occurred, most frequently in the follow-up meetings. All the notes were sorted in groups according to theme, and quoted.

7.7.4. Methods for the identification of music categories and use of music at home

This part of the analysis is not directly connected to the research question and must be regarded as a digression. The process of modification of GIM to the stress population and the creation of the CDs with special pieces constitute the background for doing this evaluation. I looked at the music pieces that were actually used in the sessions, and categorized them in order to evaluate if the participants in fact did need a musical modification of GIM. I defined categories of music and quantitatively looked for the number of times the different categories of music (supportive/evocative) were played and where in the course of therapy they were situated.

I noted the spontaneous comments on the way the participants used the music CDs at home during the study. I will quote these comments and identify and list up the objectives of listening to music that I can find. The method of this is similar to the formulation of themes as described in the horizontal analysis.

7.8. Specification of methods used in the vertical analysis

As described above the vertical analysis intended to investigate data in depth in the form of a multiple case analysis. My first intention when considering the choice of analysis method for the case studies was to try to make an interpretative narrative for each case and later

compare the cases. I carried out a narrative interpretation with one case, and evaluated it. I appreciated the way the case analysis was unfolding, but I found that the focus on body and stress became unclear, the analysis became too detailed, and I also thought that it would be difficult to compare four very different case narratives. I decided not to use this method. Instead I separated the case narrative (which functions as the first layer of interpretation) from the analysis of bodyself, coping and life changes. After this analysis a short analysis of the role of the music in each case was described and data from the questionnaires and physiological measurements were analysed and compared to the rest of the case analysis. In this way the multiple case study got a deductive character because the overall themes were already defined. It provided a common structure for the whole multiple cases study that enabled the comparison. In each of the cases sub-themes appeared in each of the analysis categories.

After having completed the four analyses, the three themes bodyself, coping and life changes were compared between the cases, and the role of music related to themes was summed up and discussed.

7.8.1. Mandala analysis

One way frequently used in GIM to look at mandalas painted after music listening is to look at colours, shapes, numbers and symbols, and base the interpretation on the model "The Great Round of the Mandala" (Kellogg, 1982**;** Fincher, 1991), which is a "map" of 12 to24 typical figures or ways of structuring the circle, symbolizing the developmental processes of the body as well as the soul. In this study the mandalas were not analysed systematically with the use of this or other image analysis methods. The mandalas figured as "text" to accompany the analyses of the four cases where I had been looking for expressions of bodies and body parts to get a deeper understanding of the processes of embodiment, coping and stress release in the therapy courses.

7.8.2. Analysis of Bodyself

Data material for the analysis of the bodyself in GIM is the part of the transcripts where there is information on bodily experiences, the therapist's observation of movements, gestures, breath etc. from the sessions (in transcripts). The mandalas with body-related imagery were included in this part of the analysis as well.

The theory used as a background for the analysis are the theories lined up in chapter 2.

At a first look at transcript data I highlighted all the places where I found body-related descriptions. Looking at these body-related words I was able to judge to which degree the participant had body-related imagery (instead of for instance dominating visual or auditory imagery). The character of body imagery could also be identified, for instance if there was predominantly imagined or real movements, pain or predominantly interoceptive or exceroceptive sensory experiences.

As the main part of the analysis I looked for body-related processes that occurred in the whole range of sessions, for example the development from stagnation to movement, or the significance of a colour or energy in the body. As the analysis was exploratory, I looked for appearance of a broad range of phenomena and their development.

1. Body imagery and body scheme (how was the participant seeing her or his own body, body contour and shape, balance, missing body parts etc., especially in the mandalas)
2. Pain processes (were there any processes where symptoms or pain were changing during the music listening and how did this happen?)
3. Relaxation (how was relaxation experienced and how did it influence the body state?)
4. Trauma-related processes related to the nervous system (were there any signs of changes from sympathetic to parasympathetic activation or vice versa, were there freeze, fight or flight responses?)
5. Sensory mode (what kind of body imagery was present and how did it change?)
6. Grounding - embodiment (did the participant experience a process of being more or less in contact with the body, being more present in the body, more aware of bodily signals/messages?)
7. Movement (how was the balance between movement and immobility? And what were the qualities of movement?).

What especially interested me were the processes of the nervous system (inspired by Levine, 1997, and other trauma therapists) and the way the participant with the help of the music came more into contact with the body. I also looked for phenomena that I did not know or think of before the analysis.

Some of the bodily processes would seem difficult to understand, as they represented processes that were not conscious. By focusing on the bodily processes I hoped to get more knowledge of how the process developed specifically on the body level, and by using the different theories I hoped to get access to an understanding of what the bodily imagery "meant" especially in relation to stress. Many of the bodily processes were closely related to coping processes, for example when looking at emotions. If it seemed relevant that I tried to analyse them from both a bodily and a coping related point of view.

7.8.3. Analysis of Coping

Data material for the analysis of coping came especially from the parts of the sessions where work-related problems were in focus. I looked for coping mechanisms and processes that emerged from the music listening and imagery. As stress from private life was intertwined with work stress I briefly noticed any development in coping with other kinds of stress than work-related stress.

Questions guiding the analysis coping mechanisms were:

1. Which coping method dominates; appraisal-focused, problem solving or emotional coping?
2. How are resources mobilized?
3. Are there defensive manoeuvres in the journeys?
4. How are acts of coping in the journeys connected to the body?
5. Does the participant develop new ways of coping during the journeys?
6. How are processes of renegotiation enacted?

The coping theme touched the specific problems related to work stress (coping skills in work life and relations), but also to the defensive manoeuvres or the development of spontaneous ways to cope with threatening imagery or music.

7.8.4. Analysis of Life changes

It was very interesting if the participants themselves could notice any of their therapeutic experiences influence or change the way they dealt with life and stress. Data for the analysis of how the processes of the GIM sessions were integrated in or changed the daily lives of the participants were only based on the participants' information as told in the sessions. This part of the analysis was more superficial than the others and served as a perspective on the development of body and coping .

7.8.5. Music related to analysis

As musical and inner body dynamics were assumed to be closely connected (Johnson, 2007) I found it important to take a look also at the participants' relation to music and how it unfolded. It was done in an exploratory way, describing the outstanding events where music specifically played a role, in order to understand the dynamics and progress of embodiment and coping in relation to music.

7.8.6. Quantitative data related to analysis

The integration of the individual questionnaire data and physiological data served as a sort of triangulation. Questionnaire total scores and the blood pressure and hormones data were included in the analysis and the development of the measurements were compared to the whole case. A graphic representation of the diurnal changes in cortisol with reference levels was included to be able to see the diurnal curves and the way they changed during the participation. This kind of data had not been presented elsewhere in the study, and a first interpretation of possible typical patterns was carried out.

7.8.7. Summaries for the case comparison

All the findings were summed up in sentences that described the effect of GIM. The sentences were sent to the four participants by mail for member check.

7.8.8. Case comparison

The findings from the case studies were inserted in a work sheet inspired by Stake (2006). Before doing that I looked at the themes, gave them priority, and looked for similarities and contrasts. The findings of the comparison were summarized and reflected upon in the form of a final “reflexive writing”.

7.9. Summary of methods

The methods for the qualitative analysis are based on a hermeneutic phenomenological philosophy. A horizontal analysis of data (all transcripts) has been made including formulation of themes and narrative types. The participants' comments on therapy and music have been analysed, and the use of music has been analysed using categories. In a vertical analysis a multiple case study including four cases has been carried out, and a comparison

between the cases on the specific themes body imagery and coping with work stress, as well as a summary of characteristics in the music listening has been carried out.

8. QUALITATIVE RESULTS

The hermeneutic inquiry is informed by the theories and methods described in the qualitative methods section. The results of the analysis include a stance of the researcher, condensed descriptions, short narratives and main themes of all journeys and participants. It also includes a short analysis of the music used in the study and a brief presentation of the participants' evaluations of the therapy and their home use of music. The results of the vertical analysis include four case studies with a focus on bodyself, coping and life chances. A qualitative look at the questionnaire data and physiological measurement data will be included in the case studies. Along the analysis results reflections made by the researcher on the process will be added.

8.1. Stance of the researcher

8.1.1. Theoretical background and influences

In the 1980s I studied Nordic Folkloristics at Copenhagen University with special focus on traditional Danish music, dance and ballads. I worked with traditional musicians and dancers in a way that combined the research on and the learning of their traditions. I also undertook feminist studies analysing themes in women's biographies and traditional ballads.

Since I first began to work with therapy and self-development from the age of 17 I have had a great interest in body therapies and the understanding of mind and consciousness related to the body. Alexander Lowen (1976, 1988, 1990), Ken Dycthwald (1978), and many others were part of my early readings. In short I realized that spirituality has to be embodied if it should get any impact in life. I worked with different meditation practices and was inspired by the image of the tree as a metaphor of the connection between body and spirit: the further the roots get down in the earth, the higher the branches can reach. This image inspired me to think about the importance of integration of for instance meditative and inner journey experiences, the possibilities of embodiment and owning of the experience, and the possibility of concrete and conscious actions and ways of living, being and communication with others as a direct outcome of the experiences. I believe that spiritual experiences have a direct echo in the sensation and organization of the body-mind-spirit - for instance when a sense of peacefulness and calm is achieved that prevents conflicts and distress.

During the 1990s I was trained in the analytical tradition by Mary Priestley (Priestley, 1986) in the Aalborg Music Therapy programme in Denmark, and became acquainted with many different theories of music therapy. Besides doing qualitative group reports I also worked a little with quantitative methods supervised by professor Tony Wigram. Originally I was very interested in spiritual aspects of music therapy. Throgh my studies I became increasingly interested in music therapy in psychiatry. During my studies I worked with object relations theories (Balint, Fairbairn, Klein, Winnicott), Smeijsters' analogy theory (informed by lectures and articles, his full theory was published 2005) and Daniel Stern's research. Stern's first publication in Denmark came in 1991, and it led to a profound new way of explaining development and interplay in music therapy that was a great inspiration also for my later clinical work. In my master's thesis in music therapy I returned to explore spiritual aspects of music therapy and also anthropological aspects. In a comparative study of music therapy (GIM) and shamanistic musical healing rituals I especially focused on the use of

music for obtaining altered states of consciousness, and how the meeting with ”imagery” versus other worldly beings was interpreted differently in Western culture and in tribal cultures (Cissoko, 1996). The scientific method was interpretational and phenomenological, and I also involved my own experiences of different kinds of journeying in the study (heuristics). I used theories of C.G.Jung, Mircea Eliade, Gilbert Rouget, Robert Assagioli, Michael Harner and many more. I was interested in discussing different descriptions of what was behind the inner visions – the “unknown” that in shamanic cultures was seen as a parallel universe with spirits, and in Western psychology was seen as the unconscious. The answer I found was that whatever energy is behind an image or a spirit, the listeners interpret and form the image according to their own expectations and cultural background. I also discussed different roles of music for the process of entering altered states of consciousness.

When I trained as a GIM therapist (1996-2004) some of the clients I worked with happened to come into contact with traumatic memories during their music experience. I began to study traumatology in order to find ways to work constructively with trauma in GIM (Herman, van der Kolk, Rothschild, Wilson, Körlin and others). One of my tasks as a GIM trainee was to lead groups of young women in a psychiatric outpatient clinic (2003-4). I developed two questionnaires to evaluate the effect of the treatment, and found it quite satisfying to have numbers and graphs that documented the effect of music therapy. My interest in trauma brought me to work with PTSD and traumatized refugees, and when I started on the PhD my intention was to study music therapy with traumatized refugees. In the present study, I combine the interests in trauma and stress with different theories around the concepts body-mind and embodiment.

Even though my stance as a researcher is very much grounded in qualitative methods, I have earlier taken small steps towards the mixed methods research method I undertake in the present study.

The stance as a researcher, which I take at the entrance of the analysis, is braided together of a holistic approach honouring our human interconnectedness and interdependence (ecology), feminist research aiming at liberating/empowering the powerless or marginalized people that we often work with as music therapists, and a genuine interest in the pragmatism of improving or finding new ways to go in music therapy treatment,

8.1.2. Pre-understanding of GIM in stress treatment

As prescribed for a hermeneutic inquiry I will present my pre-understanding of GIM for stress treatment as it was before the beginning of the present study. Instead of using the word for “listener” that the GIM client used in the literature review I have used the word “traveller”, as I entered GIM after having worked for some years with shamanic journeys. .

Before undertaking the present study I had been writing up the elaborated proposal of the first PhD study of traumatized refugees, and I was eager to carry over the knowledge of traumatic stress to the new (present) project. As I planned to work with work-related stress, I assumed that the stress reaction, like trauma reactions, would include:

- Reactions to situations at work similar to traumatic overwhelm
- Freeze reactions and numbness
- Withdrawal or avoidance reaction to people, themes or places at work
- Hypersensitivity to sound
- Cognitive problems (attention span, concentration, memory)

I assumed that treatment would include:

- Establishment of resources at the beginning of treatment
- Cyclicity of resource and ”trauma” work
- Use of calming music and relaxation to stimulate the parasympathetic part of the ANS
- Contact with emotions while music listening

I was very interested in the methods of recovering from stress that were focused on bodily sensations, completing trauma responses and discharge, and I assumed that they would work for the stress population as well.

I had been observing many GIM journeys that involved a lot of imagery related to body sensations, and had not found very many descriptions that focused on this in the GIM literature. Chronic stress involved, I assumed, in one way or another that the person has had to close down the signals from the body, and live more or less on will power. I assumed that as stress to a high degree manifested as bodily symptoms, the recovery process might also be monitored in the body- related imagery.

I remember discussing the causes of stress with the leader of the occupational health clinic and we agreed that, besides bad psychological working environment, personal traits and patterns could also be part of the problems leading to stress (personal communication, Peder Skov, Køge Sygehus, September, 2009). These personal patterns could also be addressed and worked with in therapy.

In my notes from the planning period I wrote that I thought that persons on sick leave with stress might have many resources that they were not in contact with. I assumed that GIM would help the participants to change the way they dealt with their work (rather than changing their working place which were out of reach for the study). Furthermore, I hoped to help the participants to get a higher self-esteem through contact with their potential: to be empowered, to relax and to reduce depressive symptoms.

In my private GIM practice I already during my GIM training had clients with work stress, and some of them were on sick leave. I learned that GIM could be helpful in the work with the personal problems and patterns that stemmed from their childhood besides the actual problems.

My view on the healing potential of music and imagery is that I see music as an aesthetic and potentially very moving and very gentle force that can have many roles in the music journeys: expand consciousness and awareness, touch emotions, bring movement to deep layers of psychological, existential and spiritual material, inspire the formation of different sorts of imagery, bring integration of different or opposite forces etc. The power of music can help to confront and get even with shadow material and unbearable memories and trauma. The healing potential of deep music listening has the potential to reflect human potential, beauty, basic goodness, and our striving for integration and individuation. The music holds the traveller in an altered consciousness where he/she can access deeper layers of him/herself. I speculate if when the GIM method was born there was a tendency to seek trips and human expansion, where today's GIM more and more is modified to be able to help ill people to regain their homeostasis and cope with distress and pain. In relation to stress treatment I think that the music can function as a “mother” cradling the restless child, representing a safe and comfortable space. However, the possibility of genuine healing was inherent in the thoughts of Helen Bonny when she created the method.

I have accepted that illness and death is a part of life and that it is more humble and respectful to my own and other peoples' struggles with illness to see it as inevitable part of life that we sometimes have to accept and that the real lesson is how to listen to the lessons and become more open. Much like the Buddhist teachings about life as change and suffering, where the compassion with ourselves and all living beings is the way. To nurture a gentleness and acceptance towards ourselves and others, sharing the challenges of life is an attitude that can be compared to the emotional coping style.

I do not see the relation between music and imagery as causal (for instance if "sad" music necessarily brought sad memories or dark imagery) but I think that the music offers several possibilities to pick up on for the client, for instance the interplay between orchestra and soloist can inspire an inner dialogue between the traveller and a relative or a group, overcoming loneliness. Or the repeated melody as a signal of soothing and calming, "everything is OK and remains stable, you can relax". I believe that the character of the imagery and the experiences in a journey are formed by three factors: 1) the music, 2) the traveller's biography, culture and emotional/body state and 3) what I will call the inner wisdom of the traveller The wise part of the traveller can be seen as a spiritual intelligence that is able to direct or inspire the imagery experience which is the best choice to push forward the traveller in his/her development and integration. The wise part could be seen as Jung's Self. The special thing about GIM journeys is that the traveller can be immersed in high states and at the same time there is a present observing mind that can observe and report to the guide, and can direct the experience to some degree.

I think that the process of imagery formation can be beneficial in at least three ways: 1) imagery formation in itself is healing – just to access the alpha brain waves and get into a dreamy state is bringing about relaxation and regeneration, 2) the process of imagery narratives can be very powerful as they allow us to process inner material and work with our difficulties or access beauty and resourceful places, and 3) imagery is bringing about insight and direction when core images represent concentrated metaphors of our lives and how we can act differently, develop ourselves, and be more in touch with our dreams and values.

I am much inspired by Carolyn Kenny's field theory looking at music therapy as a "field of beauty" (Kenny, 1989). She saw the musical journey or improvisation as a sacred space involving trust and intimacy, where the music experience helped to bring about an expansion to an open field. The field of music could open to other fields such as creativity, power, consciousness and ritual.

8.1.3. My own experience of stress sick leave

After having completed the 19 therapies I myself experienced stress symptoms and had to cut down on my work and take care of myself for a couple of months. The process of facing severe stress symptoms led me to a new and deeper understanding of my clients in retrospection. Having chronic stress meant not sleeping properly for weeks or months, being dizzy and fatigued, being worried about the future, and facing old habits that had to be disposed of. The work-related part of my stress experience had to do with the isolation as a PhD student together with doubts about my capacity for fulfilling the work. An issue when having chronic stress was that it is not visible and it is not a "real diagnosis" with fixed symptoms so it is difficult not to force oneself, it is difficult to take it seriously and to be taken seriously, and it is not easy to find out what kind of treatment or help will work. Having heart-related symptoms also stimulated a fear of being seriously ill, even though several tests showed that nothing was wrong physically. I think I better understand the existential

dimensions of severe stress where the biological stress symptoms can be worrying and a stressor in itself, leading to fear of illness and death.

After having felt chronic stress on my own body I have developed an increased empathy with the participants/my clients as a therapist/researcher. I have also developed an interest in how I can support and empower both my clients and other people suffering from chronic stress or other illnesses. As Frank (1995) expressed it in "The Wounded Storyteller", illness narratives can be a great support because they serve as a mirror and a guide for the illness process. This is the background for the way I have carried out the research.

8.1.4. Summary of stance of the researcher

The stance of the researcher section has described my personal interests in the relation between body and spirituality, anthropology and music therapy, my thoughts about the dynamics and aesthetics of GIM and my own experience of work-related stress.

8.2. Experiences from the pilot study

The pilot study was carried out with three women who had been on sick leave for more than nine months (between 1.5 and 4 years of sick leave). They were offered six GIM sessions. From trauma therapy I had got the impression that it was important to begin with a support of resources and a re-balancing phase in which the autonomic nervous system could be switched to parasympathetic activity. Instead the participants began their therapies sensing their bodily numbness and negative emotions during the music listening, and it was only after some time that experiences of positive states and resources occurred. This allowed me as a researcher/therapist to be more flexible and patient in relation to the phases of treatment. One of the participants, who had been on sick leave for four years, experienced such an improvement both mentally and physical after seven sessions that she felt able to begin to work again (starting with a work trial period). She wrote afterwards, "I have been experiencing a severe stress breakdown caused by long-term pressure at work, and I have subsequently been in psychological, medical and physiological treatment, but my depression, headache, fatigue and muscle tension would not disappear." She described how she felt like being in a bell jar during the first sessions, while she worked with different emotions. "It was like the music spoke to my body. My body remembered everything that I unconsciously had used so many resources to forget. It was a liberation to feel that my body got the possibility to "speak out". After the music therapy it feels like my thoughts, feelings and body are connected again, and I have found my melody!" One of the transformations that happened in her therapy was that an initial sense of her body as made of ice began to thaw and move. In the last session she got an image of a white ancient female statue symbolizing that the icy body imagery had transformed into a "goddess" imagery with a sense of strength and wisdom.

Figure 8.1. Mandalas session 3, 4 and 7, pilot client

In the first picture the white icy body were lying still, in the second it moved and got colours and in the third there was again stillness but with an inner dynamic. I saw the process as a symbol of the resolution of a freeze state. Her expressions about the way she reacted bodily combined with her sessions inspired and supported me me to proceed with my inquiry in the body as an important focus for stress therapy. Her process also gave me a lot of hope towards the possibility to help the participants who would come into the study.

One of the other pilot participants, who experienced significant memory and concentration problems, stopped her therapy after three sessions. In the middle session we worked with her recurrent nightmares about her old working place. She was not employed anymore, but she dreamed almost every night that she went back to her old workplace and her former colleagues asked her to stay which she explained was impossible. Listening to music she imagined a way to say goodbye to her workplace, which she never had the possibility to do in real life. I asked her what she needed to do, and she had her old desk burned in a fire in the yard and went out at a dinner with her best friends among the colleagues. After the session the nightmares stopped completely. That supported me in the hypothesis that working with renegotiation of difficult work situations might be helpful with this population.

These first experiences showed out to be fundamental for the work with the chronically stressed. After the treatment of nineteen participants, jumping one year ahead in the research process, the time has come to consider the results of the horizontal analysis.

8.3. Horizontal analysis

8.3.1. Themes in journey foci

As described in the methods section I carried out a preliminary thematic analysis of the journey foci of all the participants. The result of the initial analysis was eight themes, divided into three phases. In the stabilizing phase relaxation and pain relief processes took place, in the working phase contact with inner resources, issues related to sick leave situation and family relationships were worked with, and in the reorienting phase new attitudes, future scenarios and personal music guided stress management were the themes.

The result pointed at some interesting structures in the material but it was merely scratching in the surface. The foci of the journeys only lined up a direction for the journeys, and in many cases the participants took different ways. In the analysis of whole sessions of all participants, a more rich texture of themes will be investigated.

8.3.2. Condensed descriptions of all journeys with short narratives

In the following section the analysis of the whole material of GIM journeys from the study will be presented. The analysis of the transcripts of all the sessions from all19 participants was carried through as a themes analysis. The first step in the process was to make condensed descriptions of all the sessions. I made a table where each participant had a column with his/her six sessions. Underneath the sixth and last session the interpretative narrative of the full therapy course was identified together with the type of narrative.

Table 8.1. Short descriptions of all journeys, and narratives of the therapy courses

Sessi	002 (1)	003 (2)	004(2)	005 (2)	006 (1)	007 (2)	008 (1)	009 (1)	010 (1)
1	Acknowledgement from angels. Safety in grandmother's garden as a child.	Vibrating eyes. Riding bicycle in a new place. Freedom.	Pleasant relaxation. Music evokes feelings of joy, aloneness and fear. White ballet dancer.	Experiencing colours and structures of pain, music as a white cloud, small faces.	Music reminds him of love from grandmother, grandmother's and father's deaths.	Longing for family community, royal persons remind him of being worthy.	Exploring social work situations with an imagined moss green protection shield	Relaxation and searching for a way to be in the GIM situation. Feeling piano trills on skin.	Imagines Mozart and ballet, windswept trees in a field while body feels turned to the right.
2	Confrontation with leader: imagining quitting her job	Remembering grandmother's love, calmness and strenght	Talking about "the failure story of my life". Breathing exercise.	Pain in left shoulder transformed into light blue, hardness, aggression, pushing movements and lightness.	Paralysis connected to leader. Image: a man lying in the bottom of a concrete silo.	Superman-figure being born out of a slime lump, remembering how father and mother left their bodies when they died.	Black substance seeps out of the tensed stomach, crocodile scales protect the soft stomach.	Communication: verbalizing feelings about former leader. Mandala drawing to music.	Conversation about irritation as early warning, and ability to say no. Breathing exercise.
3	Angels taking her to an abyss of love - "rebirth" experience.	Imagining wild and funny activities with husbond.	Story of white flower trampled down and covered by a grey cloud. Tiny sprouts and divided sponge.	Walking by a source, windmill, lying relaxed in the grass and in in a kayak.	Feelings of life threath by leader's fraud and exploitation: "he took a part of my life".	Creativity, paintings with darkness and light, blue/red precious stone	Steep mountain walk with feet as pillows, spiral forms wind up from the earth.	Guided deep relaxation to music. From an experience of thoughts running wild ahead on four motor ways to a feeling of deep peace.	Calming economical emergency: Running horses and rose garden, sensory experience.
4	Mother's burial; forgiving her in heaven with the help of angels.	Experience of competancy in a former work place, remembering mobbing from a colleague in recent work place.	Sitting meditation: white flower and other images in chakras.	Exploration: mountain peak, walking down the green valley.	Change in relation to wife and life: from "square" black/white personality to proactivity and giving.	Vision of working with his own concept "communication therapy" with young woman.	Hexagon light crystal showcase emerges out of darkness, walking on laser beams up in eternal sky above it.	Communication about personality structure. Mandala drawing to music.	Conversation about new strategies (saying no, planning)
5	Working with frustation in solar plexus and receiving positive green energy.	Relaxation and finding ways to handle family gathering	Integrating positive mother role. Anxiety and dizziness (falls off her chair in session).	Tingling sensation in legs, stretching, nerve impulses.	Scanning new possibilities for out-door work tasks	Deep relaxation and energizing the tired body.	Image of resource work place alternates with active confrontations with former leader.	Feeling weightless when walking in a summer forest, stops when unsure about direction.	Experiencing himself as a farmer, follows organ players hands, bodily relaxation.
6	Heart symbol of future work satisfaction: giving massage to children.	Images of relaxing job as a postman to start with after sickleave	Future work fantasy: using caring hands	Relaxing, enjoying nature's beauty in solicity.	Learning to stay with insecurity in the present situation, more neutral to father's death.	Matching music with mandala of "cosmic dancer"	Imagining teaching students in designing with heart and passion.	Deep relaxation and pain in lower back experienced as a piece of wood.	Imagination of life as a farmer, bodily relaxation.
Narrative of the therapy course	Rebirth to a new (working) life with more love of self and others.	Striving for personal space, strength and freedom.	Changing personal narrative from a failure story to a story of self-esteem, care for others and freedom.	Finding solitary ways to relaxation and freedom of pain trusting the inner nature.	Breaking free from a negative relation, learning from life and inner wisdom	Searching for the authentic Self, and for creativity and energy to bring ideas into being.	Going into dark places finding confidence, purpose and skills to express herself with passion in the world.	Nurturing the sensibility: stop to be a victim, take care of self and choose her own direction.	Learning to say no as a network programmer and to realize a dream of a farmers life.
Narrative type	Quest	Quest	Chaos → Quest	Restitution → Quest	Hero's journey	Hero's Journey	Heroine's journey	Quest	Restitution → Quest

Sessi	011 (2)	012 (2)	013 (1)	014 (1)	015 (2)	016 (1)	017 (1)	018 (1)	019 (1)	020(1)
1	Lonely and crying in a foggy landscape. Finding a path with daffodils, her arms reaches up for the sun.	From childhood nature places and barrow, flying up over his car to the Pleiades.	Inner child running in the hills. Relation to mother and work. Tunnel of light.	Talks angrily to her two superiors. The music wipes the heaviness away and takes her skating.	Taking responsibility for the care of her grandson involves both unsafe, chaotic and calm, carefree qualities.	Colours and tension in head and body.Harlequin and female dancer in light orange dress get married.	Bodily experiences.Lying on a membrane with small white bubbles on the skin.	Containing abandonment feelings (father's death, inner child) when listening to music in an upright position.	Emotions related to 3 Caesarian sections. Tingling sensations in body, feeling safe and laughing.	Flying weightless looking at children and butterflies, then sudden pressure and whirling.
2	Feeling heaviness and lightness in the body, safely being cradled by the music.	Guidet to contact lonely inner child who ran away and hid in the forest.Conversation about work trauma.	Confrontation as a 5 year old child.with actual co-leader in landscape around war bombed Berlin	Exploring new sense of tolerance: Walking in nature, dancing, enjoying music.	Experiences of pain, tension and relaxation in a white peaceful light.	Polarities of violent anger (executioner) and forgiveness (victim). A red flamencodancer tramples her open.	Rides on big lion to a safe bubble in another dimension, where she can say goodbye to colleagues and leader.	Revisiting father's death, feeling the lack of him in a black box in the stomach.	Expressing anger at ex-husbond about his neglect of their children, and seeing his story of neglect as a child.	Confrontation with leader ends with liberating acceptance of his lack of initiative/competancy.
3	Sees many different places. Divided between staying in DK and staying abroad.	Working with aching shoulder, and joyously walking with grandfather as a child.	Superior buried in a gorge and then lifted up in the sky to God. Darkness or light for herself?	Gliding and dancing in the air in a beautiful dress being carried and thrilled by the music.	Positive image of beloved brother overlays traumatic memories from his death and burial.	Clown and Harlequin masks covering anger, sorrow and fear. Energy process culminating with red granite stone.	Inner child work. Remembers being physical punished by mother at age 4,	Guilt feeling towards mother. Accept of mother's sadness and her own need to be herself.	Creating calmness and joy in the ”killer class” with two colleagues and the lion from Narnia as support.	Headache and nausea when searching for experiences of self-esteem in childhood. Pain release to music.
4	Relation to husbond: creating distance finding the ”real me”. Inner child appears.	Neck pain goes from black morning star to soft yellow egg. Work with movements and sensations in the shoulder and arm.	Tired child in a milk bottle is mothered by the music, sleeps and meet the prince from Snow White.	Relaxing deeply letting go of control, like a big rock flowing weightless in the air.	Letting go of old working place and enjoying her feelings of victory and strenght to push away the dark.	Verbal integration session combined with body work to music: standing as a tree and mothering herself.	Conversation about her family relations. Guided relaxation to music with the imagination of soothing white light.	Coping with an upcoming week with many work tasks, getting in contact with joy and meaning instead of practical issues.	Prolonged guided relaxation and body awareness. Joyful imagery of future creative work with friend.	Conversation session identifying a pattern of control and it s background in childhood.
5	Bringing smile and joy to tense jaws and cheeks. Feelings of being let down by colleagues.	Dark nature with elver king. Sees himself as dead, flies up through the roof of a big church and follows a sail boat.	Being looked at with good eyes: Dancing as a bride, resting in the forest, flying on a swan.	Big furious woman and vulcano eruption alternates with lightness and calmness.	Enjoying being in a tunnel of white and orange light, capable of managing chaos and pressure.	Nurturing of inner baby child, black and white figures with golden emblems mix to grey soft strenght.	Sensations of warm fluent body. Tense stinging right arm.	Father's death, connecting to strong feelings of love and sadness.	Dream work: the need to pee everywhere, zulu warriors, and safety in a hospital.	On her horse to the teachers' room; magic wand makes the mobbers disappear.
6	”My doing in life”. Feeling her strenght in dialogue with a serpent. Daffodils, sun.	Imagining himself as inventor – flying his own ufo made with gyroscopic forces.	Loving mother and father holding her as a baby. Flies up in the sky in a boat with husbond and daughter.	Imaginary visit at work place is filled with warmth, care, hugs and feeling at home.	Orange-yellow-white sun a symbol of energy to give to others at work.	From hiding away to wanting to SEE. Orange motherfigure, grey and red colours supports her.	Flight (running) and fight (with lion and army) to strengthen the feeling of safety in the future.	Experiencing a distance to the pressures at work and the creation of a breathing space by listening to music.	Caring for the inner 13-year old child, integrating soft and romantic sides, and a new trust in herself.	Guided journey to a wise woman who gives her a crystal bowl symbolizing herself.
Narrative of the therapy course	From loneliness and over-performance to finding the ”real me” with needs for contact and support.	From loneliness and contraction to connection with hope, spirituality and nature.	Taking care of anxiety, healing the inner child and coping with problematic leaders.	Transformation of way of being: from temper and perfectionism to tolerance and lightness.	Overcoming fear and sorrow creating an energetic and strong feeling of self and selfworth.	The dance of energy: Integration of head-body split and executioner/victim reaction pattern by nurturing the inner child.	Searching for contact with bodily sensations and developing a feeling of safety, ability to act and joy of life.	Meeting sorrow through a new relation to music, and finding support to abandon the inner judge.	Striving for the right to receive support and give oneself care, trust and space.	Learning to feel body and emotions and to trust herself and other people.
Narrative type	Heroine's journey	Restitution → Quest	Heroine's journey	Restitution → Quest	Quest	Heroine's journey	Quest	Quest	Quest	Quest

Comments to condensed descriptions of sessions

The condensed descriptions contain a lot of information, and hopefully present the atmosphere and world of the work of each participant. The use of the grammatical ”– ing” form is a way to describe that the work is about emerging qualities, processes of openings and birthing that cannot be described as something completely done or finished, but leaves open a continuation.

Maintaining the intent of focusing on themes and qualities in the therapeutic processes of the whole study group, I will not go through all of the 19 participants or comment on their journeys, but let the short descriptions be my interpretation. For similar reasons I have not described the gender, age, work situation or other personal information used to situate the journeys. Although it could have been interesting to do this for all the participants, the vertical analysis of four cases will focus on both context and process of the whole therapy course (8.7.).

8.3.3. Comments to narratives

The formulation of the personal narrative aimed at getting to the core of what the person was gaining from the therapy, apart from his or her illness and life situation as such.

Looking at all the short narratives it seems like they turned out to be descriptions of central positive qualities which the single participant got access to during his/her therapy. One could formulate the typical guiding narrative as: ”from negative to positive feelings or qualities”, where the negative qualities are not always mentioned but are in the background as defining starting point. The core of the narrative can be described as a movement into new qualities or better contact with certain qualities. In many of the narratives the healing or nurturing of the inner child seems to be important. The inner child in itself is an imagery or symbol of self-nurturing and being aware of personal needs for comfort, contact, warmth, nourishment, emotional holding and regulation of anxiety (Missildine, 1963; Carpacchione, 1991). This can be seen as quite a positive turn compared to the situation where chronic stress was developed because obviously there were not enough support and holding, and maybe the participants had to face that they had not learned to take care of themselves sufficiently during their childhood, and needed to establish more accept and love for themselves and a more listening attitude to the needs of the body. Some participants learned to relax, rest, to ”interpret” or let go of pain, to nurture themselves more in life etc.

The negative states described were: being in negative relations, being in a victim position, over-performance, temper, perfectionism, anxiety, fear, sorrow.

The positive qualities that were accessed by the participants were: love for oneself, love and care for others, self-worth, self-esteem, personal space, choose one's own direction, strength, freedom, solace, trusting oneself, trusting others, listening to one's own wisdom and intuition, contact with authentic self/”real me”, creativity, tolerance, lightness, integration of head/body split, hope, spirituality and contact with nature.

8.3.4. Comments to the narrative types

The three illness narratives as described by Frank (1995) were: the Chaos narrative, the Restitution narrative and the Quest narrative. As the process of formulating narratives progressed, it became clear that all of the participants in one way or another were operating more or less in the Quest narrative: the illness as a journey for self-exploration and self-

development. For four of the participants I chose to describe them as beginning the restitution narrative as they were concerned if they ever recovered from their stress symptoms or found their original state of health or the feeling of truly being themselves again. I thought they were moving into the quest narrative because they seemed to become increasingly aware of the self-development they were going through during their GIM journeys. One of the participants was categorized as starting in the Chaos narrative because her situation and journeys seemed chaotic and lacking a focus but as signs of structuring imagery and reaching out for a new direction in life emerged towards the end of the therapy course, the Quest narrative was added.

As I see it, one type of Quest narrative is represented by the Hero's /Heroine's journey as described by Campbell (1968). The myth inspired the creation of a GIM music program and framework for a journey narrative by Marilyn Clark (1995). In line with the myth of the hero's/heroine's journey, the six participants who were categorized by this narrative type all seemed to move into dark realms to fight either symbolic or real situations of experienced threat or danger. They conquered and won new insight, strategies or coping tools to enrich their lives and societies.

By looking at the stories the participants tell through their journeys, it is obvious that in many cases there is not a final healing or fulfilment of the urge of transformation, but still a longing and continuous hope and work, which is characteristic of the Quest narrative.

8.3.5. Main themes in complete journeys

After having presented the condensed descriptions and the narratives, I will present the 14 main themes that were crystallized from looking at all the journeys. To get a more elaborated or systematic overview over the processes and themes, the 14 main themes are presented in a table format.

Table 8.2. Main themes extended from journey transcripts

Main themes - Transcripts	Journeys	Number of journeys	Number of parti-cipants
1. Body sensations (incl. felt movements, affects)	3-1/4-1/ 9-1/10-1/11-2/14-3/15-1/17-1,5/19-1,4/20-1	12	10
2. Deep relaxation	5-3/7-5/9-3,5,6/10-6/14-4/17-4	8	6
3. Pain relief process	5-1,2,5/9-6/11-2,5/12-3,4/15-2/20-3,5	11	6
4. Energy process (colours, light)	2-5/7-5,6/8-2,4/15-5,6/16-1,2,3,5,6	12	5
5. Deep music experience	5-1/10-5/12-5/13-4,5/14-3	6	5
6. Uplift/relaxation by being in nature	5-3,4,6/9-5/10-3/11-1,6/12-1,2/13-1,5/14-2/20-1	13	8
7. Transformative journey in inner landscape/space	2-3/4-3/7-6/8-3,4/11-1/12-5/13-3	8	7
8. Ways of being and new attitudes	3-5/4-5/5-4/6-4,6/7-1,2/8-1,2 /11-4/14-2,3,5/15-4,5/16-1,2,3,5,6/19-6	21	11
9. Contact with the inner child	2-1/11-1,2/12-1,2/13-1,4,5/ 13-1,4,5,6/ 16-5/17-3/18-1/19-6/20-3	17	10
10. Memory of supportive family relations	2-1/3-2/6-1/12-3/13-4	5	5
11. Confrontation/renegotiation with family members	2-4/ 3-3,5/4-5/6-1,3,4,6/7-2/11-4/13-6/15-1,3/18-1,2,3,5/19-2	18	10
12. Confrontation/renegotiation related to work/sick leave	2-2/3-4/6-2,3/8-1,5/11-5/13-2,3/14-1/15-4/17-2/19-3 /20-2,5	15	11
13. Imagining future work and creativity	2-6/3-6/4-6/6-5/7-3,4/8-5,6/10-5,6/11-3,6/12-6/14-6/17-6/18-4,6/19-4	18	13
14. Symbols of work satisfaction	2-6/4-6/7-6/15-6/20-6	5	5
15. Sessions without GIM	4-2,4/9-2,4/10-2,4/16-4/19-5/20-4	9	6

The material is based only on the sessions where GIM took place. (One could have scored the themes of the verbal sessions, but they were left out in order to focus on the music processed themes.) In the last cell of the table I have listed the sessions without music assisted work. The numbering of the themes is not accidental: The list is aimed at an order from body orientation to orientation towards future and surroundings.

The definition of the 14 categories will now be described and examplified.

8.3.6. Theme 1: Body sensations

Some of the GIM sessions worked at the attempt to the inner sensation of the body that may have been numbed or made inaccessible as one of the effects of chronic stress. The main theme regarding body sensations had been a little difficult to delimit because it is a part of almost all the journeys, and because the process of GIM according to the transcripts often activated more modalities at one time in circular or random processes.. A discussion of levels and categories of body imagery has been formulated in the literature review (2.7.5) . In the present main theme interoceptive imagery connected to proprioception, kinaesthetics and

vitality affects is represented. The sensations related to music in and on the body are also represented. The journeys fitting into this main theme are often represented by the first journeys in the therapy, with an open and explorative focus. The participant was asked to be open to the music and the sensations in the body, and a learning process of being in the GIM situation took place. The ability to process visual imagery was not in the foreground. The therapist used the first session to match the music to the sensitivity level of the participant. Some of the GIM journeys centered on the experience and identification of the fluctuating inner sensations of the body to make a deeper inner connection. With the support of the therapist and the music these sensations could be contained and identified. In some cases emotions, vitality affects and physical sensations as pressure, pain or tension were intertwined. In some cases the bodily sensations of being in an altered state also were evoked as for instance tingling or buzzing sensations. The following example happened in the fifth session, and was not an initial session, but was a session with almost only body imagery. The participant was not used to sense her body, but rather to rely on her rationality.

> Example: Participant 017 focused on her fears concerning moving together with her boyfriend. The participant had had a neglectful childhood and had almost no contact with her family. She had handled her stress and anxiety primarily through her very skillful analytic ability and her will power. During the first piece of music (Sibelius: *Swan of Tuonela*), she felt a quiet inner sensation very difficult to describe: a pulsating inner stream of feelings and a clear feeling of her heartbeat, warmth on the front of the body (including arms and toes), and a tiredness. The feeling was tingling, as if her body was sleeping, and heavy in an unreal way. Everything was flowing together, for instance she sensed her hand as a paw. During the second music piece (Brahms' *4th symphony, Andante*) her right arm and hand started to feel warm and pulsating, she couldn't identify if it was tense or relaxed, but it seemed as if it was in another position than it was in real. She admitted that it was not an "out-of-body" experience, but an "into-the-body" experience. During the third piece of music her right arm began to feel sore, like it was burnt or like it had been too tense and now loosened up. When asked to bring the music to the sensation of the arm, her stomach roared, she felt her arm became less stiff, and she breathed deeply. The rest of her body felt as the arm, but to a milder degree. After the journey she told that she had had a clear visual imagery of a green letter slit. Her body had felt like "meat", and also like jelly. She had difficulties understanding what the journey meant. To the sensations of her right arm she associated that her action side (right side of the body) might have been blocked or injured in some way. She also thought about heart communication (green letter slit). Between this and the next session she decided to end her relationship with her boyfriend.

The example sheds light on how bodily processes that were not immediately easy to understand consciously were taking place during the music listening. The participant thought her experience was strange, although she made a meaning out of it by associating the bodily feelings with restrained negative emotions connected to her partner. Seen in a context of stress, the body imagery also could be interpreted as signs of parasympathetic activity (stomach roaring and deep breathing) and vitalization of numbed, "sleeping" and tense areas of the body. It is interesting that the painful feelings (sore or burnt feeling) came to the surface when she was letting go of tension. It is also interesting that she sensed her hand as a paw because she used the imagery of a lion as a protective animal in two later sessions. The imagery might present an identification with the power of the lion. Like in this example it is not always possible to understand what the body is "speaking", but the process of sensing and identifying the sensations verbally in itself brings about a new way of managing the numbness and re-balancing the body-mind and brain. When body imagery is seen together with all kinds of imagery from other sessions, it happens that such material illuminates important patterns on the bodily level that fits to the history and way of being of the participant.

8.3.7. Theme 2: Deep relaxation

Very many participants had a lot of tension and supposedly involuntarily were fixed in the permanent activation of the sympathetic nervous system. In some cases a deep relaxation was the most important part of a GIM journey. A few times the whole GIM session was an extended guided relaxation with music. In a few journeys the participant nearly slept because he/she was deprived of sleep as one of the consequences of chronic stress. The possibility to access the parasympathetic branch of the nervous system is an important part of stress management in general. When focusing on relaxation in GIM it seems like the imagery accompanying the relaxations adds a psychological dimension to the experience. This opens up to insight into the importance of being instead of just doing. It also opens up to new ways of being in the world. And these ways of being are anchored to imagery that can be remembered.

> Example: In her fourth session participant 014 felt better, but still had problems with fatigue and sleep. She had always been a very energetic and controlling person, but as she experienced GIM she found another way of being. She listened to the first pieces of "Positive Affect " (GIM program) after a prelude where she talked lengthy about the fun, they had at her workplace before she was stressed. She felt herself relax heavily to the music, as if she was pushed down. She felt the solo vocalist in the Mozart piece (*Laudate Dominum*) as a mother humming a nice lullaby. She felt as a heavy mastodon or whale, but at the same time light as if gliding. A flying piece of rock. She could glide without having to do anything, as if in a vacuum. "It does something inside that you are not able to control. The problems are lifted away, you are in that world of lightness, naivety, light-mindedness".

In the example there are several important ingredients combined with the bodily heaviness and relaxation. A core imagery was to feel as a "flying piece of rock": imagine how much trust it takes to go behind the gravity! Another important part is the nurturing. The voice that makes it possible to feel protected and safe enough to let go, as a child going to sleep. The third important part is the letting go of control. Very many chronically stressed have had to rely on an extended self-control, which in the end has been devastating. To give up this pattern is also to open up to the unknown – here light-mindedness, a sort of innocence and existence without problems.

8.3.8. Theme 3: Pain process

This main theme includes a number of GIM sessions where the participants used the music to focus on a specific physical stress symptom, most often pain in the nape, the back or the shoulders. It could also be more unfocused pain as tingling legs. The participants most often came to the session with aches and asked for help with it, as their pain took the whole attention. As a way to work with pain, the participant was asked to focus the attention on the pain area and invite the music into the pain area rather than using the music to divert the attention from the pain. The proposal to try to sense the pain in other modalities such as colour, shape, auditory messages or movements were offered, in an attempt to "make the pain communicate" about its origin and possible "message". The idea of going into the pain was explained to and accepted by the participant before the journey. The processes with music and pain showed that it actually was possible to "get the music in", and to have visual and other kinds of imagery that could serve as a symbolization of the pain. During the GIM process the pain symbols changed, and very often the pain lessened or in some cases disappeared completely.

> Example: Participant 009 had heavy pain in her lower back and shoulders, and brought it into the music session. To the adagio from Widor's *5th Symphony for organ*, she felt a very pleasant

relaxation in her whole body, and was at first unable to focus the music specifically on her lower back. When asked about the point of contact to the couch she admitted that she felt hard as a board, and had to bend her legs to not feel pain. While listening to the piece *Blissful moment* by Bliss, she was asked to feel her lower back together with the music. This was difficult for her and her thoughts started to drift off. She was asked to use her breathing, and breathe out into the hard place. Listening to the new age piece *Horizon* by Rosenlund she suddenly had an image of being at the beach. Back in the body she felt the whole body relaxed, but the lower back was locked. She imagined the locked sensation as a board of tree nailed with big French bolts. She was asked if it was possible to do something about the board, and listening to Pachelbel's *Canon in D*, she found some heavy tools to undo the bolts. The music became too wild for her, and she began to tighten the muscles in her whole body. To five times of *Amors Anding* by Stefan Nielson, she managed to get back to feel her lower back, but she still felt tense in the upper part of her body. The therapist asked her to try to relax to the music and feel her tense muscles in an accepting atmosphere. In the end she was able to lie down her whole back and legs on the couch. A mandala drawing illustrates the feeling of the board.

Figure 8.2. Mandala drawing, ID 009

In this session the pain did not go away, but it was symbolized as a strong piece of wood that might represent a feeling that she was not yet ready to confront. The mandala tells that she in a way was strong and radiant but also was carrying with her a very heavy weight or was blocked in the middle of the body. The example is representative for the process of symbolization. It also illustrates the importance of playing music that can be accepted as containing and supportive enough for the process to happen. The Pachelbel piece was in this example too wild, but would be a very good support in other cases. Sometimes the repetition of a piece could be a way to allow the listener to ”foreknow” the music and relax.

8.3.9. Theme 4: Energy process

The term energy somehow can be difficult to define. Here it is defined as psychic energy that is experienced in the journeys in the shape of light or colours that surround or permeate the body or is experienced as a world or surrounding environment. It is common in the altered state of a GIM journey to experience music as light or energy that often is felt as vitalizing or healing. Going into fields of energy in GIM journeys can be a very transformative experience. I was curious if the participants in this study would be able to have this kind of experiences, as the stress condition possibly could be keeping them from it. It seems like quite a few of them (five) did, and in twelve journeys it was a central feature. Some participants experienced being in a tunnel of light, or being in high energetic landscapes in another dimension. One participant experienced colours symbolizing different qualities such as anger, nourishment,

innocence or strength in almost all her journeys. Another participant experienced that the music was energizing his whole body. This journey had common elements with main theme one (body sensations).

> Example: The focus of participant 015 in her fifth session was to celebrate a new strength that she had felt when negotiating with superiors about her job situation after sick leave. All the way through the music program Peak Experience she was in an orange energy that dissolved out into a white or light energy. She felt that the Vivaldi piece was like someone shouting from the left and then the sound was muffled to a whispering. She got the impression that she could be in control now. During the Bach piece she was in a vibrating light tunnel of orange-white light, which was very relaxing. She experienced the Wagner music as energy waving back and forwards, it was a little chaotic, but she said, "One can enjoy the music without being influenced. It is not a heavy thing laying upon me, one can surrender. A little chaos, but in control, it is OK that it is there." She earlier saw a dark tunnel in a journey, and experienced the present colours as symbols of peace and harmony, meaning that she is now able to receive what life brings.

This example illustrates how the music was experienced as a tunnel of coloured energy. The tunnel can be a universal symbol of transition, which in this case is both a transition from ill to well but also to another level of functioning with more personal power and self-esteem. The light energy was experienced as peaceful and relaxing in contrast to dark energy in a tunnel from an earlier journey. In contrast to the example on relaxation, this participant needed to gain a sense of control because her reaction to stress had activated a feeling of loosing control. In her fifth journey the uncontrollable music now seemed to be acceptable. She could now experience waves of sound and energy and feel that she could relax (parasympathetic nervous system) instead of being alarmed (sympathetic nervous system). She could tolerate a little bit of chaos without loosing herself. In this case the music became a metaphor of the stressors in her life, and she was able to evaluate her progress via her reactions to music.

8.3.10. Theme 5: Deep music experience

The music was very much the driving force of all the journeys, and many participants responded with comments to and deep connection to the music during the journeys. As it is well known in GIM literature, the music sometimes can be the central experience, although it possibly is more frequent in experienced GIM participants than in beginners (Summer, 2010). The need for a music related main theme came out of the material in a few cases. The participants' music experience fell into different categories: the music as a healing agent, the music as consoling, nurturing or mothering entity, and the music as something uplifting or inspiring.

> Example: Participant 010 had during his childhood been taken to visit a great number of churches, and he had also been playing the electric organ. During his fifth journey where he focused on his dream of being a farmer, he started to concentrate on the music of Bach's *Toccata and Fugue in D minor*. He saw images from churches and from organ seminars, and stated, "There you have someone who knows his job, very impressive!" He imagined the hands of the musician playing, and thought of how it would be to play himself. He found the music very lively, and concentrated his attention more and more on the tones. During Brahms' *2nd Concerto, Andante*, he admitted that he relaxed and listened very intensively to the music without having any imagery. He listened to the instruments, and it gave him a liberating and relaxing sensation. After the listening experience he needed long time to get back to normal consciousness.

The example illustrates how music listening itself without any kind of imagery can be a very nourishing experience that is important to honour. When a skilled musician is journeying

his or her evaluations or technical analysis of the music can be a barrier against music appreciation and imagery formation, but in this example it seemed like the participant was able to let go into the listening experience and get both relaxation and liberation. The latter is interesting; liberation must be such an important quality in a journey for a person who like this participant feels caught up in job and family obligations, is having physical symptoms, and has an identity as the one everyone asks for help. Liberation then is a kind of safe place, although it does not change anything yet. The experience of musical mastery when he identified with the musician can also be seen as an analogue to the experience of mastery in general. The participant had temporarily lost his feeling of mastery in his life but accessed the inner feeling of it through the imagination of skillful playing.

8.3.11. Theme 6: Being in nature

Quite a few journeys (13, with 8 participants) turned out to take place in nature surroundings, both known and unknown to the participant, either relaxing and/or uplifting. As the processes of integration of beauty, calmness, movement, grandiosity, surrender and relief in natural settings were a central part of many journeys, it was decided to define nature experience as a main theme, even though the processes taking place in nature were quite different. The experiences often reminded the participants of the importance of their connections to nature. Many of them had during their sick leave been advised to walk in nature, and those who felt physically strong enough to do it had developed a good contact to nature. The nature experiences often served as positive resources as they were touching and vitalizing when for instance looking at beautiful views of sunsets, flowers or trees, or feeling freedom and joy while walking on a path or flying in the mountains. It is also a feature of the journeys in nature that the travellers often are imagining themselves flying or moving around in other kinds of unusual ways. I find that nature experiences are important because the feeling of being connected to nature often can be missing during illness such as chronic stress, as the body is in a sustained alarm or chock condition. The withdrawal can be fundamental and also involve the experience of being numb and cut off from nature, or even feel that one doesn't belong to the world. Ways to take in the sense of the surroundings and nature might be opened up during a GIM journey. In Somatic Experiencing terms, the orienting response is part of our exchange with our environment. It can be activated both as part of an alarm reaction to check out the surroundings, but it can also be a sign of a resolved trauma. When a person feels safe, he or she can allow him/herself to be curious, look around and get involved with the surroundings.

> Example: Participant 020 had her inability to fall asleep as a focus in her first journey. While listening to Stamitz' *Cello concerto*, she felt calm and I could observe her having rapid eye movements. She saw herself on a bicycle driving in a forest with big green trees. To Pachelbel's *Canon in D* and Beethoven's *5th piano concerto, 2nd movement*, she felt herself floating in the air, and looking down on the fields and on a lot of different animals in the forest. The trills in Beethoven formed big butterflies, and she saw a Butterfly bush filled with butterflies. Children were running around to catch them. Then she felt a whirling sensation, a pressure in the breast and a sudden sadness. She brought her attention to her head to get over the feeling. To Mozart´s *Concerto for 13 wind instruments* she proudly saw her son training to a swim contest, and then she saw herself diving in the sea looking at fish, corals and jellyfish. After the journey she told that her sight and impression of the animals had been extraordinary clear and sharp. She told that she knew the sudden whirling sensation from before, and we discussed if it could be feelings from her own childhood surfacing.

The example shows how nature experiences with intense colours and forms were developing in her mind while she listened to the music. She felt uplifted and stimulated by the vividness and clarity of her experiences, and they probably served as resource imagery

preparing her for the contact with intense body feelings and sadness that the imagery of the happy children gave her. I think she sensed her trauma and miss of this kind of happiness as a child as she was mobbed by both children and teachers at her school . Being in nature and staying with her horse (in reality) helped her through a difficult childhood, so for her nature imagery was especially connected with safety and pleasure. The case will be further discussed in the vertical analysis.

8.3.12. Theme 7: Transformative journey in inner landscape/space

This main theme has many things in common with both main theme 4 and 6, and I have been in doubt in many cases about what theme was most important in a journey. The difference between 4 and 7 is that the landscape or space is more distinct, clearly formed or materialized than just an energy space. But it is not a normal natural world as in 6, rather a fantasy place with magic or astral traits, as for instance coloured mountains or strange things happening. A characteristic of the main theme is also that a transformative journey is taking place, were the participant or a figure representing the participant is going on an adventurous quest with struggles and resistance demanding his/her courage, creativity and action to be able to proceed. The journeys can touch existential questions of life and death, evil and goodness. These kinds of journeys often characterizes GIM at an advanced level, named by Summer (2010) by the term "restructuring", and can be demanding for a person with chronic stress. But if there is enough (ego) strength resources at the same time they can address and bring awareness to and maybe integration of some of the inner personal polarities and conflicts that underlying the stress condition. The journeys can explore and develop the coping skills of the participant. This kind of journey actually has the highest score in the table (21 journeys and 11 participants). In the following example a participant had an experience of being on another plane that made a deep impression on her.

> Example: Participant 002 had been meditating with a group on the theme "follow your heart" and decided to use this as a focus for her third journey. She listened to Relationships program (Bruscia version), and very soon she felt the closeness of guiding angels. "It is as if I am facing a rebirth, they show me something very awesome out there, something big and beautiful and fantastic that is very loving." In the end of the Romance from Chopin's *1st Piano concerto* she said that the angels asked her to jump out into an abyss of love. She saw it as a huge space or room filled with love energy. She was very close to do it, but actually stayed at the edge. She felt alone there, but it was like it was the way it should be. She compared the place to natural places in her other journeys – this was on another plane of existence, it was floating, otherworldly. She felt somebody caressing her, and during the Respighi piece she saw that it was the angels, and she saw the faces of the angels. She wondered about meeting angels in all her journeys, as this was a complete new experience for her.

This example shows very clearly how GIM can take a person to other worlds. This participant was very touched by her journey and it served as a pivotal moment (Grocke, 1999) in her process of letting go of a duty oriented way of working and living. She was well on the track finding a new way with more accept and love for herself. She found that it was enough just to know that this pool of love existed; she didn't have to jump into it. Besides the experience of care and love that she had missed all her life, she also worked with the existential questions that often is raised during a life crisis or illness. The place of love was her inner image of an eternal space existing beyond death. In a later journey the participant revisited the place and healed her relation to her mother, who got there as a soul after her (imagined) death.

The journeys under this main theme are all played out in an imagined reality that can be reached when in an altered state of mind. It is one of the qualities of GIM that a whole

symbolic adventure can be played out, where inner conflicts can be solved in a symbolic form, and where the traveller can find ways to handle his or her life that are not yet accessible in the outer world. The experience of success conquering inner obstacles or finding ways to endure difficult situations in the inner world seems to add to the feeling of ability to manage stress and problems (defensive manoeuvres). But it also has to do with the eternal questions of life and death and beyond that often can be actualized when facing an illness crisis. Journeying into places and experiences that bridges life and death, which can be understood as imagination or as another kind of reality, can bring about changes in the understanding of life and existence on a deep level. It has to do with the consciousness of place and content beyond the everyday ego, and also with the formation of new constellations and relations in the inner world that are quite difficult to fully grasp with the analysing mind.

8.3.13. Theme 8: New ways of being[33]

A very important part of the work with stress and sick leave has for many of the participants been the introspection and search for more appropriate and/or self-protective coping skills and relational skills, in order to be able to prevent stress in the future. Many of the journeys taking place in the body, in landscapes, in inner scenarios with symbolic figures or in energy spheres can be interpreted to be a change of the way of being and the shift of attitudes towards oneself and others.

The journeys chosen for this main theme include a conscious confrontation with oneself. The work has for instance dealt with changing certain ways of looking at the world, learning to protect oneself assertively, marking personal boundaries, developing the ability to say "no", gaining more self-esteem or personal strength, limiting the voice of the inner judge, developing more supportive inner parents, integrating polarities such as victim/perpetrator etc. Parts of the journeys are operating in an inner "laboratory" with interacting figures that can be interpreted as symbols of different ways of being within the personality. Transforming the ways of being often happened as a spontaneous process during the journey. The exploration of ways of being and working with certain attitudes could have been two separate themes but they have been placed in one main theme as they often overlap in the journeys.

> Example: Almost all the journeys of participant 016 happened to center around this main theme, as she from the beginning formulated the process of self-development as central to get over her stress symptoms. In her third journey she focused on the image of a man with a cold, who had irritated her in the train on her way to therapy. While listening to Rodrigo's *Concerto de Aranjuez, 2nd movement*, she started to feel a huge spear of hostility pointing at her neck. She saw two warriors, one of them held his sword on top of the neck of the other. She identified herself with the defeated warrior, cried and accepted to surrender into death. Then a flamenco dancer with a red and black dress came and trampled over her body, and opened her body like that. The participant transformed into a sad donkey. Pachelbel's *Canon in D* brought light into her chest, and she saw a green valley with a boy and a girl. To Grieg's *Holberg suite* her whole body was buzzing, and she went out of it, and stood dark and criticizing over it saying, "What you are doing is not good enough, you must pull yourself together!" She saw her two personality parts represented by the victim and the executioner, and got the insight that the tension between them was the reason of her bodily tension. She felt an urge to look the executioner into the eyes, and then they were both moving up and down in each end of a seesaw. Arensky's *Piano Trio, slow movement*, played a death melody for the executioner. The participant laid down on the earth and felt care for the executioner. He said that he just had tried to do his best. She saw a square model with herself, the executioner, the victim, and

[33] By naming this main theme Ways of being I lean on to the existential orientation I have as a music therapist, where being-in-the-world is an expression of existence (Biswanger, 1942). It is especially the "Eigenwelt" representing the intrapersonal relationships that is described. Also described in Bruscia, 1987, p. 167.

feelings of inflation or “besserwisser”. She laughed when she discovered that she was the only one with a physical body in the square. She went back into her body through the heart, and felt a tremendous fatigue. The flamenco dancer came back and very calmly helped her to feel her body again.

The journey was complex, and brought about a consciousness of how the participant had an ongoing inner struggle with a very hostile executioner part, who was beginning to transform by her caring attention, like the ugly monster in the adventures. The journey contained both intense body imagery, work with inner polarities, emotions and insights. In the journey she disconnected with her body, her inner polarity and quadratic structure were restructured and finally she went back into her body. Rage seemed to be caught up in her, and activated by the man in the train that initiated the journey. The criticizing inner judge seemed to be a source of inner stress. This powerful journey showed the complexity of transforming attitudes and ways of being, and the enhanced awareness of how to cope with inner dynamics that seemed to be part of the stress problem.

8.3.14. Theme 9: Contact with the inner child

In many sessions the participants held an image of themselves as children or youngsters in mind, and communicated with it or experienced things happening to the inner child. In most of the cases the meeting was planned for, but it also happened spontaneously. In the first draft of main themes, I categorized the inner child journey as a way to establish resources. It could be also the case that the inner child memory at times brought contact with positive feelings of spontaneity, play, innocence and joy. However, it turned out that some of the inner children in the journeys brought memories of traumatic situations or periods of life with mobbing, violence, loneliness and isolation. In these journeys the difficult situations would be dealt with by experiencing the music as comfort and by support from imaginary positive parents, animals or nature. In many cases the traumatic incidents thus were cared for and brought to a state of accept and balance. The child's need at the time was addressed and made conscious. As earlier mentioned, the inner child could be a symbol of the care of oneself, and the inner child surfacing in GIM could help to identify areas of neglect and open up to a new process of self-love, ”self-parenting” and connection to energy, creativity and joy.

Example: This example is from participant 013's fourth session. She had lived through a very difficult upbringing and suffered from anxiety in her adult life. In several of her GIM journeys she worked with the healing of her inner child. She brought an imagery of a child locked up in a milk bottle to the session, and took it into the journey to the music program Postive Affect. In the beginning of the session the bottle was brought to the forest. The little girl in the bottle was asleep or dead. The music sounded melancholic because the little girl was asleep behind the wall. She was exhausted after having knocked on the edge to get out without any result. The participant heard the music say that ”it understood that the little girl was tired, and it gave her permission to rest.” The voice of the female soloist in *Laudate Dominum* woke up the little girl, as if it was her mother’s voice. She stretched as a ballet dancer and listened to the voice, ”Such a real mother, who takes care of her. A balanced mother, careful.” The ears of the little girl grew bigger. The milk bottle grew to a girl's size. During Barber's *Adagio for Strings* the girl slept again, like Snow White. The animals came by and looked lovingly at her, and went to sleep besides the bottle. When everybody woke up she felt like coming out of the bottle to feel the animals. She went out and caressed the squirrel, and listened to the birds singing. Then the prince from Snow White called upon her. She met him on a bench and they looked at the water together. She wanted to be herself again and changed the Snow White clothes for cowboy trousers and sat on the bench with her husband from real life, feeling hope and balance. The journey went on with another theme, connected to future work.

The captured inner child in a beautiful way was led out of her prison by the reception of mothering care. For this participant especially the *Laudate Dominum* several times brought her into contact with the ”real mother”'s qualities that her inner child had been longing for. It is interesting that the story of Snow White is coming into the journey. It is part of the childrens' world, but it is also a way to show the goodness of the inner child: the contact with animals and birds and nature. As the child grew up she was loved by a prince, she was wished for and worthy. The happiness ever after of the fairy tale spread to the atmosphere of the daily life as the participant changed clothes and shared a beautiful local view with her real husband. The changes of her inner child brought about a new feeling of hope. Her feelings of anxiety did not go away instantly, but she increased her ability to be present and grateful of the here and now with her actual family. She also got into contact with a wish of doing intellectual work for her own joy, instead of always working to serve other people.

8.3.15. Theme 10: Memory of supportive family relationships

This main theme is closely connected to the inner child theme, as it is about remembering relatives, who have been of special importance in childhood. It was especially grandparents who came forward in the journeys as important sources of unconditional love, acknowledgment and support. The internalized love of the grandparents served as ways to feel more strength and self-esteem in the therapy process for the participants, and also to feel their own continuity and history in a positive way. One of the sessions categorized under this main theme was about feeling the support from a husband, all the others were about grandparents.

Example: In his third session participant 012 was working with a shoulder pain, and the therapist asked him to remember any good childhood memories to introduce a resource in the work. He had earlier told that he was very much alone in his childhood, and did not remember his parents as loving or close to him. While listening to Bach's *Double Violin concerto* he remembered the forest and brook where he played in his childhood. He thought of his grandfather, and imagined how they were going for a walk together as they always did on Sundays Grandfather had his stick with him even though he walked well without it. The participant felt happy and carefree in the body, ”as children are, or should be”. It was like the feeling of joy was felt in the air over his head. He felt a flying or floating sensation; grandfather was nearby. During Brahms' *Violin concerto, 2nd movement*, he got back to his shoulder and felt that it was better. He told that the music got him up in the air like a kite.

Figure 8.3. Mandala drawing, ID 012

The work with this participant was centered around different kinds of physical pain and the struggle with depression and loss of memory. The participant himself was aware that feelings of being totally lost in his childhood could have been stimulated at the very sudden sick leave

that started after feeling humiliated by a colleague. The memory of his grandfather seemed to give him a strong feeling of joy that seemed to be important. The poetic image of a kite in the air also illustrated the joy of walking with grandfather. At the mandala the joy seems to be illustrated by a bird flying over his head. The sun in left corner seems warm and positive. For many participants the memory of the love and relationship with grandparents served as a real reminder of how it felt to be welcome and loved unconditionally. It became a very important resource in the process of facing the adult demands of handling loss and change.

8.3.16. Theme 11: Confrontation/renegotiation with family members

The word ”renegotiation” is, as described in the literature review (2.7.8), inspired from the process in Somatic Experiencing. The process relates to a trauma or a part of a trauma that is held in the imagination and body awareness and is reformulated or changed. Actions not carried out at the time of the traumatic experience (different sorts of fight or flight) would be acted out in the imagination, so that the episode or difficult relation could be changed in the body/mind consciousness or inner representation. In the sessions where renegotiation happened confrontation with close family members were not only about oppression, anger and forgiving but also about loss and mourning. Identifying this main theme happened to be very interesting for the identification of underlying reasons of work stress. In some of the journeys under this main theme the participants went into contact and/or dialogues with for example ex-husbands or mothers, where huge problems and conflicts had built up over years. To do this in the imagination often made the standpoint of the participant more clear to them, and a new sense of freedom would emerge. In a big part of the sessions the focus was on mourning family relatives (for instance fathers and brothers) whose deaths had been sudden or tragic, and where the participant had not had the time or opportunity to fully work through the sorrow and grief at the time because of the overwhelming character of the feelings and because of lack of support. Many of the participants have had the role to nurture the other family members. They have not had anybody to support them or they have not felt comfortable to receive support. Even when the participant felt that he/she had been working with the sorrow over and over again, the GIM process opened new ways of processing and containing especially the emotional part of the mourning, which helped the participants to get over the loss in a way that enabled them to establish contact with positive memories of the relative.

> Example: Participant 018 had been through years- of mourning her deceased father. Her stress-related sick leave from work came after long time of mourning as she came into contact with feelings of desertion and problems related the expression of emotions. In the first GIM sessions, she had to get used to listen to music because it remembered her strongly about her father and touched her emotionally in an overwhelming way. In session two, she tried to get into ”the black box” of feelings that she was keeping in her stomach, with the help of the music. While listening to the Nurturing program, she went through the hospitalization and last hours of her father's life. It became clear that his death also had many dramatic and traumatic elements. After some time the therapist asked her to let the music give her strength and support. She breathed deeply, and said that she felt very very tired. She continued to breathe deeply to Fauré's *Requiem*, and the therapist encouraged her to let go into the music. During Puccini's *Humming Chorus*, she told that she felt more able to hear the music now because there was a sense of peace. To Schumann's *Fünf Stücke im Volkston* she told that it was easy for her to tell others about her father now, but that there were still some feelings that she could not share. She let the music get into the black box, and found that the feeling in there was the missing of him. She felt the lack together with the music.

Actually allowing the deep feeling of miss helped her to also feel her deep love of her father. It seemed like the support of the music to the emotional side of her sorrow that she had been hidden assisted her to complete an important part of the work with sorrow. She

eventually became able to listen to music at home, and in her three last sessions she worked with other issues than her father. During her sessions she formulated that she now was able to see how she also before her father's death had been stressed in her work because of her ambitions as a leader and the insecurity of her inner child. The process of sorrow and the process of work stress were intertwined.

8.3.17. Theme 12: Confrontation/renegotiation related to work/sick leave

In these sessions problematic situations, relations and time periods leading to the stress and sick leave story of the participants were treated in the GIM journeys. Very often the participants could identify one or two core negative experiences as directly connected to the sick leave. Typical for the sessions under this main theme was the need to confront and talk to former managers, who did not seem to have noticed or supported the participant enough, or who had directly humiliated or let down the participant. Some of the episodes had been traumatic, leaving the participant in an extended feeling of powerlessness and despair. Letting the anger and frustration out that could not have been expressed because of the power imbalance between manager and employed, helped the participants to regain their sense of dignity and personal limits. In some sessions the episode was remembered as a trauma and the other person(s) were experienced as unable to relate constructively. A good relationship could not immediately be re-established. Sometimes magical things happened, like the participant using a magic wand to make mobbing colleagues disappear or to see the managers as tiny cute persons. In some cases the situations grew to archetypal dimensions, with war imagery. The former manager in the inner world of the participant was associated with the evil, and the participant got relief by seeing the person/evil as symbolically death, and given up to the justice of God. It is important to notice that in these cases immense suffering and loss of both health, inner balance and maybe future career have been lost to stress and trauma in persons who before the negative processes at work had a good health. In some cases the managers obviously had been causing the sick leave of a number of colleagues too. The ”fight” actions in many cases helped the participants to get a new and more balanced perspective, where they did not feel so vulnerable and negatively tied to their superiors or colleagues. In some cases they actually were able to forgive the managers and think carefully about them. It also freed energy that could be reinvested in the future. Some of the sessions under this main theme was about the need to go back and prove one's ability to manage a situation that earlier had been overwhelming, for instance to quiet a difficult school class, stay in the pause room with colleagues, or exercise a new way to mark one's own personal borders at work. Even though this main theme is not the one with highest scores (15 journeys and 11 participants) I would like to give two examples because the theme is so relevant for this study.

> Example 1: Participant 006 had been working as a leading pedagogue for a charismatic manager who had also been his friend and the direct cause of his work-related stress. In the first journey a man was pushed down to the floor of an empty concrete silo – himself or the manager? In the third journey the participant focused on his working place and the manager. He began the journey thinking of a good work situation from a diving holiday. The music pieces put together for this session are quite unusual and served to call forward emotions connected to the sick leave. During the first music piece (Kobialka's *When I wish upon the stars*) he thought of his daughter at whom he shouted yesterday. He thought that his children also had been victims of his stress. To *Enchanted Lake* by Liadov he thought of a conflict with a colleague that the manager should help with, but the manager never got back. The participant felt pain in the front, and saw a big sharp thing hanging over him, under the water. It symbolized his working place. He remembered several situations where the manager had promised to change things but did not do anything. A feeling of emptiness in the stomach was followed not by anger but by pity, “He was a fool”. The participant was sorry to loose his

friend, and wanted him to change so he would not hurt others too. I played *Mars* by Holst, and he saw a war between good and evil. There were people in black against people in red, and the death came in from the left as a skull with a black mantle. The participant said, "He (the manager) took a part of my life. It was a fight on my identity, I was not allowed to be like I am." Then he saw the fallen and the death on the battle fields. To Bach's *Come sweet Death*, he felt like after a good movie, he relaxed, yawned, looked at everything from above. During Grieg's *Cradle song* he felt that everything had lightened up a bit, it was more quiet and calm.

In this example it is going through his fight response and confronting his loss. The whole work situation has threatened his feeling of identity, his life. It seemed like working through it as a symbolic war with death corpses, helped the participant to let go of his stored up feelings of anger and sorrow. In the last music peaces it seems like the discharge (yawning) and relaxation (parasympathetic activity) signals that the fight is over, and a restitution (lighter, quiet and calm) had been achieved.

Example 2: Participant 017 had stopped at her job without having said goodbye to her colleagues because of a deep mistrust between her and them. As she kept thinking about them in her everyday life we agreed on trying to make a farewell in a journey. To Pachelbel's *Canon in D* she took off sitting and later lying on the back of a big strong lion. The therapist asked her to let the lion find a safe place for her. The first place at a lawn did not feel right. To *Heartstrings* by Secret Garden they went into another dimension where only the two of them could go. She sighed when she said that she felt safe there. It was dark, but she was with the lion, feeling tired. During the *Song of the Secret Garden* she went deeper into her tiredness, and in the end she felt lighter. While listening to two times of Kobialka (*Riddle song*) she agreed on saying goodbye to her former colleagues. She saw them as small crystal balls with faces, and she experimented with different ways to handle them: push or kick them out of the bubble or make a sculpture out of them. Then she sent them out in the universe, and smiled. She said, "They are not part of the problem, they are neutral." Then she said that they were sucked out. She did not send them out. Maybe it was their significance that were sucked out. She woke up the sleeping lion and went back, opened her eyes and said, "THAT was good!" She especially had enjoyed the experiments.

One senses the joy of her inner child being able to play. She was not bothered with thoughts about her workplace after this, and in the next session she told that she had been sent a beautiful goodbye gift from her colleagues. It is obvious how much both safety and control meant in order to wake up the playfulness and imagination as well as the unreleased fight response. Rounding off relations to colleagues and managers when a participant did not come back to the workplace after sick leave has been the theme in many journeys. When it was not possible to do it in reality it seemed like the imagined way served as a good alternative.

8.3.18. Theme 13: Imagining future

This main theme covers some of the last sessions in the therapy courses, where the participants were guided to imagine a future workplace, or be back in their own working place in a good way. The focus was to imagine what would give a good feeling of being at work, what would be important for them at work, and what would bring meaningfulness to their work. These journeys brought many interesting pieces of information and unmet needs to the surface. In many cases there were images that could serve as clues to what kind of new workplace or function the participant should look for in the future. In some of the cases the participants aimed at completely new professions and used the sessions to try to feel what it would be like to be there. Some of the sessions of cause have been difficult to separate from main theme 14, and in the example I will show one of them.

Example: Participant 019 was working as a teacher before her sick leave and had been educated in art work. In her third session she imagined how she could be managing a very

difficult class by having two good colleagues by her side and by having a real lion to sit at the side of a boy with emotional problems. This was partly a renegotiation of a part of the problem that led to her sick leave but it was also a way to imagine how she could allow more support into her working life when needed instead of managing everything as "lonely but strong". It also pointed at the possibility of finding and using her embodied animal strength. In her fourth session she went through an extended relaxation with focus on all her body parts in order to connect more to her body instead of to her intellectual analysis. After the relaxation she was asked to look for images of joy or creation that were coming from the body. She was not able to have visual imagery after her stress breakdown. Listening to Grieg's *Morning Mood*, she thought of herself driving around and visit artists in her area just for fun and inspiration. During Haydn's *Cello Concerto in C* she actually visualized a new easel in her living room, and thought about small and big ideas as beginnings of a picture. Listening to Elgar's *Enigma Variations 8 & 9*, she associated the music with spring, "Now the life begins". Suddenly she saw she and her friend build junk sculptures of old iron in the garden. This was a nice feeling. Listening to *In a Silent Way* by Miles Davis, she saw herself living in a small green cottage and working with ceramic and stone cairns in the garden. She wished to have her friend off from her teacher job so that they could work as artists together.

This participant did not immediately follow her vision as she had to work on improving her health for some more time, but she started to paint mandalas every day. What is striking is how the body focus helped her to find a new direction, how new life seemed to be bubbling in contrast to the tiredness and burnout feeling, and how inspiration and creativity and co-work gave her an idea of what kind of work she should go for in the future to heal and to stay healthy.

8.3.19. Theme 14: Symbols of work satisfaction

A symbol of work satisfaction can be defined as a visual image that contains a concentrated information about personal values, feelings, energy, meaningfulness and hope related to work. This main theme is closely connected to the 13. theme, as the satisfaction symbol in some sessions grew out of the imagination of a positive work situation. At other times the identification of a symbol was guided by the therapist, and was the goal of the journey. The work satisfaction symbol is connected to a future direction grown out of the inner feeling of a person. It does not point to a specific situation or goal, but to the quality of the work situation.

Example: Participant 004 was educated as a bookkeeper and had been working in a real estate. She was now in a work testing period. In her sixth session she focused on a future work situation she would like to have. To the *Romance* of Chopin's *1st Piano Concerto* she imagined a place where she worked with bookkeeping but also had the opportunity to care for other people: give a little smile, caress a cheek, gently slap a shoulder, give other people hope by sharing a natural human care. She imagined that people got surprised by her care because they were in places with very little care. She thought about people with schizophrenia, and how her physical touch could be misinterpreted especially by the men, and she felt insecure if she could mark her own boundaries. The therapist asked her to listen to the music for ideas. Listening to Pachelbel's *Canon in D* she got into contact with earlier situations where she had managed the balance between getting close and keeping up her boundary. She said, "I am strong, emotional and intelligent!" She felt the strength in her chest, arms and felt that with her hands she would both be able to caress and stop. She wanted to focus on the sparks of hope and life energy she could give to these people non-verbally During *Amors Anding* by Stefan Nielson, she had a dialogue with the Devil, who said that she only wanted to be with ill people because they felt worse than her, and then she could feel on top. The music inspired her to throw these thoughts away and trust herself. When asked of she could imagine a symbol of her intention she saw two hands gently holding other hands.

The participant actually after some months found a working place on an institution for handicapped people where she could both use her caring hands and be a bookkeeper. I will comment on three aspects of the example. The first is the resistance or negativity that seems to pop up when focusing on a wish and a positive intention. There are very many arguments that could have held her back from ever trying to follow this heartfelt need and wish to bring meaningfulness into her work situation. It is interesting that the music is working on the side of the "good guys", and brings support and inspiration to help her stick to her vision.

The other aspect is how she got into contact with her strength and could formulate it clearly as a statement. Is was her conviction in the beginning of therapy that her life was a story of misery, so it was very special that she in her sixth session could argue her qualities aloud. Thirdly I would like to comment on the work symbol. It seems to catch her vision very clearly, and I would have liked her to do it in clay to remember it. The nonverbal image or symbol held for her the central meaning that actually had the power to change her work situation in a positive direction and hopefully also have a stress preventive effect.

8.3.20. Comments to the process of identification of themes

After having identified the first draft of a list of main themes I carried out a a check up procedure. The main theme "Gathering resources/supportive experiences" was split up in new main themes because it was not homogenous. For instance supportive contact with relatives, contact with the inner child and experience with nature contained very different experiences. As earlier discussed gathering resources is seen as an important part of overcoming trauma and chronic stress, so I felt it as a loss to delete it as a main theme, and it will still figure as an important background for the understanding of the GIM process. In many sessions resource imagery evolved in response to difficult material in a cyclic process (Körlin,2002; Beck, 2007b; Irgens-Møller,1995).

Contact with the inner child at first was associated with gaining resources, but in some of the cases there were also traumatic memories related to the inner child material. I created a main theme covering all sorts of inner child experience.

Several main themes were first identified but were finally not accepted in the list. My reason for that was partly quantitative. I would not have too many main themes, and I would not have themes with only one or two sessions represented, if I could place the relevant sessions in other categories in a good way. The following themes were not included. The theme "Emotional processes" was seen as the main focus of two journeys, although emotional processes were part of very many journeys. In one of the sessions the emotional process was constant crying, but the sorrow was strongly connected to both present and inner child experiences of loneliness, and I found it more meaningful to see the emotional outlet as a part of a process than as the main theme. I think, though, that it is a very important part of GIM to get access to and express feelings. Another theme that also represented in quite a few journeys, but in my view not as the main theme, was "Existential questions". The theme is very important as many chronically stressed can be brought into considerations about their whole life situation, their professional survival and sometimes also their physical survival. Some of the sessions worked with death, and some of the sessions worked with justice, good and evil. A third theme that could have been listed were "Transpersonal experiences", which I found in 3-4 journeys, for instance the abyss of love (2-3) , the experiencing of own out of body journey after burial (12-5) and being in a tunnel of light (15-5). The reason why I did not list it is a theme is that I have come to validate transpersonal experiences not as isolated experiences but as connected to life and to the total GIM process. The theme "Symbol of

stress situation" was left out because it only covered one session – but it is also a very important way of working, where the journey resulted in imagery and a mandala that described the whole stress situation. One journey was difficult to put under a theme, as the session focused on a mandala of a dancing body and matching the quality in the picture with the music. At last I placed it under symbols of work satisfaction (14), but it actually covered the essence of being as well as it expressed the improvement of the participant. A main theme covering "mandala-directed journeys" or "body image" could have been created, but since it was only one journey, it was left out.

8.3.21. Creating meta-categories

The work renegotiation theme (14) which is very interesting concerning the sick leave situation of the participants was renamed confrontation/renegotiation related to work/sick leave. After having scored the sessions, I got the idea to find out how many of the sessions, where work problems had been the main issue, had to do with the relations to people at work (managers, colleagues, clients, pupils, customers etc.). And how many of the sessions including work-related problems dealt with personal attitude, overload of work tasks, effort-reward or control-demand. I looked back into the transcripts and found that the participants in ALL of the sessions about work problems worked with difficult relations to managers or colleagues, and in one case the relation to one very problematic child in a school class. The GIM journeys were not about managing difficult work tasks, overwhelming amounts of work, or being alone. They were about expressing anger and repairing or straightening out relationships. As a matter of fact the therapeutic work with ways to cope with work tasks as for instance how to learn to prioritize or take pauses often happened in the verbal parts of the therapies.

After having looked at the relational work being done to follow-up on the sick leave problems, I became curious to see if the imagined future work journeys included this perspective on relationships. The relationships did not appear as a main theme in any of the journeys but appeared as an issue for instance when imagining how to give loving attention to other people, or to be in a peaceful workplace. It was the well-being, the absence of stress, the creativity or the meaningfulness that was in the focus. This led me to pose many new questions: Is it because the importance of relationships is not a part of our cultural focus when thinking about work? Or is it because one does not imagine the relations going wrong before it happens? Is it a result of different kinds of guiding by the therapist? These questions will be further discussed in the discussion chapter.

After these discoveries, the theme relations became a guiding focus to look at all themes in order to try to identify meta-categories. When looking at the themes, it became important to focus on a (now deleted) main theme that was close to a main theme identified in the foci related themes as "Personal music-guided stress management" namely "Coping/management of current stress situations". As I looked into the session transcripts with the relational theme in my mind, it became clear that these journeys (3-5/8-1/10-3/13-1,2,3,4/15-4,5/20-1) also could be placed under some of the other main themes, except for one journey. This journey dealt with a momentary economic crisis that was stressing for the participant, who took the situation and stress into a journey (10-3). It was scored under "Uplift/relaxation by being in nature" because that was the way the participant dealt with his stress.

The whole organization of themes was rounded off when the 14 themes were identified and all journeys were satisfyingly scored. It was in a way frustrating that it was that easy to reorganize the sessions under new main themes, seen from an ideal principle that the themes

should come clearly out of the data. It was a learning lesson that the identification of themes necessarily is connected to the (changing) focus of the researcher, and happened in an intense process of going back and forth between categories/themes and data.

8.3.22. Location of processes in course of therapy

Looking at the session numbers in the different main themes, there is no support in the data to establish a clear phase structure in the material. But nevertheless there are some tendencies:

- The experience of bodily sensations as a main theme happens in most cases in session one. This can be explained by the way the introduction to GIM is established especially with participants not experienced in therapy: in the first session they were instructed to feel themselves and the music and notice what was happening. Another way to look at it is that in the beginning of therapy, the feeling of disconnection and numbing is at the foreground, and the opportunity to begin to sense, be aware of and identify positive and negative sensations in the body is a very important step. For many of the participants this helped them to feel that they could benefit from the method and supported the move towards a more theme- oriented GIM work.
- Work-related or family-related renegotiation/confrontation is often happening in the middle of the therapies.
- Not surprisingly the dreaming of future workplaces and looking for energy symbols of joy or meaningfulness related to work almost in all cases took place in the last sessions of the therapy course where the perspective changed from looking back to looking towards the future. The fact that so many participants were able to look ahead is interesting due to the few sessions they have had.

8.3.23. Definition of meta-categories

As already mentioned a meta-categorization based on the kind of relation came out of the material, but it was not closely bound to time or phases in the therapies. One group of themes seems to describe the relationship to one's own bodyself and inner world, another part of the themes describes the relationship to other people (family members and work relations), and a third group of themes seems to describe how the participant relates to the outer or inner world or environment. The last meta-category contains the journeys where the traveller's dream about their work future and place, but obviously some of the journeys where they see themselves in an inner landscape or nature environment could both be in meta-category two and four. In the following table the 14 themes are presented in four meta-categories.

Table 8.3. Meta-categories of main journey themes

1. Relationship to bodyself
1 Body sensations 2 Deep relaxation 3 Pain relief process 4 Energy process
2. Relationship to inner world
5 New ways of being 6 Contact with the inner child 7 Transformative journey in inner landscape/space
3. Relationship to other people
8 Memory of supportive relationships 9 Confrontation/renegotiation with family members 10 Confrontation/renegotiation related to work/sick leave
4. Relationship to surroundings/the world
11 Deep music experience 12 Uplift/relaxation by being in nature 13 Finding a work satisfaction symbol 14 Imagining future work

A way to further bring down the meta-categories to two could be to include the themes in inner/outer worlds.

Themes related to the inner world (1-2)

Themes related to the outer world (3-4)

However, the meta-categorization does not fully satisfy me because it seems like the processes of "inner transformation" is linked very close to the relationships and experiences in the "outer" world when it comes to GIM experiences. Another way to sort the fourteen themes would be by their frequency, a more quantitative way to handle them: which themes are occurring in most of the journeys. A table with this kind of order will be presented in the mixed results chapter (9).

The discoveries of the importance of relationships in work stress inspired the following reflections.

8.3.24. Researcher's reflections on the social aspects of stress

Stress is earlier defined as a biopsychosocial mechanism (2.1.6). Very often, both in psychological and medical literature, stress is discussed from an individual perspective, looking at the inner processes in the single human being. If we look at psychosocial aspects of sick leave from a second person's perspective, the person who gets caught up in chronic stress must be seen as a part of a social interplay. The chronically stressed person has probably experienced interpersonal problems with managers or colleagues, where conflicts have not been solved, or the person is left in a inferior position as victim of scape goat group processes, power struggles, or winner-looser situations leading to feelings of helplessness, inadequacy and shame. Shame, according to Honneth (1992) and Meyer (2010) can be activated when there is a lack of acknowledgement from the surroundings/important persons, and the evil circle of shame including hidden rage and despair causes withdrawal with the consequence of missed opportunities for further social support or acknowledgement.

Strong feelings of shame might be related to earlier unresolved trauma or neglect that can be reactivated by the actual situation. A threat of being marginalized, victimized or loosing the role or place in the social hierarchy that one thinks he/she deserves or is qualified to, is at hand. The social ”life threat” might be a big part of chronic work-related stress, as the workplace for many people is one of their primary sources of social connection and identity. Shame and the related feelings might be part of the biopsychological trauma-related numbing response following overwhelming feelings and exhaustion in the face of a situation where it seems impossible to cope with the humiliation or marginalization in the social group.

The numbing of the body can lead to a head/body split, where people tend to shut off their sensed connection to their body and try to function from a rational perspective (head and brain) using will power to ”survive”. The proprioceptive and interoceptive processes (feelings of inner organs, limbs and inner states) are connected to the experience of arousal leading to the appraisal of feelings. As the function of feelings and emotions also is to navigate in the social sphere, this is another way to describe the loss of social compass that follows a numbing response.

8.3.25. Summary of results of the horizontal analysis of transcripts

The analysis of the journey transcripts was described thematically with short descriptions of each session, short narratives of the whole therapy courses, and the identification of 14 main themes describing the issues and content in the whole material of GIM journeys. The 14 themes were structured by four meta-categories.

8.4. Participants' comments on the therapy

The study did not include a systematic evaluation of the participants' view on the treatment. However, I have chosen to include the spontaneous comments that I have collected during the study. The comments are not focused especially on the music journeys but on the therapy as a whole. The inclusion of the participants' evaluation does not serve as a triangulation of the results, but as a way to shed light on the results from another point of view. The significance of the data is modified because of the non-systematic collection and the general view of the comments.

I will bring in quotations of comments on the therapy that occured during the therapies and meetings with participants. I took care of writing down their comments word for word in order to use them as data, but they have not been member checked. I also add quotations from the questionnaires, where the participant was invited to write their comments after the questions, and from e-mails.

The comments connected to the participants of the four case studies in the vertical analyses will be be analysed further in connection to the experiences in therapy. I have sorted the comments in groups. They are each written in only one place, although some of the quotations could have been put in more than one section.

8.4.1. Mood change

Some of the participants expressed a change of mood to a more positive state from before to after a GIM session.

Participant 002 wrote on her posttherapy questionnaire, ”It has been a super course (smiley). I clearly became in better mood after each visit at Bolette's and went home with high spirits. I am very grateful for this. Big thanks to Bolette.”

No 003 said at the follow-up meeting, ”I was a little down before every session – then the therapy loosened up.” No 014 had a similar experience, ”I get more energy by the therapy. I sing when I leave the therapy room”.

8.4.2. Self-care

This participant expressed her acknowledgment of her own need of therapy on a regular basis after the ending of GIM. This can be seen as a new level of self-care and responsibility.

Participant 003 said in her fourth session, ”I feel good, especially 3-4 days after therapy. I have got an appointment with a psychiatrist when the therapy ends. I need to speak out with somebody about my daily life.”

8.4.3. Strength

Several participants expressed that they had got in a better contact with their own strength.

Participant 003 said in her last session, ”I got my strength back.”

Participant 008 said in the last session, ”I have had very much out of the images of my own self, I can use them. For example the diamond image; I am not that small and weak. The spirals: I know that I can get on, there are ideas enough to take from. The shield: I have to work on being more straightforward and say no. That's the way it is.”

8.4.4. Pain

One participant evaluated the way the therapy had helped her to get rid of chronic pain.

Participant 5 said at follow-up, ”Exciting therapy course, I have benefited from it. The pain in the groin has almost disappeared.”

8.4.5. Body awareness and relaxation

Several of the participants acknowledged the way the therapy affected their bodies. These expressions often describe the music as closely related to the body. They also talk about how the body awareness can lead to both mood change and ability to act.

Participant 009 said at the follow-up meeting, ”It has been very special to feel the music affecting me - the body and the breathing. I feel like doing many things but I am limited by my body. ”

Participant 014 said at the follow- up meeting, ”The therapy had a good effect. I have learned to think at one thing at a time. ”Shut the gate” - do relaxation by myself to get heavy – it is really good. ”

Participant 020 said in her fifth session, ” I feel more and more myself from inside for every session here. Before I felt from outside, I closed myself and used the head.” In her sixth session she said, “ It was nice to be talked down to relaxation.” And, “I have become better to

feel myself and take action from that. The music has helped me out of the unpleasant, otherwise I might have been stuck in the negative if I had not listened to the body."

8.4.6. The music in the sessions

Very few have commented on the music in the sessions. One person compared GIM with verbal psychotherapy and concluded that the music had made a difference because it helped her to get things (hidden emotions) out.

Participant 015 said in her last session, "Music gives an uplifting atmosphere; it allows all the good things that have been". And, "I had resistance towards the music. It is good that I have surrendered to the music. I had a psychologist but this (GIM) has given me more, things get out, you can't hide them. (I had a good psychologist, who could also hit me)."

A similar conclusion was reached by another participant, who actually stopped another therapy course at a psychologist after her third GIM session. She said, "I am off with the psychologist – music therapy gives me what I need."

I did not specifically ask the participants to compare GIM with other kinds of treatment, or cancel other treatments. As a therapist and researcher I acknowledge the work done by psychologists and verbal therapy in general. The study did not aim to compare two kinds of treatment. Therefore I think that the participants' conclusions have extra weight and that the effect of the music to reach hidden emotions and get into a process where they can be expressed and released has to be underlined as an explanation of how and why GIM works.

8.4.7. Relation to the therapist

I bring forward these very positive comments on me as a therapist realizing that a strong relation and rapport can be very supportive. I think that the experience of being understood by an empathetic person, who knows about severe stress, has been very important. The connection to the therapist in GIM also is reinforced by the common experiences of the music and imagery.

In an e-mail at the time of the follow-up meeting which was canceled because of physical illness, participant 002 wrote, "Miss my journeys together with you (smiley). You really made a difference. Thanks."

No 005 said in her third session after telling that she had cried at home several times, "Nice to be in a woman's hands".

No 012 said in his fourth session (with a smile), "We were to a family gathering. I don't like anybody anymore, except you (the therapist)." In his fifth session he said, "I have problems with mistrust, my wife also, but not you!" (I tried to help this participant to find positive aspects of the other persons in his life, but I think he might have felt quite isolated with his problems).

Participant 014 said in her fourth session, "I acknowledge the being together with someone who understands! And who is nice to be with."

8.4.8. The therapy method or the therapy in general

This group of comments is a little varying, but I have put them together to show different aspects of how the method worked, as well as a general satisfaction with the therapies.

Participant 006 said in his first session, ”I trust the therapy method”, and in the last session, ”I thank for the therapy course.”

Participant 009 said at the follow- up meeting, ”It has been good to focus on the positive (good things) and amplify these. It has been an eye-opener to use another part of the brain (points at right side of the head).”

Participant 016 expressed, ”I feel gratitude for the process”.

No 017 said in her first session, ”It is difficult to formulate experiences – it is a completely other way, unaccustomed.”

Participant 020 said in the last session, “The good things have been the thoughts after the communications, it has opened up some cues. “

The comment of No 017 about her problems to adapt to the method in my opinion were shared by other participants in the beginning. For instance No 015 also said that she had problems with the music in the beginning. This touches one of the back sides of GIM that it demands another way of relating to oneself, and a learning process in how to relate to the music and express oneself verbally at the same time. For people who are in great distress, the demand of learning new things can add to their stress load. More of the participants had a little performance anxiety about being able to get into imagery, or to get it to “work”. The fact that all kinds of experience in the journeys were accepted and allowed seemed to help these participants a great deal.

Participants 009 and 020 pointed at the aspect of the method that enhances “the good things” or resources, and the way the postlude can lead to new insights about oneself.

8.4.9. The way the therapy affected their daily lives/work situation

These comments I value very much as they describe some of the concrete life changes that came out of the therapies.

From a letter participant 004 sent after the last follow- up meeting, ”I have taken action on several of our themes: I have got a job on the office of an institution with young people with special needs. And I have also taken the first massage course. Still anxiety and sleeping problems.”

In the evaluation in session six, participant 008 said, ”I now know that I am able to finish things in a difficult situation. It was hard, I was not able to return (to work) without this course. It is time to do what I have been thinking about the whole time unconsciously: to teach, to work more artistically. It is difficult but it doesn't seem scary. It seems good, accessible, giving for myself. I am more sure about my own ability to imagine and do creative work”.

Participant 011 said in her third session, ”I am grateful for the therapy. I show my emotions more to my family”.

Participant 002 wrote on his final questionnaire, ”I feel that I have come a great deal further through my crisis by the help of the verbal therapy during the course of Mustress” .

Participant 014 said in her sixth session, ”I have got a feeling of calmness and motivation to take decisions. I am going to visit my workplace tomorrow (for the first time after her full-time sick leave). I am still tired, I have to start slowly.”

Participant 015 said in her last session, ”After working with the sorrow: I feel that I am able to live again. I am surprised how much I can get out and relate to people - a contrast to when I was down and on the way to a depression. I am better to push unnecessary things away from me: it can well wait to tomorrow. I don't live under other people's premises – I can be my own sun!”. At follow-up she added, ”I got many tools, but I am still not through it. But I am able to invite people even though I have not vacuum cleaned for two weeks.”

Participant 018 said at the follow-up meeting, “I refer (my daily experiences) back to similar situations in music therapy. I live with my manager as he is. I have become better to prioritize my cases and close my office, and after a flue I stayed at home until I was completely well again instead of going to work too early.” As a social being the participant had been rather closed off during her part-time sick leave, but now, “I meet people again, I am more social at work, and I am joining project groups again offering my ideas and suggestions.” She has improved her ability to always give in to other people's needs in her family, and feels that their life together has become more fluent.

The described benefits from the therapies are varying. Some participants commented on their increased social functioning: showing emotions more, ability to be more in contact with others, a feeling of personal strength and autonomy. Some commented on the emotional coping they had experienced, for instance to get through their crisis, and to get through sorrow. Other participants commented on increased mental abilities, such as the ability to prioritize and put aside unimportant tasks or increased ability to take decisions. The ability to use the will power and to distinguish and prioritize is often affected in stress conditions, so these pieces of information show that an important shift has taken place even though it is mostly observed in details. According to changes in work situations, no 004 reported that she actually had found a job that connected to her image of work satisfaction, although she still was struggling with stress symptoms. No 014 right after her sixth sessions found herself ready to visit her working place and make appointments for the return. No 008 commented on the impact the therapy had for her, and that she had not been able to return to her working place without the therapy (see the case studies). And no 018 felt better able to manage the daily stress working as a manager, and she had become more socially engaged as a result of therapy.

8.4.10. Summary of participants' comments to therapy

According to the participants GIM therapy helped them to change negative mood states, relax, increase their inner strenght and improve in mental coping. Some experienced a positive relation to the therapist and the music, and others reflected on their improved ability to social contact and support to job return.

8.5. Horizontal analysis of the use of music

In order to know more about the bodyself in relation to music, in this part of the analysis I will look at all the music pieces I have used in the whole study. I will try to get an overview over which types of music have been used throughout the study. The analysis will partly rely on tables on the quantitative use of different categories. I will also look at the use of music CDs at home and what the participants were reporting about that. In the vertical analysis I will look at the specific use of music and try to identify what was important when working with people with stress.

8.5.1. Music pieces used in the whole study

In the GIM sessions I used the whole repertoire of tested GIM programs with special emphasis on the set "Music for the Imagination" (1996). The Mustress CD 1 and 2 I found useful with the participants (5.4.3).

Looking back at the therapies and at the list of music pieces, it became clear that I often used the music pieces from the CDs in the first sessions. I intuitively made playlists at the spot of some of the pieces from especially CD 1 to assess what kind of music would work with the specific participant. The process of intuitive programming is described by Lisa Summer (2010). I practised the programming of music to match the initial energy level, mood or need of the participant or the metaphor or focus of the journey, and I also programmed music during the journeys when I found it beneficial to for instance repeat a piece, choose between several pieces or completely change the playlist.

After the first session some of the participants listened to "normal" GIM programs, and some of the participants still needed modifications or shorter programmes made on the spot, or they needed music that was more meditative and relaxing. I experienced that many of the participants in the study had quite strong egos, and their conflicts were quite complex and sometimes had existential elements. In order to match their strength and issues and give them opportunity to work through quite dramatic situations, I found it appropriate in some cases to play evocative music, and it worked out well.

In order to be able to see precisely how much the different sorts of music was used in the study, I started to define some categories of music and count the number of times they were used.

8.5.2. Music categories

I defined four categories of music and scored the music programme of each session in these categories. Two of the categories are the already established GIM programs known as either "Supportive" or "Evocative" . The two new categories were formed inspired by the two CDs that I had made for the participants to take home. The first CD contained among other pieces beginning and ending pieces from the basic GIM programs as well as pieces from Dag Körlin's *Music Breathing* Programs. I used these pieces for assessment and for journeys with a focus on body consciousness, relief of stress symptoms, contact with resources and safety. I labeled this category "Containing". The other category was music pieces that were even more supportive and relaxing. I initially thought of them as music that could help the participants to fall asleep. It turned out that quite many of the participants needed this kind of music to be able to feel supported by the music and have a positive experience in their GIM journeys. I

quite often used these pieces for deep relaxation and also for the containment of participants in vulnerable states. I think of these kinds of processes as a gentle ”coming to oneself” and getting in contact with the body and the here and now, and therefore I named this category ”Grounding”. The music is not in the sense of grounding music where a lot of drumming and deep tones are used, it is more like a sustained and gentle holding, where the parameters continuity (long chords and tones) and predictability (repetition) are very important, as well as a soft and warm atmosphere.

I will shortly describe the four categories. To illustrate the dynamics of each category, I will show a graphic picture of the changes in volume. The pictures are copied from the music editing programme Audacity. The profile of volume is thought to illustrate the changes in intensity in the music, although other parameters such as rhythm, instrumentation, performance etc. also influence the intensity curve[34]. A piece from each of the categories will be presented.

[34] Bone (2007) described the ”MIA profile analysis” of intensity curves supplemented with text.

Figure 8.4. Volume profile of a piece of ”Grounding” music: *Blissful Moment* by Bliss

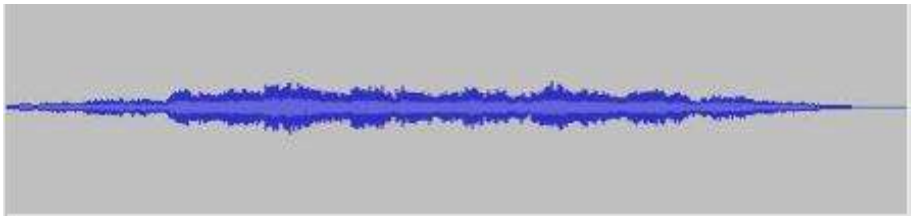


Figure 8.5. Volume profile of a piece of ”Containing” music: *Pieds en l'Air* by Warlock

Figure 8.6. Volume profile of a piece of ”Supportive” music: *Cello concerto in B-flat, adagio* by Boccherini

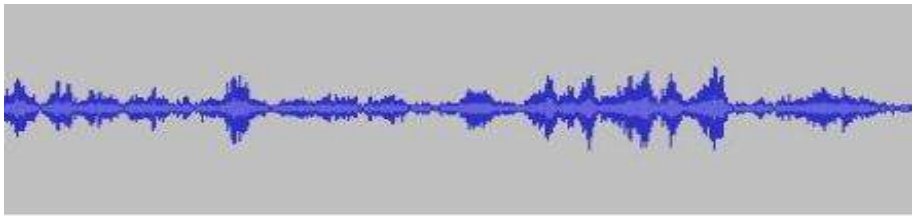
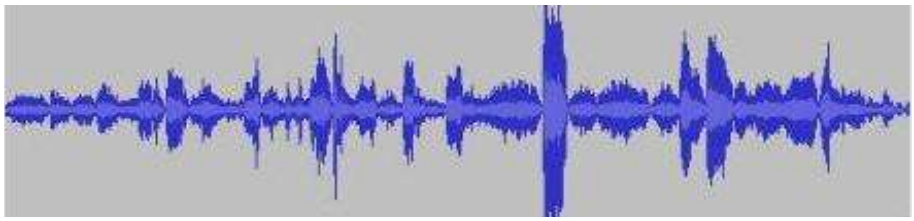


Figure 8.7. Volume profile of a piece of ”Evocative” music: *Laudate Dominum* by Mozart



As it can be seen there is an increasing degree of variation in the volume profile. The Relaxing music piece seems to have a more homogeneous volume level all through the piece than the other pieces. The three last categories seem to show increasing dynamic shifts in volume.

Table 8.4. The musical characteristics of the GIM music categories

Music categories	Grounding	Containing	Supportive	Evocative
Structure (typical)	AA(A)	ABA	ABACA	ABCD (A)
Dynamics	No dynamic varaition	A little dynamic variation	Some dynamics variation	Much dynamic variation
Melody	Repeated small themes or no melody	A soloist playing the melody repeatedly supported by the orchestra.	Melodies with variations. Dialogues in between different instrumentation groups..	Melodies and themes with variations. Parts with no clear melodies.
Instrumentation	Synthesizer, one voice, piano, guitar, harp, flute. Nature sounds.	Solo instruments with (symphonic) orchestra and/ or choir.	Symphonic orchestra and/or choir.	Symphonic orchestra and/or choir.
Rhythm	4/4 beat or fluent	3/4 or 4/4 beat	3/4 or 4/4 beat	3/4, 4/4 beat or varying beat.
Tempo	Slow, 60 BPM	Slow, 60 BPM	Varying slow-medium	Varying tempo
Sound	Soft, diffuse, warm.	Soft, warm, clear.	Varied sound.	Very varied sound.

The musical parameters for each category is not made by an analysis of the single pieces but is more based on my estimate. As it can be seen, the more evocative the music, the more variability in most of the parameters is seen. The Relaxing music often has another style and instrumentation than the other categories.

8.5.3. Frequency of the use of music categories in the study

When I tried to find out what category fitted the music pieces of the single GIM sessions, I discovered that some of the sessions mixed two of the categories, so I added mixed categories in the analysis. The categories were:

1. Grounding
2. Grounding/Containing
3. Containing
4. Containing/Supportive
5. Supportive
6. Supportive/Evocative
7. Evocative

In the following table, the music category played for each participant can be seen.

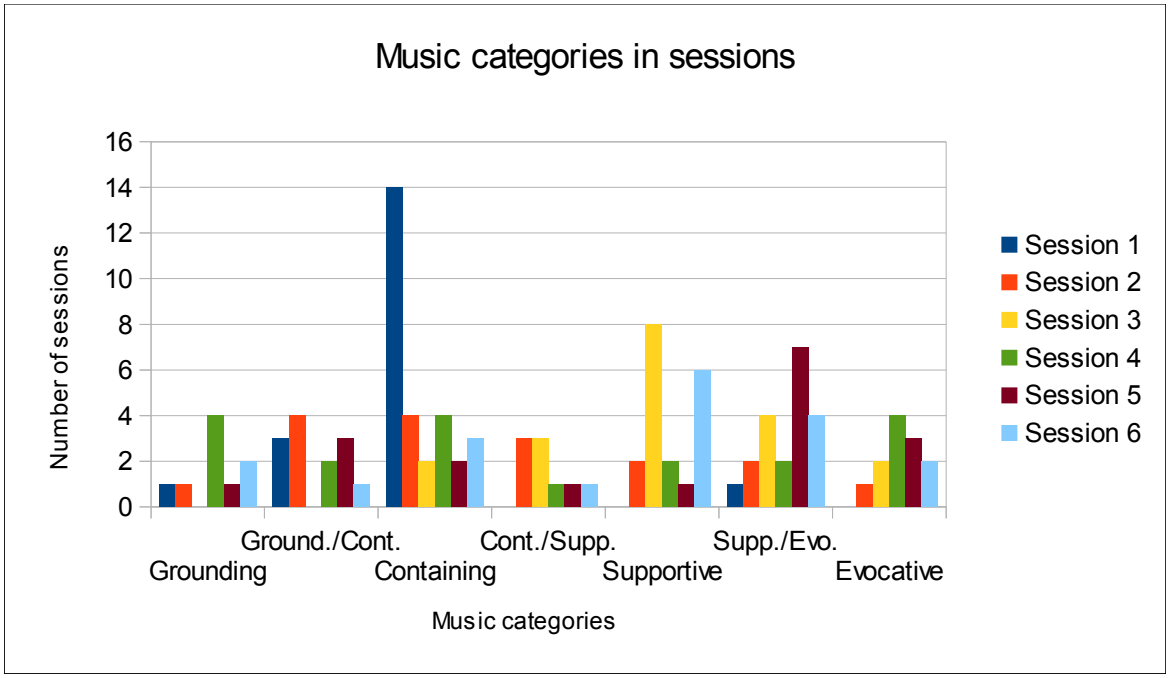
Table 8.5. Categories of music for all sessions and all participants

ID	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Average	Under 3,5	Over 3,5
2	3	3	5	6	7	6	5,0		x
3	3	4	4	3	2	5	3,5	x	x
4	3	1	6	2	2	3	2,8	x	
5	3	7	5	5	5	7	5,3		x
6	3	4	6	7	7	5	5,3		x
7	3	7	7	3	1	6	4,5		x
8	3	3	7	5	6	5	4,8		x
9	2	3	6	6	2	1	3,3	x	
10	2		3	1	6	5	3,4	x	
11	6	5	6	7	6	7	6,2		x
12	3	2	3	1	4	4	2,8	x	
13	3	6	5	7	6	6	5,5		x
14	3	2	5	7	7	5	4,8		x
15	3	6	5	4	3	3	4,0		x
16	2	2	5	1	6	2	3,0	x	
17	3	2	5	1	6	3	3,3	x	
18	1	5	5	3	6	5	4,2		x
19	3	3	4	3		6	3,8		x
20	3	4	4	2	3	1	2,8	x	

At first I will interpret the three columns to the left, where I investigated how many of the participants had music primarily from the first categories in more than half of the sessions, and how many participants had music from the three last categories in more than half of their sessions. One participant (3) had an equal balance and was placed in both groups. It can be seen that there are 7(8) participants in the category of primarily grounding and containing music and 11(12) participants in the category of mostly supportive and evocative music. The first group seems to need a modified music repertoire, and the other group seems to be able to use the usual GIM repertoire. This is quite interesting, in light of the initial definition of the study as a modified GIM project. It seems that more than half of the participants can use the usual GIM repertoire, and only initially or occasionally need to have more holding or containing music. I looked for how fast it could be estimated what type of music profile the participants would need. This could not be clearly realized before the fourth session.Several of the participants developed a greater tolerance for more challenging and dynamic music in the scope of the therapy course, as they got acquainted with the method, and as their symptoms started to decrease.

In the following table it can be seen how many times each of the music categories were used, and if it was in the first or last of the six sessions of the therapy courses.

Figure 8.8. Number of music categories in GIM sessions



In the table it can be seen that the use of music from the categories is almost equally spread on all categories. The blue column in the middle indicates that in 14 sessions Containing music was used for the first session (assessment/learning the method). Supportive music was used eight times in session three and six times in session six. Supportive/Evocative music was used seven times in the fourth session. It was typical for the middle of the therapies that supportive programmes or pieces from both supportive and evocative programmes were mixed to provide more depth to the journeys than the containing music could give. The use of exclusively Grounding music was generally not as frequent as the use of exclusively Evocative music.

This attempt to quantify the use of GIM music in the study of course must be interpreted with much caution: it is the individual client and her/his developing relation with the music that is important. There is no judgement involved in which category is the "best" music, only the attempt to find out how this group of people can be helped the best way, and what GIM practitioners and other providers of music for stress need to be aware of.

The quantitative analysis of the use of music in the study indicates that there was a need for a modification of the normal GIM repertoire, especially in the beginning of the work, but it also indicated that more than half of the participants had or developed a tolerance for the usual GIM repertoire, even including evocative music pieces and programmes. In order to understand more qualitatively how the participants experienced the music a deeper analysis will be made in the four case studies (the vertical analysis). However, one of the participants who has not be chosen for the vertical analysis, worked in her last journey with her impression of the use of music for work stress. I think that her insight would serve as a good ending of this section:

Participant 018 during her last GIM experience reflected on how music helped her cope with stress in her working life. She listened to Sibelius' *2. Symphony , 1. movement* that can be characterized as a quite evocative piece with a lot of thematic, tempo and intensity variation.

It is part of the Creativity program and has a bright atmosphere with periods of expansive and fast movements as well as more quiet passages.

The music helped the participant not to identify with her work completely. At first she talked about her many tasks as a leader and how she easily could be carried away by the merry-go-round on her working place. She said, ”The music provides distance or lightness. I can allow myself to let go of all these demands. I can be more real, without having to sink or to fight like a maniac to keep going in the merry-go-round...That melody (string theme beginning in minute 1.19) can get me to not feel so weighed down, it helps me to look at it at a distance instead of being so swallowed up by it....”.

The music helped her also to trust more in herself. She said,

> When I look at work it is fantastic how the music helps to create that distance. I see the pile of papers and have this destroying feeling of not being able to make it. When I listen to the music it makes me easy, it allows the faith: of course I can manage my job. It is also like the music is telling me that I shall not be identified with my job, I shall just accept that I can pull out the wire and say: I will work home today.

The participant talked about how music could be a part of her working life, so she could use it to integrate a right brain activity and the sense of self-accept she got from the music, saying:

> Those melodies; imagine if I could be good at integrating this accept and give myself the time and calmness needed to play the music! If it could get in and stay there - so it could get to other places than words and brain.

She felt that the music confirmed her in her choice of career, and helped her focus on the meaningfu and life enhancing parts of her job. In the journey she experienced herself on the job:

> When I listen to the light passages in the music, it gives me air and calmness. It is like being in the right place[35]: in touch with people, giving, doing hard work, seeing little girls drawing, having a good talk with the staff. Really nice! I am at that place, thank God! The music is saying: nobody shall have the right to destroy that, I can manage to be a leader in 2009 at my place. ..I think that I shall take the chance to create a distance to the negative part of my job that keeps me awake in the nights. Try to put on the music after a working day or in the morning, or when I feel sad and do not feel I can make it... The music can create a distance, a breathing space.

For this participant the music was activating a strong emotional reaction including the feeling of accept, support and lightness that she experienced. She repeated many times how the lightness of the music created a distance and helped her to not be swallowed up by her work. She integrated the lightness and calmness of the music and used it to see another way of being at her work. The example finally showed how the music process cut into the core and reached her feeling of gratitude and meaningfulness. It gave her access to her deep motivation from where she could draw energy. As she listened to the music I think that she felt it gave her a deep acknowledgement of having reached her right place with her personal values intact.

[35] ”The right place” was translated from ”den rette hylde” that in Danish have a deeper meaning of having found the place or niche where you fit in perfectly because of your personal qualifications.

8.6. The use of the music CDs at home

The development of the use of music in this study also was influenced by the homework with music that the participants were asked to do. Each participant got two CDs with music and were asked to listen to the music in a relaxed position as often as they wanted to. Not all participants found time or opportunity to do that. In the original design I had included a diary of music use in the home, but I found that they already had very many tasks with questionnaires, hormone tests etc., so I cancelled this. Instead I will report spontaneous comments from the participants about their use of the music CDs at home. When they were speaking about a ”sequence” it means one of the four ”mini-programmes” on CD 1 (5.4.3).

As with the comments on the therapy already described above, I noted the comments directly as they were spoken in the sessions. But in order to group them more precisely the comments have been cut into bits in the following description, and I have chosen not to relate the single comment to a session or a participant. After the presentation of the selected comments follows a summary of the functions of the home listening. A full record of the comments can be found in the appendix.

Some participants told that they used the music as background music when they did other activities, such as driving, knitting, ironing or exercising. One participant said, ”I listen to the music while cooking and in the car. I do not listen to a whole programme (sequence). I am not sitting down with it.” Another said, ”I have heard the music a couple of times in the living room while knitting. I like it.” And a third one, ”I trained cross-trainer to the music. For 28 minutes....I listen a little in the car.”

Three participants experienced slightly negative experiences when they listened to music at home, saying, ”I am afraid of feelings connected to music listening.” The other participant said, ”I have worked with the music at home. After a long time I get a sort of a feelingof anxiety around the breast, like a breath of air/a puff. I am completely groggy afterwards.” The third participant said, ”I listened to music a couple of times in combination with mindfulness. I frequently get pressure in the neck, headaches and jerks in legs when doing mindfulness. One day the music ”danced on the eyes”.

Another has benefited from using the music when doing housework. She said, ”I listen to music while ironing, for 1 1/2 hour. I imagine lots of things, get into a feeling of indulgence/tolerance. Like candy floss. I listen more deeply to music, sink into it.”

The same client also used the music to regulate her emotional state. She said,. ”The music allows me to take breaks and do nothing and relax. I could not relax before. I have learned to take things more light. I have become calm in a good way. The psychologist just listens. The music takes you down; if I get upset I can take myself down before it gets too wild. I use it to mark a boundary: after 3 minutes of the first cut on the CD the thoughts are gone. I find this good! For instance when I got upset about local wages – then I listened for 5 minutes and I could get on. It is like a car – some things you use. You have the music all the time in your everyday life, if there are 3 weeks before the next consultation – then you have it.”

Another participant also learned to regulate her emotional state with music, saying, ”I listened and became wonderfully relaxed, but it is not the same as here (therapy). I listen to music at home, nice! It is another kind of music. I have learned to accept thoughts that pass by. I get down into myself and feel my feelings, unfortunately I have no inner visual imagery.”

A third participant reported that she used the music to regulate her affects. She told about a situation where she had been extremely angry, then she listened 2-3 times to a copy of the Creativity 1 program, and then it was over - “like taking a pill against headache”.

One participant reported that using the music as background music had no effect but when he lay down and listened it was helpful, saying, ”I listened three times to house work and as a background: no effect, then I listened eight times to the music (cut 12-15) to relaxation with a good effect. It is the way I use the music at home: to get down in gear and load up energy”.

Several other participants told that they had used the music to relax, ”I have used the music a lot, especially the last five cuts. Doing relaxation with music from the CD helps me.” Another one said, ”The two first sequences give calmness. I want to hold on to that. It feels heavy in the body.” A third one, ”I listen to the music lying in a sunbed in the garden with headphones on. A nice ritual – I do something for myself”.

One participant with severe sleeping problems in her second session told that she had succeeded in letting the music to help her fall asleep, ”I listened to the music and fell asleep.”

One participant told how she used the music for somatic release, saying,”Music has been an enormous help. It has given somatic release every time I have put it on. It has been valuable to work at home with pains and get them away. I have ”run” an uncountable number of trips. When I feel restlessness in the legs, I feel the music around the legs or behind the legs. Then the legs start to vibrate, then it goes down and they begin to walk: it is an action taking place, physically.”

A few more of the participants had done breathing exercises, imaginative work or drawn mandalas with the music at home.and said,

”I did my own session on mother, and got a clear view.”

”I have done breathing exercises two times the last week to cut 13-15 at bedtime. It has been a pleasure. I need to lie down.”

”I listened at night to the Sleep CD and got into all kinds of experiences – thought of grave yard and all the ones I have lost. ”

”I listen to the music every evening. I use images from my journeys in the morning and at work.”

”I cried to one specific piece and imagined father dancing.”

”I have been drawing mandalas every day to music.”

There were many positive reactions on the music CDs. One said, ”It is beautiful music, melancholic.” Another said, ”I would like to have this music played to my own funeral!”. A third one said, ”I listened to the music CD: it was good!”.

Quite a few reported that they were happy about listening to music but that they preferred other kinds of music for their process: ”I simply love a James Last piece with harmonica: it gives air in my chest and releases me”. The same participant said, ”I wouldn't have chosen the Pachelbel, Brahms or Bach myself.”Another said at the follow-up meeting, ”I do not use Mustress, but I love other music”. A third one said, ”I listen to Enya, Mustress has become too ”heavy”.

8.6.1. Summary of the home use of music

As seen in the quotations, the experiences of the 19 participants had been varying and also had developed in the course of the study. In some cases the music was used as a background for other activities and in some cases it was used with full attention on the music. Both ways seem to be working well for different participants. Some of the participants reported that they picked out the pieces and sequences from the CDs that they found most helpful.

Music listening had for some of the participants caused experiences of anxiety and painful imagery or body states. Most of the participants reported very positive experiences with the home use of the CDs. Many participants appreciated the music on the CDs very much. The music helped them to deal with stress in many ways :

- to relax
- to fall asleep
- to get more energy
- to regulate their emotional state
- to establish a personal space
- to establish a boundary towards upsetting thoughts
- to get somatic release (from pain, restlessness etc.)

One of the participants even found that the music helped her to access new ways of being. These purposes are all components of the GIM experience.

8.7. Vertical analysis: multiple case study

In the vertical analysis the multiple case study will be presented.

The four case studies will follow the same disposition:

1. Contextualization of the GIM participant and therapy course
2. A description of the whole therapy process
3. Therapist's thoughts, emotions and body experiences during the therapy process
4. Analysis of the three themes: a) bodyself, b) coping and c) life changes (how the therapy is integrated in the daily lives).
5. Individual characteristics of the use of the music
6. Connections between case description and changes in the self-reported evaluations of stress/ the measurements of physiological effects
7. Summary of the findings

The contextualization will present the background for the case including personal data and history of work and stress sick leave. If any goals were set up for the GIM therapy they will be presented in the ending of the contextualization.

The descriptions of the therapy processes can be seen as the first editing of the case stories. They present the single sessions including records of the verbal conversations, the journey imagery and dialogues, the music and the mandalas. At some occasions there will be direct quotations of important passages from the transcript dialogues. In order to separate therapist and participant in the transcripts quotations the participant's comments are written with plain text, any missing words that I have filled in for better understanding are written in () brackets, the therapist's interventions are written in [] brackets, and the therapist's observations of the body are written in {} brackets. Music information is written I with italics.

According to point three there will be a short report of the therapy seen from my perspective as a therapist, including some of the most important body experiences, thoughts and emotions related to the therapeutic process. Of course the experiences I had with the participants were shaped by my own personality, previous experiences and philosophy, but I as a therapist am fine-tuned to and observant of the relational dance on an embodied level and also regard some of my experiences as reflections on the way of relating the issues the participant brought into therapy. Reflecting on the therapist's experiences can be a tool for investigating the preferred roles and kinds of interactions that the participant usually plays out in a relationship that also can be part of the personality-related background for chronic stress. In psychodynamic theory this partly unconscious interaction is called the transference/countertransference dynamic. However, I do not use the psychodynamic theory as a framework for this study, but try to consider the therapy experiences in a more phenomenological way. With inspiration from van Manen (7.2.1) I will call it the “lived experience of the therapist”.

As already described in the methods chapter, the analysis will be guided by three themes: the bodyself, the coping with stress and the life changes. Data material for the analysis of the bodyself is the participants' descriptions of their bodily experiences, the therapist's observation of movements, gestures, breath etc. from the sessions, and the mandalas with body-related imagery. I will look for development in body imagery, pain relief processes, relaxation, trauma-related physical processes, grounding and movements. Data material for the analysis of coping is the part of the sessions where work-related problems are in focus. I will look for coping strategies and processes that emerge from the music listening and imagery. As stress from private life is intertwined with work stress I will notice briefly development in coping with other kinds of stress than work-related stress. Data for the analysis of the way the processes of the sessions are integrated in the daily lives are only based on the participants' stories told in the sessions. This part of the analysis will be more superficial than the other parts and will serve as a perspective.

According to point five, the individual characteristics of the use of music were added as a separate section in order to be able to describe the way in which the music facilitated the embodiment and coping processes for each of the participants. The descriptions focus on individual ways of interacting with music that are specific for these participants beyond the generally described roles of music in GIM. The descriptions of the use of music have to be regarded as attempts to catch the meaning of experiences that seem to happen far from the verbal sphere.

After each of the cases reports of individual quantitative measurements are presented. This is a part of the mixed methods' strategy. I will look at the ways the qualitative analysis and the measurements correspond with each other.

8.7.1. Choice of cases

I would have preferred to present all the 19 case stories in depth, as each and everyone represented amazing and unique processes of therapeutic change and work. In order to exemplify the processes of stress therapy and music in more detail, the choice of the four cases has been made by the overall principle of diversity. The chosen cases should be able to show different themes, working styles, problems and results. As the cases are very different from each other it is not meaningful to group them, but it gives meaning to analyse cases that are in a way representative for the whole group of participants. Thus the choice of the four cases has followed these criteria: 1) They should diverge regarding the following categories: study group 1 or 2, sex, age and profession. 2) They should shed light on different themes and journey styles. 3) Furthermore they should be rich, complex and personal. 4) Despite their individuality they should also be representative for different sorts of problems typical of work-related stress. Regarding point 2: A description of different sorts of therapeutic processes in this study has been included in the horizontal analysis (the fourteen themes) and these themes have been used to look for representativeness of the cases. Regarding point 3: Different sorts of problems leading to stress were described in the beginning of the statistical results 6) and have been considered when choosing the cases.

At last I thought of the possibility of adding a negative case, in order to fulfil claims of validity (Smeijsters, 1997). None of the cases could be defined as negative cases in a strict sense, even though some cases showed a limited treatment effect.

The chosen cases are:

008/gr. 1: woman, designer, age 33.

005/ gr. 2: woman, pedagogue/leader, age 57.

020/gr. 1: woman, teacher, age 32.

007/gr. 2: man, pedagogue/therapist, age 55.

It has been difficult to fulfilall criteria perfectly. The age distribution could have been better by choosing a participant in the fourties; there are different perspectives in a work-related illness when you are in the beginning, the middle or the last part of your working life. Two of the four are pedagogues, which is to some degree representative because six of the 19 participants were pedagogues.

8.7.2. Full text of the cases

The transcripts of the sessions of the four case studies can be seen in Appendix 9 (in Danish). I have chosen to write them in Danish because there are a lot of the expressions that are culturally bound and difficult to translate.

8.8. Case one: Woman, designer, age 33

8.8.1. Contextualization

The participant was 33 years old when she was accepted in the study. She was educated as a designer, and at the time of her sick leave she was working in a clothes factory, where she created motives for t-shirts. She was working as a nine months' maternity leave substitute.

The company had hired two persons for the substitute job, with the aim of hiring one of them in a permanent appointment. Her colleague got the appointment, and also started to act as an informal leader of their small working group of three persons. The colleague was dominating and criticized the others. The participant was not sorry of not being the preferred person, but she had problems with the atmosphere at work, and especially with the way her colleague and the manager talked down to people. The participant often felt herself taken by surprise and was unable to talk back. She withdrew and felt unsafe and unsure about the others' opinion on her. After an inspiration journey to New York where she shared a hotel room with her colleagues for four days, her stress had worsened. She had become anxious and depressed, and was sweating during night sleep. She was medicated for depression, although she would rather not take medicine if she could get another kind of help. She had been depressed once earlier in her life. She had also been on sick leave once before because of stress. At that time she quit her job. She was afraid of losing her professional reputation, and of not being able to get another designer job if she did not complete her nine months' appointment. We discussed the possibility of participating in the study and getting support to go back to work and try to complete it, if she could.

In the first interview she told that she lived alone in a provincial town. She felt so bad about the way her last boyfriend left her one and a half year before that she because of these feelings scored all items positive on the PTSD scale in the screening. When discussing the diagnosis with her she did not find that she was having PTSD although she avoided the town where they used to meet and she often thought about him. She was brought up as a lone child, and it seemed that she was rather dependent on her parents' advice. She did not feel that they understood her or empathized with her situation, even though both the father and his mother has had a similar vulnerability. Her father for instance often asked why she did not just do her work and forget about her problems. She had several good friends, but not so close that she could discuss her illness.

She had earlier in her life been following a course in cognitive techniques that helped her deal with depressive thoughts. She formulated the goals for the GIM therapy as:

- Getting tools for controlling and managing stress
- Completing the last months at her job
- Organizing her life in a way so that she would feel good and avoid stress and suffering a defeat
- Looking at possibilities for working as a consultant

She did not have any other treatment during the participation in the experiment.

8.8.2. Description of session 1-2

In the first session the participant defined the problems of getting along with other people as her central issue. She felt unable to mark her boundaries. As we found out that her breathing was superficial, she did a short breathing exercise to Stamitz' *Cello concerto, 2nd movement*. The focus for her GIM journey was to experience inner space in her body. She listened to the *Adagio of the Cello concerto in C* by Haydn, and felt a floating sensation and her body getting light, but her feelings were melancholic and she thought of her failures in life. Listening to six repetitions of Warlock's *Pieds en l'air* she felt more optimistic, and was reminded of how she liked to be inspired by the music that the teacher played in the beginning of the lessons during her study to become a designer.

Figure 8.9. Mandala from session 1, ID 008

I asked her to imagine a coloured psychic shield to carry at her work. She took her time to find the right colour and then imagined a moss-green colour surrounding her. I asked her to walk into the workplace with the shield on.At first she felt that people came from all directions and that the shield took too much space. She then imagined sitting in a corner and she experienced how people's words circled around and stayed outside the shield. She named her mandala ”I am demarcated (delimited)”. The yellow and green areas are her shoulders and back.

In the second session she arrived feeling very tense and tired after having been working full-time for some days. Her colleague had said to her that ”the manager must have done a bad job hiring you” and she had not managed to talk back. She felt ”on the edge of a knife”: to the one side were her knowledge and motivation and to the other side chaos and the needs of others. I asked her to express herself to the colleague imagining her sitting on a chair, and she said that she was sorry and sad. I asked her about her professional results, and she admitted that her work was good and that her designs had been selling well. She said that she would like to learn to love herself more, and to work in a better place. She went into the GIM journey with the focus on feeling the body. Stamitz' *Cello concerto, 2nd movement* was played twice. She breathed deeply and felt the tension in her stomach. She experienced the music entering her stomach and becoming one with her flesh, so that the softness in the music eased her tension. The music allowed a deeper layer of black substance to ooze out. Without the black layer she felt very soft and vulnerable. To Bach's *Double concerto for two violins, 2nd movement* scales grew on the outside of her stomach and spread to her whole body. She experienced them as female and sensuous. In the postlude we talked about using the reptilian part of the brain like a crocodile: either to think ”I want it” or ”I do not want it” instead of always having so many considerations.

Figure 8.10. Mandala from session 2, ID 008

8.8.3. Description of session 3

When arriving at the third session the participant again felt very tense after a hard week at work. She talked about how she put herself and her needs aside and that she needed to take more space at work. She also discussed the possibilities of working as a freelancer later on. After a long relaxation to meditative music exploring inner space in the body, I asked her to ”let the music help you to find out which place you want to take”. I chose a more demanding music programme than in the beginning in order to create a possibility for her to make contact with energy and strength (”Body Tape”). During the two Sjostakovich *Allegrettos from the 3rd and 8th String Quartets*, she experienced herself moving in many directions and levels in a straightforward and mechanical way. She moved with the tempi of the music, wildly and slowly and said, ”There lies some energy in it, related to work, to be in a wild situation and afterwards in a quiet situation. I do not see that I can't handle it. For example I am going to move fast and mechanically, and then I can suddenly do something which is very slow. Not a problem.” She remembered how she had learnt to be effective and sharp in her former workplace, also when creating. During the excerpt from Nielsen’s *5th Symphony*, she felt heaviness in her body. Her feet became like pillows standing steadily on the ground like an anchor even if the body was swaying with the wind. To *Carillon de Westminster* by Vierne she started to walk slowly on the pillow-like feet in the heavy rhythm of the organ music. The road was endless, steep and curved. It became more steep and then it grew into a wall, where she stood still in the wet, grey darkness. I asked her to see what the music would bring to her (Beethoven's *3rd Piano concerto, Largo*). She stood still and felt quite provoked, but after a while she found out that she could go around the wall and continue. On the other side it was light and soft, and at her sides spiral formed things were sprouting or drilling their way up from the ground as she moved forward and she said, ”They have a soft shape. But they can cut themselves up through the earth, they are not sharp, but they can get through. They glide very easily.” And she continued, ”I imagine that if some of them get too close to each other it would not be so good, then they would get entangled and stand still.” Listening to the Mahler's *Adagietto from his 5th symphony*, she went on up the mountain, but suddenly the ground was covered with ice crystals that risked to puncture the soles of her pillow feet. When asked if there was anybody around to help her, she admitted that she would have liked to get a hand to pass over the crystals but that she was all alone. I asked her to let the music open a possibility. ”At first it looks unapproachable but it has a weak side to it. It really can

be chopped into pieces, like crystals," she said. She considered different ways to deal with the crystals and said, "Fascinating, but repulsive with an ax (...)So, what I am thinking of is that it can melt. So I would rather make a fire." The crystals melted and she passed through and over a round hole. Soon after, the journey ended in a light hot place.

Figure 8.11. Mandala from session 3, ID 008

In the discussion she associated the spiral forms with her creative ideas and projects: When they first are up, they cannot be overthrown; they are strong like brass. She said, "There will always be plenty of them, but I need to work with one at a time, so that they would not be entangled." She recognized the way she passed the dark wall as a coping method: she thought that there would come many dark walls in her life, but she now knew that she should not be paralyzed but look to the sides and find a way around them.

8.8.4. Description of session 4

In the discussion the participant told that she still felt very tired, but that she was more in contact with the "reptile energy" from session two. With a big smile she explained that she could say "I do not bother" even though this kind of talking was not allowed in her family. She still was sweating and had had nightmares about colleagues talking behind her back, and about meeting her former boyfriend. She felt that she did not believe in herself and that somebody was after her to put her down. At the same time she assertively defined that she needed a year off work to develop herself, experiment as a freelancer and teach others the process of designing.

Before the GIM journey she did a grounding exercise imagining roots growing from her feet down into the earth. Her focus was to get in contact with self-esteem. The music was part of the Caring program. During Haydn's *Cello concerto in C, 2nd movement*, she felt herself standing straight up plain dark in a midnight blue space. She also looked at her body from below. In the end of the music piece I augmented the volume, and she changed colour and became greyish. As the *Andantino* from the *String Quartet* by Debussy began, she told, "Now there is something lurking, something like a black thing is coming towards me from each side. ..It also comes from behind and from the sides, and in front of me there is light. I walk towards the light, and it follows behind me a little that darkness." The light turned into a show

case made of crystal glass. She could get around it and inside it, and it was warm and nice inside. The light was shining a little way out. She said, ”So the darkness has no chance at all to swallow that glass showcase because it is so strong, it will not extinguish. And THAT is the place where I live!”

Figure 8.12. Mandala from session 4, ID 008

During the *Shepherds song (Pastorale)* by Bach the light coming from the crystal showcase began to shine upwards and she herself could follow the light. ”The light from the top can carry me up over the dark carpet and then I can stand and look out over the place where there is blue sky,” she said. She could stand on the light, it was attached to her feet like a magnet. She moved up to a place that she experienced as eternal and said, ”One can not pass higher up than there. Up there is the eternity. It is, there is a wind...it is very nice to stand in the wind a little while.” During the last piece (Warlock's *Pieds en l'air!*) she moved around on top of the clouds on the beams of light coming from the glass showcase. I asked where she would like to end the journey. She answered, ”(I) stand right over the glass showcase, at the place where I can look out over the eternity. There I would like to stand.”

After the journey she drew a mandala of the experience where only her feet could be seen. She said that the glass showcase could be another symbol of her defense mechanism. She was more visible in the show case than when she had crocodile scales. She told that she had designed a six angled coffee house once. The six angled structure gave it much strength and the crystal material was stronger than diamond. I asked her what the journey told about her self-esteem and she answered, ”As I am involved in that light, one must assume that I have a great deal of self-esteem.”

8.8.5. Description of session 5 and 6

In the fifth session the participant told that she had got eczema, another stress symptom. She felt more on top of her working situation, and had talked to her manager to clear out that he had not telephoned her ex-manager and discussed her. She was remembering situations that caused her first stress-related loss of work, and in the GIM session she did a renegotiation with her former leader.

Figure 8.13. Mandalas from session 5a and b, ID 008

As a resource for this she imagined a stress-less working place to the *Adagio* from Mozart's *Serenade for 13 Winds (Gran Partita)*. There she had plenty of time, space for developing her ideas, and a calm atmosphere. She confronted her old manager and allowed herself to talk back to her to Beethoven's *9th Symphony (Adagio),* Brahms' *2nd Piano concerto (Andante)* and Dvorak's *Serenade in E major*. She discovered that the words her manager had shouted at her last day at work, "you have lost your overview" actually were really not about her because she was not expected to have overview in her position. Critique from colleagues who said, "you are too slow and too finicky" she also addressed, and took pride in her own thoroughness with her work. In real life she had hid away, cried and fled. In the journey she left the workplace saying, "I do not feel like working for someone who does not believe in me!" and "I have no interest in staying." She imagined that she walked away and took the train home, feeling very relieved. By the way she still felt tense in her stomach and again confronted her manager. Even if it was not easy to be angry she managed to speak from the stomach about how she felt the manager was acting in a superficial way she was not being present and scolded her for humiliating her before her colleagues. She finally said, "And I do not allow them to destroy my creativity and motivation to go on with my life." In the end of the journey she felt very heavy and felt she had big hands. She drew two mandalas: one of her fantasy workplace and one of her feeling in the stomach. The mandala shows how the anger of the participant flowed like a dark cloud over to the manager (the person).

The participant finished her job successfully but without any celebration at her workplace after her fifth session. She thought that she had learned about herself that she was able to complete something in a difficult situation. We discussed her future working plans, and she told about two jobs she had applied for. She talked about her timidity and how she hated deadlines. She had always been dreaming of working as a teacher of creative design, and chose this as a focus for the journey. She listened to an excerpt of Ravel's *Daphnis and Chloë* and imagined how she worked in a light place similar to the classroom at the design school. She could see herself stand in the room and she felt calm. Listening to Brahms' *1st Symphony, 3rd movement*, she felt that she really could be herself because the people she taught were interested and receptive. I asked if there was anything special that she felt were really her, and she said,"to let it come from the heart, improvise, the passion in it." To

Respighi's *Pines of Rome (Gianicola)* she worked with the way she would deal with individual supervision of her students, and what she would do if the energy level was low. Finally she said about the creativity, ”It is about finding the energies we contain as human beings. It is all there, it only needs to be pulled out.” Her last mandala was green because there was bird song in the music reminding her of spring.

Figure 8.14. Mandala from session 6, ID 008

8.8.6. Evaluation and follow-up

The formulated goals of the therapy had all been reached. In her evaluation of the therapy the participant said, ”I am not that small and weak. I know that I can get on and that there are ideas enough. I shall continue to work to be more straightforward and say no. I think that the dream that I have had the whole time (to teach and work artistically) seems available, not dangerous, but good for me.” At the follow-up meeting nine weeks later she had got a job (again as a substitute) in a place without deadlines, to a better salary, where she could care more about herself. She had been contacted by her former manager to do some work for the factory as a freelancer and she had accepted it in order to get over her anxiety. Her designs had been difficult and she had used extra time, but she had not excused herself but taken a confrontation with the manager about it. Afterwards she felt that she had succeeded and won new respect. She had applied for teaching jobs but as she had no experience yet, she had accepted to wait for a while before she got into that. She had good sleep, no worries, did not get stressed when she had visitors in her home as before, and she had met a new boyfriend.

8.8.7. The therapist's comment

According to my notes I as a therapist in the beginning of the therapy thought of the participant as vulnerable, overwhelmed and isolated. I noticed that her circumstances were tough, but that she also had a fighter inside and a lot of insight. I thought of the importance of letting her get much space to talk and define her own needs. I contained an urge to protect and defend her, and support her to be strong. In the first session I intervened with the idea to create a shield instead of letting her stay with her own process, as I maybe would have done

in a longer therapy course. When working with the mobbing I felt angry on her part and started to defend her instead of letting her get to defend herself. I think that I might have identified with her attempt to protect her sensitivity and artistic self in the meeting with the "tough world" because I recognized her experiences being a sensitive music therapist/musician myself. I encouraged her to trust herself. She went into the world of music and imagery very easily, and the work felt very natural. I felt very moved by her experience in the fourth session, as she went up in the sky to the place of eternity. The grace and peace resonated with my own longing for "transpersonal states", but it also touched me so much that she could get there and take strength from her inner world in the process of depression and fighting for her work. The seemingly total remission of her depression and her way of getting on with her life seemed to be a really happy ending and it left me with gratitude and pride.

8.9. Analysis of case one

In this case the analysis of processes related to the bodyself and to coping are very intertwined, so I have had to describe certain themes twice to look at them from both sides. A scheme with keywords was produced to get an overview over the analysis.

Table 8.6. Keywords for the analysis of case one

ID 008	Bodyself	Coping	Life changes
Session 1	Lightness/depression Demarcation Shoulders	Moss-green shield	
Session 2	Tension in stomach Softening – vulnerability Crocodile scales	Crocodile scales	Back to workplace Mobbing continues
Session 3	Moving Pillow feet	Managing difficult path Getting around the wall Burning the ice crystals Spirals	
Session 4	Feet on light beams	Managing darkness Being in a glass showcase Access to overview and eternity	More "reptile energy" and contact with professional self-esteem
Session 5	Stomach anger Heavy big hands	Renegotiation of work situation Resource: The good working place	Feel more on top Reality check of rumours with manager
Session 6	Contact with heart and passion	Imagining work dream as a direction for future work	Successful conclusion of substitute work

9 weeks' follow-up			New and better job Less stress No depression New boyfriend

8.10. Bodyself - case one

8.10.1. Body cues in transcript

In this case the notes in the transcripts related to the body are presented in isolation in order to get a feeling of the kind of bodily sensory system she has been using. The following notes are excerpts from the transcripts of the places where imagery related to the body was described. The session number (1-6) are in brackets.

(1) Lightness, floating, feels eyelids, arm tension.(2) Feeling body, fingers, breathing, stomach going inwards, spine, tense eyebrows, tense stomach. Works with music: very soft stomach (with scales). (3) Jumping quickly, mechanic movements, heaviness, feet as pillows – strongly grounded to hold on to, statue like. Walks. (4) Stiff body moving, standing. Moving feet with laser.(5) Stomach rumbles, sigh. Heavy with big hands.

As can be seen a lot of the imagery in the first sessions was connected to inner sensations of the body and body parts (interoception). It seems like there was more experiences of body movement from the third session and forward.

8.10.2. Themes

I will go through the development related to the bodyself by describing different themes that I found by looking across the session transcripts: Boundaries, Vulnerability, Moving, Shoes, Anger, Heart and passion.

8.10.3. Boundaries

When the participant started in GIM therapy she felt very tense in her body, and her breath was superficial. As she felt threatened and unable to protect her boundaries when being with her colleagues, it seemed as if she had held back her breath and stiffened. When she listened to the music in the first session she had a floating sensation and her body got light. It indicated that she allowed herself to begin to relax and let go. As she imagined going into her working place with the moss-green psychic shield on, she began to feel that she had physical boundaries. Her first mandala showed her shoulders and back. It might be a very important part of her body with respect to self-protection (one lifts up the shoulders to protect the heart). The imagined moss-green protection barrier enabled her to not feel the words of others going directly into her as they probably used to do. It was a physical barrier against verbal attacks. The shield in her imagination enabled her to separate herself from the opinions of others, and made it possible for her to feel herself as a person in her own right. In the second session the crocodile scales formed as a new skin. The moss and the scales seemed to strengthen her feeling of having a personal boundary between her and the world. The moss-green colour is connected to plants, the earth, and it is soft. Moss covers the ground, as she could hide behind it. The crocodile scales are connected to an animal and they are hard. The moss shield were around her, but the scales grew as a new skin, a thick and rough skin, whichcould not be

penetrated or hurt. The moss shield was a symbolic or psychic boundary, and it was a concept given by the therapist . The crocodile scales grew spontaneously and they were embodied and connected to the exteroceptive skin sense modality, the sense of the physical boundary between the bodyself and the outer world.

8.10.4. Vulnerability

In the second session she got into contact with her stomach feeling – the interoceptive sense. As the black substance oozed out another body sensation emerged. The participant breathed deeply and felt the tension in her stomach, then she felt the music become one with her flesh and the softness in the music ease the tension. It seemed as if she introjected the softness of the music on a bodily level, allowing her to get into contact with her own softness and vulnerability. It is difficult to really know what these sensations "means", but there seemed to be a polarity between hard (black) and soft (pink) in her stomach: Either it was tense or it was very vulnerable. Either she held back and closed off or she opened up and could become exposed and hurt. The impression of the music challenged this embodied organization of reaction patterns, and a whole new pattern emerged: she grew scales and became able to be open and closed at the same time, she could contain her vulnerability, and on top of that the scales felt feminine in a sensuous way. Could it be so that her hurt feminine self began to be repaired? Feeling protected and containing her vulnerability seemed to transform her bodyself to be more receptive, soft, flexible and sensual.

8.10.5. Moving

In the first two sessions the participant was hardly moving in her sessions. In session three, by moving in a straightforward way to the distinct rhythmic violin melodies, the participant got into an embodied contact with her sense of efficacy and self-esteem. Moving indicated a contact with her proprioception. The moving around could indicate that she was not completely locked in a freeze reaction anymore, but had started to explore and orientate herself activating her proprioceptive senses. In most of the fourth session she walked along a long curved road that went upwards. The moving forward could on a psychic level indicate a motivation to get on. In the beginning of the fourth session she also moved forward. Later on she moved upwards and came over the crystal showcase. In the fifth session she saw herself proudly walk away from her working place and take the train. The imagination of movement could indicate that she felt increasing freedom and self- agency and that the freeze state was dissolving.

8.10.6. Shoes

In two of the sessions the participant was empowered with special shoes that enabled her to move in a floating way. In all of the third session she had pillow-like shoes that could break when walking on crystal surface. She had to protect her shoes. In the fifth session her feet were connected to the laser beams and she was able to walk on the light up to the sky. The special shoes could indicate that she was working on her ability to connect her feet with the ground (and the reality), and with her relation to gravity (feeling heaviness and lightness). When she went up to the sky it would have been likely that she flew, so here it seemed that she maintained her connection to the ground more than she escaped it. Having special shoes could also be a magical feature of the heroine journey as the "seven miles boots" in fairy tales. In both occasions she had a feeling of being grounded: her feet were well grounded and the rest of her body was swaying in the wind. It could mean that she besides the feeling of

grounding also experienced a sense of the strength in flexibility: to bow and sway rather than to break when there are strong winds.

8.10.7. Anger

In the fifth session she stayed with her stomach feeling (interoceptive sense) all through the renegotiation of a confrontation with her former leader. With the support from the music and the therapist she expressed her anger and her honest thoughts, and finally felt calm and released. Doing this she took responsibility of her feelings and body state, and directed her anger at the same time as she expressed her own self and boundaries finding out what she was willing to do or not do, and what her values were. Instead of letting a black substance ooze out she now controlled the "black substance" (see mandala 2 and 5b). After having expressed herself she felt heavy and her hands felt big. In the altered states of GIM those kinds of altered body sensations are not rare. In this case I suggest that the participant had been active and had symbolically reached out, pushed away and expressed herself more than she was used to. Her big hands could indicate that her social system was activated. Her heaviness could both be a tiredness after the work, but could also indicate an increased sense of grounding.

8.10.8. Heart and passion

In the last session the participant was feeling her body as calm and well. As she explored her imagination of a dream-workplace, she came into contact with her heart and her passion. This can be seen as an interoceptive sense but it more likely seems to be on the border between the sensed body, the energy body and the social body as described in the literature section (2.7.1): to feel something in the heart is both a sense in the chest, a feeling of joy and passion, and a connection to one's deep feeling of purpose in relation to other people. The connection to her feeling of being home and being in contact with her own potential and creativity established a sense of meaningfulness and direction for her.

8.10.9. Summary of bodyself - case one

The participant developed a new sense of boundary and grounding (exteroceptive sense), and after that she got into contact with and expressed her anger that she felt in her stomach (interoceptive sense). The degree of movement such as walking and dancing in the journeys (proprioceptive sensing) increased indicating that her freeze state was dissolving. She felt her professional goal and passion in her heart.

8.11. Coping - case one

For this participant the music primarily stimulated imagery of environments in which she stayed or moved around in her journeys. She was mostly alone in the places and there were no human, plant or animal helpers. That might be a mirror of how she experienced her present situation.

The following themes found across the transcripts will be described: Self-protection, Coping with blackness/darkness, Talking back to her former leader and Creativity.

8.11.1. Self-protection

The participant had been exposed to mobbing and an extraordinary selection procedure at work. She faced her second stress and depression episode caused by social situations at work. She was aware that she needed to learn new strategies to cope with her difficulties.

In the first four journeys she re-established a sense of safety and protection. As already mentioned in the analysis of the bodyself the participant first explored how it would be to wear a psychic shield as a symbolic protection at work. As she imagined herself wearing it she felt that it was in the way among the others and chose a spectator's role and sat in the corner. She found that the words of the colleagues could not pass through the shield and that she was safe inside it even if she was not yet able to talk back. In the second journey she grew crocodile scales as an embodied sense of both reptile hostility and grace. By thinking about the reptile way of functioning in a more instinctive way she started to integrate a new pattern of clarity and assertiveness that she was not brought up with.

In the third journey she moved on pillow-like shoes and came to a place with icy crystals that could potentially damage her shoes. She seemed to already have gained so much self-confidence that she was not really stressed about it but took her time to think about several solutions. She thought about hitting the crystals with an ax, but did not like the aggressiveness ”fascinating, but repulsive with an axe”, and decided to burn and melt the crystals. This was her first time to actively defend herself during the journeys. Another image of self-protection and boundaries was the six-angled glass showcase. It formed itself out of light before her. The six-angled form represented stability for her. The glass was strong as diamonds. Compared to the other symbols of self-protection the showcase was strong as the scales, but it was also transparent towards the surrounding world. She could look out and be looked at; she became more visible. The light of the showcase would not be extinguished, she said with conviction, and she made it very clear that it was her own space. The house could be a symbol of the ego, a safe and well-defined place to stay in the depressed psyche. It could also symbolize her increasing ability to self-protection in a “negative territory”, such as the working place.

8.11.2. Coping with blackness/darkness

Several times in the journeys the participant was confronted with blackness or darkness. In the second journey she experienced a black substance oozing out of her stomach. She associated it with something bad, maybe anxiety, but I think that it might also represent repressed anger that she had not yet been able to accept and express. In the third journey she was stopped by a huge wall in a dark place. The wall could symbolize the barrier she was facing in life at the moment, and it might also activate her inner barriers: depressive thinking or feelings of being stuck and helpless. In the journey, with the help of the music, she stayed for a long time struggling and containing the frustration. Suddenly she found a way to get around the dark wall, a surprising and easy solution that had been there the whole time! After the journey she said that the experience was about changing perspective when she was in a situation that seemed blocked and that she could use this experience in her future life when she felt stuck. The image of getting around the dark wall was a defensive manoeuvre that empowered her with three coping strategies: to know that she was strong enough to stay with frustration (increased resilience), to not give up before an obstacle (avoiding freeze response), and to use her creativity and look around for solutions and other directions (extension of orientation response).

In the fourth journey she again met darkness. She found herself surrounded by it and when she tried to move it came lurking from behind. Could it be so that the participant really feared the dark realms and maybe was afraid of being swallowed or extinguished by it leading to deep depression or even loss of herself? When the six-angled glass showcase emerged it was like a safe place that was so strong that the darkness could not swallow it. There was a symbolic battle between light and darkness, and it seemed as if lightness won the battle as she inhabited the glass house and moved up and over the darkness (defensive manoeuvre). She experienced a freedom and an open space that enabled her to integrate another perspective in her life. She still felt her body and the gentle wind of the place on her skin. The time spent in eternity and in the inextinguishable house of light seemed to have a touch of immortality about it, which might have helped the participant to get into contact with the inner knowledge that in a way nothing could really destroy her. Maybe the journey ”told” her that her self-esteem and well-being had to do with where she chose to be and that it depended on her perspective, as did the experience with the dark wall. These processes illustrate the stress concept that the degree of stress one experiences depends on the perspective or the appraisal of the threat. The participant through her embodied experiences of overcoming the threats was empowered and enabled with a new resource, a new possibility of reaction: the choice to get into safety, move up over or around instead of being automatically sucked into darkness/negative states and places.

In her fifth journey she again worked with darkness in the form of anger that she expressed to her former manager. She did not feel good about her anger, but it felt good for her to get it out. As the participant was not used to express her anger, she learned to integrate that in her self-image and to be able to use it as another way to express and protect herself in the future. Comparing the dark emotions in the second and the fifth journeys it is interesting that in session two the blackness was unknown and oozed out by itself, but in session five she was in control of the blackness (anger) and could use it to mark her boundaries and strengthen her identity.

8.11.3. Talking back to her former leader

In the fifth journey she had gathered enough strength to confront situations that she had not originally been able to deal with. In her first job, when she was criticized by manager and colleagues, she flew and quit her job (flight response). Empowered by the imagination of a good workplace, she remembered how her manager had humiliated her in front other colleagues. Supported by the music and the therapist, she talked back to the manager, as she originally had not dared. She found out that her manager's evaluation of her, which she had been introjecting since then, was not fair, and she now could let go of it. Instead of feeling that she was not good enough for them, she took back her power and left the place herself. She reframed the whole situation and made it a personal victory. When the therapist asked her how she felt, she said that she had a feeling in her stomach that she had more to express. Her stomach that earlier had been a place of unknown black substance or fear now was a place for checking in on the emotional balance. She returned and expressed her opinion about the manager, and felt very released after having expressed her anger. She was able to fight back and establish her own values and boundaries clearly and energetically. One of the problems that the participant expressed in the beginning of therapy was that she got surprised by negative verbal comments and was not able to talk back. She realized that she had not learnt to do this in her upbringing. In this journey she practiced to talk back, and began to develop a more assertive way of being as coping mechanism towards critique and negative comments from others. I think that this part of her work illustrates how important it is to feel accepted and supported by other people at the working place, and if the relationships are threatened by

critique, mobbing and negative group processes how powerful shame and rage can be, even years after.

8.11.4. Creativity

Coping with work stress for this participant being a designer also implied the ability to manage her own creativity in a productive way. As she moved to the music in the beginning of the third journey she could feel how she had learned to be effective and goal-oriented in her work, which gave her a feeling of competency. Later in the journey big spirals grew up from the earth. The spirals were hard and indestructible, representing a great strength. It seemed like she became able to recognize her own unlimited inner creative source. It was important that the spirals did not touch each other to not get entangled: she got the insight that she had to work with one idea at a time.

In both fifth and sixth journey she imagined light and open working plpaces free of stress,where she could develop her creativity without pressure. There were no black areas in these mandalas at all.

As her connection to her creativity and her identity and dreams was supported she could get back to who she really was, and begin to believe in herself and her dreams again. I think her description of her focus on teaching was really close to her own values and interests in life. She got in contact with her heart and her passion, which was to help people get out their inner creativity. It seemed like the depression lifted as she began to see opportunities to be part of the world again and live and work more true to her values.

8.11.5. Summary of coping - case one

The participant developed her emotional coping ability by developing her sense of self-protection and abilities to defend herself assertively instead of withdrawing. By renegotiating a specific past situation she got to express her anger. During the journeys she had several experiences of overcoming obstacles in a symbolic way (defense manoeuvres) and gained increased sense of self- confidence and empowerment as well as images and "models" she could use for future coping in similar situations. She had several reaffirming experiences of the power of her creativity and how she should handle it, and her visions of positive work situations gave her the ability to direct her career in ways that were closer to her heart.

8.12. Life Changes - case one

During the therapy the most impressing changes were that the participant in spite of chronic stress symptoms, sleeping problems and depression was able to go back to work and complete her substitute job. For her it meant that her position and reputation in her professional network, her possibility to get other jobs and her livelihood were saved. She was afraid that her manager had talked to her former manager about her and after the fifth session she managed to ask him and found out that she did not have a bad reputation among the designers: she still had "saved her face". I think that this need to avoid being stigmatized is one of the reasons why very many people with stress symptoms try to cover up and get going much longer than they should.

The participant developed her ability to cope in social situations. The reports of changes during the therapy course were sparse, but in the fourth session she told that she felt more

connected to the reptile energy (to be clear about her likes and dislikes), and in the fifth session she said that she felt more on top.

At the follow-up meeting she told that she had been working as a freelancer for her old company. With a crocodile smile she told that she was happy about them coming back for her (as she was not the one to be offered a position). During therapy we often discussed how she should avoid places like that in the future, but instead she chose to test herself and her new assertiveness. She had been using more time than appointed with her designs, but instead of apologizing this, she had been self-confident and clear when talking to the former manager about it. She felt that she had wiped out the old image of herself as a victim.

The participant also mentioned that she had met a new man. Even though we did not work directly with her loss of her former boyfriend, the female sensuousness experienced in the second session as the scales grew a new skin could point to a beginning of restoration of her female self that had been injured when her last boyfriend left her. The work with her self-esteem and feeling of success can also have contributed to her ability to allow a new love in her life.

Another sign that her stress in relation to other people has changed was that she after the therapy could receive guests for dinner without being stressed as before.

Already in the last session and also in the follow-up meeting, she expressed how much better she felt and that she had gained more self-esteem. Her working situation changed after the therapy as she found a new job without deadlines, where she got a better salary and liked the atmosphere. It was also a substitute job, and she was satisfied with this because she wanted to get into teaching afterwards, as her last journey had reaffirmed her to.

8.13. Analysis of the use of music - case one

8.13.1. Music as a frame for inspiration

The first music piece that the participant heard in her first GIM session (the gentle *Haydn Cello concerto in C* from the Caring program with cello solo and orchestra and a not so tightly woven structure) seemed to be a little too demanding as she started to get into a depressive mood thinking about her failures. I would like to have her experience more holding from the music, so I repeated the short *Pieds en l'air by Warlock* (2:20 min.) over and over (six times) as it seemed to bring her into a more resourceful state. I think that the repeated melodic theme and the repetitions of the piece enabled her to anticipate the music enough to feel safe. She related to former experiences of music listening as an inspiration for design during her education and was now able to work on a new idea. The music again became a frame for inspiration. During all her journeys this relationship with the music continued as her imagery and her creativity unfolded. It is very interesting that it was exactly this piece that accompanied the imagery of staying in the eternity over the darkness.

8.13.2. Music merging with the body

In the second session she experienced that the music merged into her stomach flesh. There it eased the tension in her muscles. It seemed as if she adapted a quality – the softness – from the music on a physical level as she let the music influence and form her body sensation. The music not only nurtured her and eased the tension, it also was experienced as one with her body.

8.13.3. Music, movement and inner qualities

In the third journey the participant imagined that she moved vigorously to the two *Allegrettos by* Sjostakovich *(String Quartet 3 and 8)*. The energetic rhythm and the fierceness of the strings reminded her of professional qualities like effectiveness and being straightforward and clear-cut. She had been criticized of being slow and finicky, but now the music reminded her that she possessed the opposite qualities. The music, the body and the way of being formed a unit of meaning that restored her self-esteem.

The music in the third journey was rather evocative, and it is interesting that the participant instead of being overwhelmed like in the first session used the power and accents of the music to incorporate her own power and regain her strength.

8.13.4. Music, movement and environment

Later in the same journey the participant walked to the rhythm in *Carillon de Westminster* by Vierne. The repeated dark heavy organ seconds let her work with her feeling of exhaustion as she walked left-right-left-right endlessly up the hill. When the dark tones ended in a sustained chord, the road transformed to a huge wall that blocked her way. The music was strongly connected with the environment and her movements. The next piece (*Largo* from Beethoven's *3rd Piano concerto*) was light and open, the piano playing solo. It helped her to stay on the spot with her frustration and create a defensive manoeuvre until a new possibility for movement came with the orchestra (ca. 1:30), and she could move behind the wall to a lighter place where the piano trills inspired the image of spiral forms drilling their way up from earth.

The participant in many of her journeys experienced the qualities of the music forming places and environments, where she stayed or moved around. The music inspiring imagery of certain landscapes in GIM has been called metonymy by Ruud and Aksnes (2008).

In the fifth session the participant got back to her former leader in imagination. The first two music pieces helped her to remember the situation and talk back, but it was the sustained melancholic string melodies in Dvorak's *Serenade in E major* with a growing intensity that helped her to stay with her anger, and the eruption at minute 3.22 and forward that helped her to express it.

8.13.5. Summary of the use of music - case one

For this participant the music had the following functions:

1. A metonymic transformation of music into imagery of different landscapes and environments took place: music as environment
2. The music was initiating movement qualities linked to psychological qualities: music as mirror of bodyself
3. The music had a direct effect on the body and was changing the sensation of skin and muscle tension: music as a source of physical comfort
4. The music was facilitating the expression of emotions in imagined renegotiation dialogues: music as support for expression of emotions
5. The music was challenging and provided a possibility to develop challenging imagery and defensive manoeuvres: music as a tool for empowerment

8.14. Questionnaire data and measurements of physiological effects – case one

In this section data from the quantitative part of the study will be studied in the light of the hermeneutic analysis of the case. The participant's self-reported questionnaire scores will be showed in the table below. In order to make it easy to get an overview I only show the pre, post and follow-up total scores and not the midpoint scores. In this case some of the prescores were missing, so I added the midpoint scores (after 3 weeks) in brackets. All numbers are rounded up to whole numbers.

Table 8.7. Questionnaire data, total scores for participant 008

ID 008	Pre-therapy	Post-therapy	Follow-up
Well-being	12	68	100
Anxiety	13	2	0
Depression	33	4	1
Perceived Stress	(22)	9	0
Physical Symptoms	(6)	7	0
Mood	(23)	3	-17
Sleep Quality	(22)	22	8
Work Readiness	(2)	2	3

The Well-being total scores developed from 12 to100 at the follow-up signifying that the participant at pre-therapy answered that she a little of the time or not at all was feeling energetic, happy or engaged in her life, whereas at follow-up she was feeling this all the time during the past two weeks. Anxiety, Perceived Stress, Physical Symptoms and Mood total scores similarly were at their extreme positive ends at follow-up, and Depression was almost at the minimum value. At pre-therapy Depression total score surpassed the cutoff value for major depression but already at post-therapy the score had decreased too a very high degree (to a non-depressive value). Similarly the total score for Generalized Anxiety at pre-therapy was over the cutoff value and anxiety was almost gone at post-therapy. Sleep Quality changed from a middle value at post-therapy to a very good Sleep Quality with 8 out of 12 sleep problem items scored as 'rare' and the rest as 'never'. Work Readiness improved from 'to some degree' at pre-therapy to be 'a great deal'. These data document a dramatic development in the participant from pre to post, and further increase of functioning to follow-up, and it is almost the most dramatical development in the whole sample. The participant had no other treatment modalities during the therapy, except for medical treatment of depression which she started some time before the inclusion in the study. Thus the changes probably could be assigned to the effect of the therapy. However, it is very rare to score at the upper extreme in a questionnaire as in the follow-up answers, and I can get a little puzzled about these answers: Was she having a manic episode after her depression had lifted, was she just overly happy about her life changes, or was she very eager to please the therapist? Compared to her verbal statements in her last session and in the follow-up conversation, she really felt that therapy had changed her life and her mood. And she did not at all appear manic or exaggerated. I believe that she might have been feeling really well at the follow-up and that she felt so much

better compared to when she was depressed that she also wanted to express it by scoring the highest possible scores.

The next table shows the measurements of the physiological effects. Unfortunately the last sample of the second hormone test was missing or not analysed.

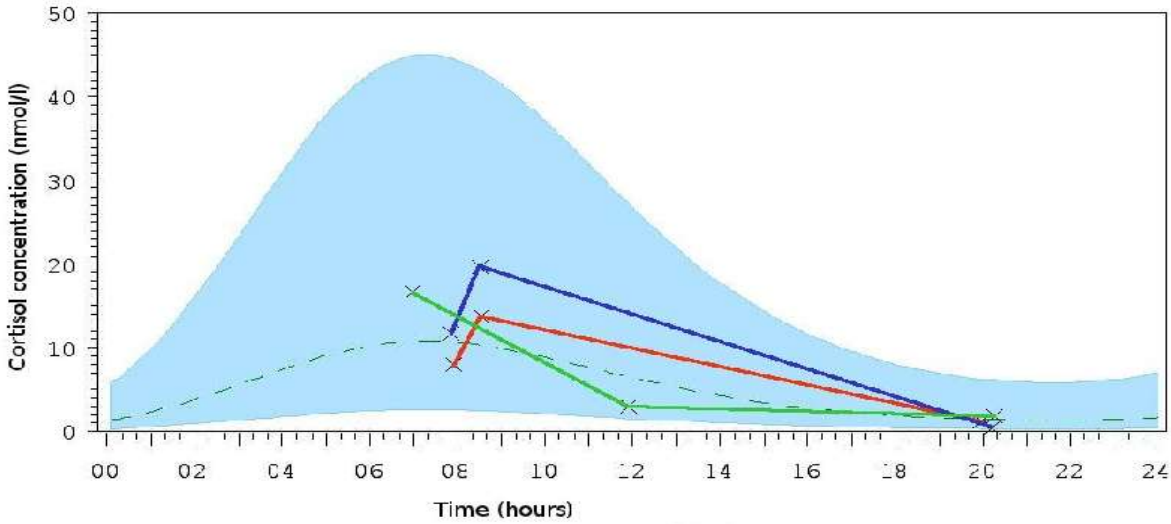
Table 8.8. Measurements of physiological effects, participant 008

ID 008	Pre-therapy	Post-therapy	Follow-up
Systolic Blood Pressure (mm Hg)	115	98	101
Diastolic Blood Pressure (mm Hg)	70	56	60
Pulse (BPM)	-	58	52
Cortisol Awakening Response (nmol/l)	8	11.2	16.6
Cortisol Reactivity (%)	69	71	-
Cortisol Recovery (%)	88	97	89
Melatonin (pmol/l)	16	29	-
Testosterone (pmol/l)	33	52	-
Cortisol LC (nmol/l)	14	3	-

Looking at pulse and blood pressure, it seems that the blood pressure was lowered at post-therapy and that the change sustained at follow-up. The participant seems to have a rather low blood pressure in general. The pulse is also rather low in both measurements.

In order to look closer at the development of cortisol in the case, I will present a graphic representation of the cortisol data.

Figure 8.15. Cortisol variation (RIA) in participant 008



Note. The red line represents pre-therapy, the blue line post-therapy and the green line follow-up measurements. The lines that connect the data points are not indicating a gradual development from point to point but are only showing which of the data points that are connected. The blue area is a reference area that the NFA laboratory has generated from a

large amount of cortisol samples from healthy persons analysed with the same procedure as in this study.

The development of cortisol concentrations is showing an increase of morning concentrations for each time-point. It could be interpreted as increased stress, but I think that this participant is more likely to have had a suppressed HPA-axis due to her depression, so that the increased morning concentration can be seen as a positive result indicating more energy in the morning. The increased reactivity from pre to post-therapy could point in the same direction. The recovery of cortisol concentration (decline of the curve towards the evening) improved from pre to post-therapy. In the follow-up measurement the participant failed to do her second sample right after the first one (it was done at noon), so I can not use the reactivity or use the recovery result at follow-up. This is really a shame because it could have been interesting to compare the extreme questionnaire data with the cortisol curve at follow-up.

The cortisol (LC) samples seen in table 8.14. were collected at noon one day after the RIA cortisol curves. The pre-therapy level was high (14 nmol/l) and if I compare this value with the red line in figure 8.8 that should be curved and not a straight line, it could maybe be suggested that the pre-therapy curve had not declined so early at the day indicating a sustained stress level during the day at pre-therapy. The post-therapy cortisol LC level at noon was 3 nmol/l, and when looking at the blue curve it could be suggested that the cortisol curve bow had declined at noon indicating a normalized cortisol variation.

Testosterone concentration seemed to increase from pre to post-therapy, indicating a better ability to cope and regenerate as was also observed in the case material. Melatonin concentration was also increasing from pre- to post-therapy. The self-reported Sleep Quality had not yet improved at post-therapy as seen in the questionnaire data, but it had increased very clearly at follow-up. It could be cautiously suggested that the increased level of melatonin indicated a change in sleep that only was observed between post and follow-up.

8.14.1. Summary of case analysis and data comparison - case one

According to the questionnaire data the participant improved to a very high degree on all scales and got out of depression and anxiety. Her scores were at the maximum borders on the questionnaires at follow- up, indicating an extraordinary positive state. Her cortisol levels seemed to normalize, and melatonin and testosterone concentrations increased from pre to post-therapy. The data and the case analysis support each other.

8.15. Summary of findings in case one

- GIM enabled the development of embodied self-protection such as the feeling of physical boundaries
- GIM enabled the imagery of environments with challenges. Overcoming the challenges produced new coping experiences and strategies
- GIM provided inner experiences of movement that resolved the initial freeze state
- GIM supported the experience of a transpersonal state that provided a new perspective on life situation
- GIM supported expression of anger towards managers

- GIM enabled renegotiation of former work defeats
- GIM enabled a renewed contact with professional competencies and goals
- GIM supported the emergence of a renewed experience of embodied self-esteem and joy
- Questionnaire data indicated that a state of stress and depression was changed at post-therapy to a state of good physical and psychological health that was even better at follow-up

The results were member checked and accepted by he participant.

8.16. Case two: Woman, pedagogue/leader, age 57

8.16.1. Contextualization

This participant had been educated as a pedagogue and a manager, and she had been a leader of the same 'SFO'[36] for 30 years. She was 57 years old at the time when she was admitted into the study in group two (control). Her chronic stress symptoms had showed up two months earlier as a physical discomfort including pain in the legs, galloping heart and a too high blood pressure. She went on full-time sick leave, and one month after she started to work two hours a day. She had felt anxious because of the uncertainty of the origin of the illness, and she also said she was stressed about her home situation. Further information on that came forward after a couple of GIM sessions. On top of that she admitted that she had not had any holiday the past year because she used all her time to help her mother move to a new place during the summer, and because she has had an allergic reaction that disabled her to go on a planned travel. She did not complain over her work situation except for the increasing amount of administrative tasks that had been put on her desk during the last decade. She lived with her husband who was on pension, and with their 21 year old child. She had been mothering two children, two stepchildren and a foster child. Her body had suffered a great deal during the years: A broken tailbone resulting in chronic pain in the pelvic area, whiplash 13 years ago, a car accident 15 years ago still bothering her with pain in the wrist, stomach problems five years ago and allergy. She had received physiotherapy, ergo therapy and "chraniosacral" massage that had helped her a lot. She described her upbringing as good: she had been the eldest of three siblings, and had got the role as the clever and active, doing a lot of sports. When I asked what had helped her the most with her stress symptoms, she answered that it had been helpful to take daily walks such as the occupational health doctor had recommended. She had never been to a psychologist, and expressed her worries about taking too much of my time. Some of the first sessions will be described in detail in order to be able to analyse the pain relief processes more thoroughly.

8.16.2. Description of session 1 and 2

The participant was eager to start the work, and her goal was to get well. We agreed on the theme: 'feel the body' and to use the first session as an introduction to the work. I explained the idea of "taking the music into the body" as allowing a listening process where the body is receptive to the music. When listening to Stamitz' *Cello concerto, 2nd movement*

[36] "Skolefritidsordning": An institution for children at or nearby their school to stay and play in the afternoon when their school lessons have finished.

she felt a twitching sensation in her lower legs in front and on the exterior sides. Her carotid artery began to pulsate, which she did not like normally, but she could accept it in this situation and relax. She felt tension in her nape and pain in the groin. Then she felt her stomach and a warm sensation in the face. As the sensations moved to new places all the time I encouraged her to listen to the music from the place with the pain. She felt the music become stronger with Pachelbel's *Canon in D*. The pain was strongest in the groin. She said it was difficult to let the music come in, but as I proposed to look for all kinds of imagery that possibly could describe the pain she could imagine the colour of it as violet-pink. The shape of it was like an oval, and it was moving rather than stationary. When Bach's *Double concerto for two violins, 2nd movement* began, the pain diminished, and the violet colour disappeared. Then she experienced a white energy, ”A lot of white is coming in from the right, which can erase the other.” Shortly after she said that the pain in the groin had gone away. And instead, “There is peace {laughter}. [What are you aware of now?] The lower legs, the white is coming in there from right again.”

Figure 8.16. Mandala from session 1 a and b, ID 005

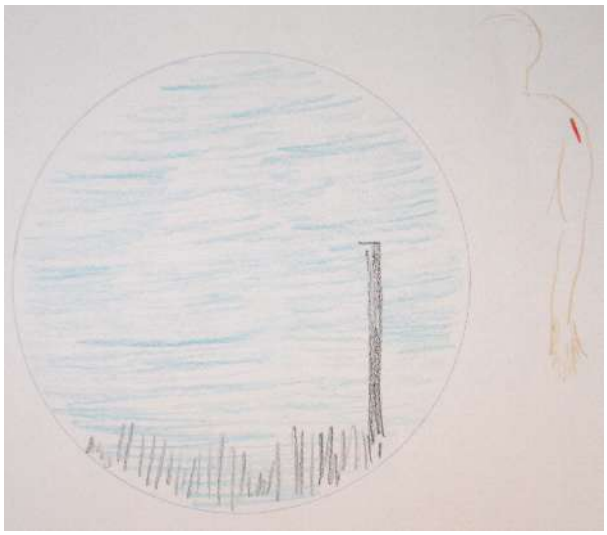
After the session she told that the white energy was like painting or whipped cream. While she was drawing the mandala she told about imagery that she did not report during the session. She had almost been able to see leaves in the sky. She also had been seeing small faces in the pink colour, and she experienced them as mocking her with a threatening laughter. She drew some very tiny red faces on the paper. I asked her to make one big face. When we looked at it, she thought that the smile was expressing control, and she recognized the attempt to stay in control in herself. Maybe that was why it was so threatening for her to become ill, she said.

In the second session, the participant again focused on her healing process. I guided an extended relaxation and encouraged her to relax and imagine white light around her body parts. She listened to the program ”Peak Experience”. During the first music piece (Beethoven's *5th Piano concerto, 2nd movement*) she experienced peace in the body. The pain in the groin was gone, but her shoulder ache and there was a feeling of unrest in her legs. The piano trills to her surprise and relief momentarily took away the sensation of pain in both her

shoulder and in the legs. She moved her left arm up and down as if to locate the hurting place in the shoulder, and sighed. The rest of the session went on as follows:

(Vivaldi *(Gloria, Et in terra pax):* {She is placing her arm on the stomach}. [How do you experience it?] It doesn't matter that the music has become more violent. I get warm in the whole body. [Is it pleasant?] Ye-es. {Her whole face reddens, she breathes faster, she moves her arm back on the couch, sighs.} [What is happening now?] It just hurts so much that fucking shoulder. [Try to take the music into the pain.].....It has become smaller. Bach *(6th Brandenburger concerto, Adagio):* [Can you describe the pain, what is it made of?] Hard material, (I am) not able to move it." [What colour?] "I can't see any colour, maybe pale light blue, turquoise-like. [Has it a form?] I don't think there is any form, a lump, it is laying over the visual angle, something dark is coming down rattling from above, it vibrates. [How is it related to the light blue?] It is very uneasy, it flickers a lot, it moves all the time.....Fauré *(Requiem, In Paradisum)* [Does it still move?] It is as if I can let go of it. There is a thick line at my left side {sighs}. [Try to breathe into the flickering together with the music, where the pain is] {deep slow breaths}. ..[How is it?] It is not like that to get the better of. Wagner *(Ouverture til Lohengrin):* The difficult part is to allow the music to get to it, I just have to dare that. It is difficult for the music to get in. [Because the pain is so hard?] Yes. [If the pain could talk or feel what would it show?] Anger, aggression. [What would the arm like to do, if it was allowed to?] The pain disappeared when I said aggression. [Can you feel anger, in you?] (I) don't know, if I just say anger, it disappears – it should be the illness as such! *(*Bach's *6th Brandenburger concerto, Adagio* again*):* [What would you like to do?] That it disappeared! [Could you imagine yourself push it away with the arm?] Yes. [Do it very, very, very slowly] (works with left arm, slightly open hand) [Let the arm move, follow the impulses that come] {sighs, moves the arm upright in a vertical position, stretches it, moves it slowly outwards, places it on the stomach}. Now it is simply gone, you know! [So it has gone!].... [And what is NOW in the arm?] It is like, it is very light, like a cloud. Like it is floating over the other part of the body. [Mmm!]."

Figure 8.17. Mandala from session 2, ID 005



The participant painted the pole and the blue sky in the mandala, and outside the mandala she painted her body with a red line in the shoulder "because it is aggressive".

8.16.3. Description of session 3 and 4

In the third session, the participant told that she several times had been crying suddenly without reason at her bedside. We talked about what she possibly could be mourning, and she told about the losses of her brother and father many years ago. Her husband had been seriously ill and he had been through several dramatic health crises during the last four years, including near death crises. He had suffered a minor damage to the brain. She had talked a lot both with him and with colleagues about it, but it seemed that there might be emotions that she had not yet expressed. Her week at work had been busy and had caused tension and she dealt with an employee who talked too much at her office.

She agreed to have a journey with some support to get into visual imagery. She chose to start with a walk along a source. Listening to Debussy *(Prelude to Afternoon of a Faun)* and Liadov *(Enchanted lake)* I introduced her to being at a spring and she succeeded in seeing two springs and was walking or flying around, experiencing freedom and lightness. She saw a watermill silently turning, and then felt very, very tired. I supported her to give in to the tiredness, and listening to Holst's *Venus* she laid down on the grass and enjoyed a beautiful sunset, telling, "I am listening, there has been peace in the whole area". Then she lay peacefully on her back in a kayak sailing her up the stream. To two repetitions of Grieg's *Cradle song* she experienced a pain relief process: "(I have) such a feeling that the music would like to get into the body. [Where to?] Preferably into the legs, there is restlessness in the legs. [Could you allow it to get into the legs?] Yes.....[How do you experience it when it is in the legs?] It is nice. It continues up to the elbow, which is also hurting a little, and there is a tingling feeling in the face. [Ah?]...{Deep sigh} [What is happening now?] The music is still inside the body. Slowly the pain disappears. I am still in the kayak, with the music, and then it runs around in the whole body."

Figure 8.18. Mandala from session 3, ID 005

In the postlude we discussed how she could listen more to the tiredness. She had felt difficulties with this earlier in her life but was improving. She was also improving sometimes to say no to her family if they counted on her too much to look after grandchildren and cook for them. The benefit of surrendering to the tiredness was the possibility to enjoy, for instance the growing life and flowers around her. The participant wondered why it was not the dark themes that surfaced, but maybe, we discussed, her crying could be connected to a longing to "just be who you are", like a flower, growing by itself.

In the fourth session the participant felt more vitality and humor, even though she had an allergic reaction. Her pain had diminished except for her tingling legs. We discussed her relationship with her mother. The participant was trying to be more straightforward when the she felt manipulated by her. I as therapist started to deliver some theoretic considerations, and suddenly I discovered that the participant had become tired and switched off from the contact. This happened once again, and I asked if she in her life had experienced one or more persons talking to her without checking her interest. She could identify her father and her husband, maybe also her mother. We agreed to keep the attention on this pattern, and how she could be more active instead of withdrawing.

The GIM journey took departure from a high mountain and the program "Solace". The participant enjoyed the view, floated on the clouds, and then she walked down the mountain side, ending at a stream with a bridge over it. The *Swan of Tuonela* by Sibelius "washed" into her body. She worked with images accompanying quivering sensations in her cheek. As her shoulder started to ache, she agreed to take the music into it. To a Russian mixed choir singing *"The Joy of those who mourn"* she had an image in front of the shoulder of a light ball like made of soap pulsating from big to small. There was also a warm feeling, like some warmth lying around the pain. The music changed to Sjostakovich' *2nd Piano concerto, Andante* and the pain was away (the stomach was rumbling). She had a tingling sensation in the neck pulsating in the same rhythm as the music. Then the music spread out in her whole body, which she enjoyed very much.

After the journey she told that the light ball in front of the shoulder was like a jellyfish, contracting and opening, black in the circumference, white inside. Every time it contracted it took some of the pain away.

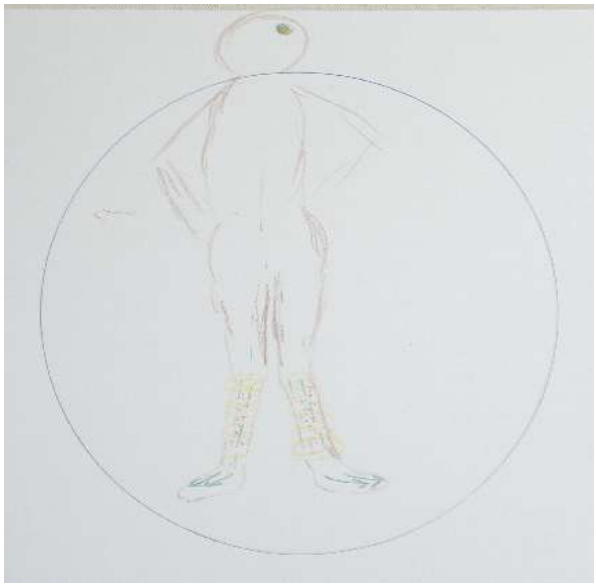
8.16.4. Description of session 5

In the beginning of session five the participant told that she was feeling good, although she still had unrest in her legs and too high blood pressure. She talked about her thoughts and dreams concerning her approaching life as a pensioner.

The journey focused on her tingling legs to the music program "Explorations". At first she felt the music passed around the legs, and then slowly it came into the legs and started to affect them. Then she felt that the music wanted to come another way into the body: through the navel. She allowed this and felt "such a quivering, as if I stretched both legs, like an electroshock along the muscles or the nerves." The fastness of the music (excerpt from Ravel's *Daphnis and Chloë, 2nd suite*) spread into her whole body with a feeling of light and ease. The music of Brahm's *1st Symphony, 3rd movement* again went into her legs, and she felt it take care of the legs resolutely. I asked "What do the music say to the tingling?" and she answered that it was aggressive and said, "You just go away!" But the tingling was gainsaying and came back. The Respighi piece *(Pines of Rome)* was more round and soft, though, and changed her perspective of the tingling,and she said, "It changes now from not only being tingling to be some lines going from down the ankle and up, like the nerves all the way from the toes." To Debussy's *Nocturne (Sirenes)* she felt a stretching of the legs, like if she could stretch the tingling sensation away, "My legs become straightened as if I stood on my toes. It moves all the way up, right up to the left side of the head, almost affecting the headache center." The tingling on the inside of the legs disappeared, and then her feet became "incredible tired and heavy, as if they had worked very hard." The tingling returned again, and I asked the participant to remember when in her life the tingling had first started. She had been sitting at her office. I asked if the tingling had any impulses, and she said that they

probably wanted her to take it easy. I asked if the tingling legs wanted to get out of the office for a while. She tried to imagine that she walked a little, and said that just the fact that she moved was important. The tingling went away. She got red cheeks and breathed deeper and felt as if she was floating in the corridor. She again felt very tired and gave in to the tiredness during the last part of the music.

Figure 8.19. Mandala from session 5, ID 005



Her mandala showed all the different qualities of the journey: the red flickering, the holding (yellow), the lines up to the brain (green) and the heaviness (green).

8.16.5. Description of session 6, evaluation and follow-up.

The participant had been working with the tingling in her legs, which still surfaced at some times. When it was there she would sit down or talk directly to the tingling,saying, "No it is not there!" She found that it could be influenced by her will.

The focus of her last journey was inspired by her best experience: when she was sailing in a kayak. She heard the program "Peak Experience", and imagined herself at a beach. From there she walked through a forest and up a hill, where she enjoyed the landscape and felt an enormous freedom vibrating in her whole body. During the Bach piece with its deep bass tones *(Adagio from the 6th Brandenburger concerto*) she felt the split between the music wanting to get into the body and the surrounding landscapes. She tried to do both, and imagined beautiful flowers, a village pond where she relaxed at the bench, a beautiful landscape with fragrant heather and again the ocean at the end. The journey filled her with energy and lightness, and she really experienced it as a journey for her alone. She felt a great freedom to be herself without children, and to take in the beauty and the calmness.

Figure 8.20. Mandala from session 6, ID 005

She said that the therapy had been exciting and that it had helped her. Her pain in the groin was almost gone.

At the follow-up meeting nine weeks after, she had just been ending her sick leave completely. She had been on a holiday where she had been able to relax very much. She told me that when she started the therapy she came with the aim to be well as defined by no pain nor palpitations. During the therapy she had got the scent of psychic content and maybe even an attitude to life behind the symptoms.

8.16.6. The therapist's comment

The relationship between the therapist and this participant was warm but also straightforward, as the participant did not talk very much about herself and needed some support to reflect on her themes. I felt an ambivalence about her wanting to command her symptoms away, as I supported her process of gaining control, but I also did not want her to fight her own body. I was very curious and amazed about the common exploration of GIM as a pain treatment that was unfolding. She herself also named it “magic”. That left me both proud and unarmed because I would have liked her to see how she herself worked her way out of the pain, more than a quick fix taking place. At the same time I was happy about the process that seemed to help her and increase her trust in the music and the therapy. As she worked with giving in to her tiredness I also felt a deep relaxation taking place in my own body. In the fifth session I discovered a pattern in our conversation: the fact that she was a little withholding in the verbal dialogue tempted me to talk about theories of work-related stress. Then she became tired and withdrew her attention. I felt myself in a double bind: she invited me to be an authority, and when I started to jump on that train she cut off the contact. I thought of her aggression against the illness and that she maybe (unconsciously) got angry at me too, as with other people in her life trying to act as an authority.

8.17. Analysis of case two

Table 8.9. Keywords for the analysis of case two

ID 005	Bodyself	Coping	Life changes
Session 1	Pain relief process - groin	Control Feeling mocked	
Session 2	Pain relief process - shoulder	Aggression	
Session 3	Sailing in a kayak	Moving in nature Surrender to tiredness and beauty	Crying
Session 4	Pain relief process – shoulder and neck	Walking down from mountain	More vitality Humour
Session 5	Pain relief process – nerves in legs		Feeling good
Session 6	Relaxing Energy	Pleasure in solitude	Free of pain in groin and shoulder. Coping with tingling legs.
9 weeks' follow-up			End of sick leave. Insight in stress.

8.18. Bodyself - case two

The notes from the transcripts from all sessions on observations/verbalizations about the body in this case were extensive.

(1) Flickering feeling in skin of both legs from knees and down, pulse in neck, fast heartbeat, neck tension, sudden pain in the groin, feeling stomach, warm sensation in face. Transforms into colour, form and peace. 3-4 year old pain. (2) Pulse in neck, relaxation, unrest in legs, pain in left shoulder. Beethoven trills take away pain. Moves arm to feel left shoulder pain. Warm in whole body (red face, quicker breathing, sighs, as music is taken into pain. Deep breathing and music into pain, moves arm, leg pain relief: colour, emotion, movement: push away slowly. (3) music in the body, pain in elbow, prickling sensation in face. Pain disappears, tingling. (4) Sighs. Rumbling stomach, as music gets in: warm, flickering sensation, tingling lips, rumbling stomach . Music – flat, energy, pressing sensation in face. Pain relief process shoulder.(5) Music in through navel, as electric nerve impulse in body. Take care of unrest in legs, nerve lines, stretching feeling, moving red cheeks, tired.(6) Deep breaths, tingling, lightness.

The major part of the body imagery represents interoceptive sensing: tingling, prickling, pulsation and pain in many different body places. There are also many experiences of stomach rumbling (viscera). There are therapist observations of breathing and red cheeks. A small part of the body imagery is related to movement.

8.18.1. Bodyself themes

Speaking in illness narratives the participant from the beginning was going for a restitution more than for a quest. The participant worked intensively with chronic pain

symptoms in her GIM therapy, and actually succeeded in her attempt to get rid of some of the pain symptoms. The process of GIM also opened for a touch of quest and learning from the pain relief processes. In the first themes about pain relief processes called Pain imagery and Pain healing the responses from the autonomous nervous system will be integrated in the analyses. Imagery, music, body responses and guiding are so closely connected in the journeys and in this case it has been a challenge to keep the wholeness of the processes in mind. It is probably a characteristic feature when the imagery is mostly related to the body that it is not so easy to interpret, and therefore important to keep the whole process together.

After the analysis of pain relief processes that will be continued in the coping section, the Bodies in the mandalas will be analysed, and finally the theme Relaxation/tiredness will be described.

8.18.2. Pain relief processes

My understanding of the work with pain in GIM is that pain can be seen as a sort of sensational communication that in some cases might be linked to information about signals from the past such as fatigue, repressed emotions or undischarged energy that once was not heard or felt completely and reacted upon (see 2.7.). To uncover this information I tried to ask the participants working with pain if they could get other kinds of imagination of the pain by listening to the music and focusing the attention on the pain.

8.18.3. Pain imagery

During the first session the participant experienced her stress symptoms and chronic pain (heightened pulse, tension in legs, pain in groin) coming to the surface while listening to the music. She felt her stomach and her face went warm. I think that some of the sensations were related to back and forward processes in the autonomous nervous systems connected to the relaxation and the focused attention on the body. As her pain in the groin became very insistent, I asked her to try to describe the pain in other modalities such as colour, shape, atmosphere or movement. She was able to change sensory channel and get a visual imagery that corresponded with the pain: one or several pink-violet moving faces that she later connected to the feeling of being mocked. They might express her fear of being helpless and vulnerable in front of others. Or they could be a symbol of inner negative judgemental parent(s). They could also be fragments of a trauma, of long forgotten mobbing or of being surrounded by people in a vulnerable situation. For instance the spectators to a car accident can be remembered as threatening faces. The fact that they are painted as small objects not filling in the space of the mandala could support the theory of trauma fragments. In the postlude she identified herself as a person in need of control and that she had been feeling out of control during in her sick leave. I think that the faces might illustrate a side of herself, the inner judge,who was criticizing her for being weak and ill, and not successful and in control as usual.

In the second journey she worked on her shoulder pain, and was able to visualize the pain as a blue and closed lump. The lump was hard and did not seem to be willing to open to the music, but by asking about the atmosphere around this, she verbalized “anger”, and the inner hearing of this word seemed to be a key that made the pain go away for some time. This process reminded of the “Focusing” process (Gendlin, 1982) where the correspondence of a word and a felt sensation is bringing about an inner release process (see 2.7.6). As the shoulder pain returned I asked the participant if she could find a movement quality of pushing (activating the anger) and this seemed to be the right channel for the release of the pain.

In several sessions the participant worked with a feeling of restlessness in her legs. There was not so much imagery that related to the symptom until the fifth session, where the restlessness began to feel as lines going from down the ankle and toes and up to the head, like if she stood on her toes. After the stretching she felt an immense fatigue in the legs. I asked when she had first experienced the tingling legs, and she remembered it as connected to working too long in her office. The pain imagery process now continued into a renegotiation process where she found out that the legs wanted to move instead of continuing to work. Imagining movement (floating out of the office) made the pain go away and she again breathed deeply and her cheeks reddened indicating a release and parasympathetic activity.

8.18.4. Experiences of music as healer

In the first session the participant experienced a white wave coming from her right side that she described as white painting or whipped cream. She experienced that the white wave erased the pain in both groin and legs. The loudspeakers were placed on her rigth side and it might have been so that she in the altered state of consciousness sensed the music as a white healing substance.

In the following sessions she began to have experiences of the music as a healing force that ”wanted” to get into her body to release her pain. It seemed like the music now had the active role and that she just let the changes happen in the imagery and in the body. In the third session a spontaneous pain relief process came about, where she worked with the feeling of restlessness in her legs. The music entered the body and took away the restlessness in her legs and her elbows. The process was accompanied by sighs and tingling sensation in the face that I think is connected to discharge and parasympathetic activity.

In the fourth journey she experienced that the music went into her cheek and her shoulder. She now got imagery of the working of the music: she saw a pulsating soap ball or white and black jellyfish that took away the pain with each pulsation, and then she sensed a warmth around the pain. The rumbling stomach indicated that the parasympathetic nervous system was active.

The fifth journey dealt with the most difficult and steadfast of the stress symptoms, the restlessness in the legs. The fact that the music entered through the navel makes me think that she really got into an archaic layer of her bodily existence: the fetus memory where food and energy came through the umbilical chord. The different processes that went on all related to the different sorts of music and illustrate how important the music is to the process. Fast music activated her defense mechanism and she imagined a battle between the tingling and the music that reminded of her session with the angry shoulder. The soft music enabled her to explore and to stretch.

In her last journey she managed to imagine a journey in a beautiful landscape and at the same time experience the music inside her body giving her a wonderful feeling of rest and lightness.

It seemed like the depth of her experience of the music as a healing agent developed and increased during the therapy course. She seemed to trust the music very much as she imagined it go inside her body. She had visual imagery of the music “working” inside and outside her body. Some of her body symptoms disappeared after the GIM work.

8.18.5. Bodies in mandalas

In the first mandalas from session one the participant drew some very tiny pink heads that I asked her to magnify. In the second drawing one could see the expression on the face that she interpreted as controlling. A face without a body indeed reminds of the dominating control function of the brain and the head. This participant had experienced heart symptoms and might have been scared about her body signals. The head without body could also indicate a habit of cutting off the signals of the body, which can often be seen previous to chronic stress.

In the mandala from the second session the only body representation is the shoulder with the red mark as the pain. The shoulder is placed outside the mandala, which is empty in the center with blue sky. It could indicate that the importance of the body is not yet really brought to the focus of attention, neither the feeling of movement nor anger experienced in the session. However, the following mandala shows a whole body, and this time the body is inside the mandala except the head, which is outside the line. It seems like the third session, where imagery of herself lying in the kayak gave her a positive feeling of the body, the importance of the body changed for the participant. The body, though, does not reflect the kayak trip but the work with the tingling legs. The body posture seems to be commanding or strongly in control with the elbows pointing outwards. In contrast to the arms the feet do not seem to stand very firmly as they seem to slip outwards. The symptoms in the lower legs are marked by points. I see it as if the participant tries to hold on to her identification with control and leadership, but her leg symptoms seem to undermine this and maybe the symptoms try to help her to open up to another kind of being. The final mandala does not contain any human bodies. However, the quality of the drawing is somehow qualitatively different from the other mandalas, and seems to be expressing the participant's experience of dwelling with the beauty that she had found in nature and the calmness that she felt in herself

8.18.6. Relaxation/tiredness

From the third journey and onwards the participant had many experiences of giving herself over to a profound tiredness that she sensed in her body. In the third journey she laid down peacefully on the ground for a long time, and I think that her comment, ”There has been peace in the whole area” seems to reflect a peacefulness in her whole body as well. Right hereafter she saw herself floating in a kayak lying on her back, letting the stream take it where it wanted to go. There is a deep embodied surrender in this image that seems to be very contrasting to the controlling, anger and fight she had explored in earlier journeys. In the following journey the participant floated on the clouds, again a gesture of surrender and letting go. She found out that the message of her tingling legs was to get some pauses from work, and trying to follow the need of her legs she again was floating instead of walking. In the final journey she felt “an enormous freedom vibrating in her whole body”, and sensed nature scenes with water and sunsets. It seemed as if the stress-related unpleasant tiredness that might have been stored up in her body was transformed by the beauty and calmness of her imagery into a soothing peacefulness and calmness that she could allow herself to experience as something connected to her own being. After having seen the flowers in her third journey the participant commented that she maybe had a longing to just live her life and unfold as a flower, of being instead of doing.

8.18.7. Summary of bodyself – case two

The participant had a lot of body imagery dominated by interoceptive sensing. During the therapy the participant worked with her pain symptoms by visual, emotional and movement imagery related to the pain, and by experiencing the music taking away the pain. She identified and worked with a controlling way of being and she also allowed herself to let go into resting, relaxing, floating and just being.

8.19. Coping - case two

The coping strategies that the participant adapted in the therapy course seemed to be closely related to her bodily experiences, and therefore I still related them in this part of the analysis. The themes of the coping analysis are: Completion of fight response, a summary of Control versus letting go in relation to her life situation and Being in nature.

8.19.1. Completion of fight response

In the beginning of therapy the journeys were focused on the felt sense of the body and on working with chronic pain. This description will focus on how the work with the pain was connected to trauma completion. In the second session the participant focused on her shoulder pain. As can be seen in the transcript she got warm in the whole body, her face reddened, her breathing fastened and she sighed. This could be signs of activation of her sympathetic nervous system. It migth be so that the contact with the ”violent” music and the pain activated her fight response against the ”fucking shoulder”. Instead of a pain deserving care, the pain became a place representing her situation of illness and loss of control that she had to fight. She saw the pain as a hard, blue and closed lump. From above something black and flickering was coming down. This could be an imagination of something in the music (the Bach piece is quite energetic) representing a feeling of being threatened from above. I tried to let her breathe deep to work against too much activation, but it did not seem to help the process, maybe because I did not yet acknowledge the importance of the activation process. I then asked her to identify the emotion associated with the pain, and she discovered that there was an aggression in the pain saying, ” if I just say anger, it disappears!” She now changed side from being against the shoulder pain to being against the stress illness as such. She identified with the aggression of the shoulder pain and the enemy became the stress. She became able to see it and fight it as an idea outside herself. As I asked her to move her arm slowly, I hoped she could perform a fight response that might be locked in the shoulder. As she pushed her arm in a spiral movements it seemed like she pushed her illness away from her. Even though it was a symbolic action, she by that took control over her situation, and was no longer a passive victim of her illness. Instead of care and rest, what she needed was to feel her own aggression and strength. She might have felt humiliated by her illness (the pink laughing faces) and unconsciously needed to fight back. I clearly remember the tone of her last comment about the pain (“Now it is simply gone, you!”) as victorious as the prey having escaped in last minute from the predator!

In her mandala she drew a black pole, the “thick line at her left” that she imagined during the Bach piece. I think it played a role as a support and a resource at the moment when she felt threatened by the flickering dark energy from above. At the mandala the sky is clear and blue.

In the fifth journey she again worked with the anger and the fighting response, but this time the fight was between her pain and the music. The music felt resolute, and the strong and

wavelike expression of strings repeated by the wind instruments was saying to the pain “You just go away!” Then the pain answered back to the music as in a fight, and the journey continued with increasing intensive body sensations. The participant herself in the follow- up also described that she sometimes succeeded in getting her leg symptoms away by scolding at them.

It seemed like the participant had a very strong temper and a need to be in control, and I think that the initial experience of taking control was crucial to the later experiences of surrender. Her role in life had up to her stress illness been the one who took care of others and she only a long way into the therapy told that her husband had several near death incidents and was slightly brain damaged and that she had spent her whole holiday helping her mother to move to a new place. Her attitude to herself was definitely not a victim's role but a strong survivor who was not used to pay so much attention to herself, and also was a little uneasy about using the therapist's time.

During the postlude in the journey she repeatedly withdrew from the conversation while I was speaking. We shortly touched the underlying pattern while she recognized that she did that to escape from feeling controlled by others, especially her parents and husband. Here she did not fight openly, she rather was fleeing, but in a way there was a sense of hidden aggression in the withdrawal.

8.19.2. Control versus letting go

After having regained a sense of control, the participant spontaneously began to have images of letting go of control. Related to stress and coping this makes sense because stress reactions often can be a sign of not listening enough to the bodily related needs for rest and rehabilitation. Instead of being a controlling leader herself, she let the music take a leading role for once!

When the stored up survival responses has been released the body can wind up, release and relax. I think that the participant during the GIM therapy gained new ways to connect to herself and her inner world and that if she continues to nurture it might be helping her to prevent future stress. She learned that it was pleasurable to let go, she learned that it was safe to let herself just be, she learned that it was fine to do something for herself alone instead of always be available for her big family, and she learned that her fatigue and her legs actually were giving her important signals of her need for taking a break. Finally she also used the journeys to explore what it would be like when her working life that she had been very much identified with as a leader in the same place for 30 years, would soon come to an end, and she would begin to identify more with a life as a pensioner. Many of these experiences can be described as coping strategies that work against chronic stress. GIM especially helped her to get into contact with her inner life and the beauty and ability to be in the now that she had been longing for.

8.19.3. Being in nature

Nature walks and nature views were a big part of the journeys beside the pain relief processes with music. She was all by herself in the journeys, and the landscapes seemed to enable her to be in contact with pleasure and peacefulness. In many of the landscapes she imagined flowing water, giving her a sense of letting go. She also imagined mountain peaks where she could get an overview, and finally she imagined the beach and the ocean with sunset where she could feel connected to a deep sense of being. The first image that started

her restfulness was the wheel in the watermill that she also drew in the center of her mandala, showing a movement and a centering at the same time.

As a way of coping walks in real nature could maybe continue to be an important part of her life quality.

8.19.4. Summary of coping - case two

The participant engaged in a completion of a fighting response against her stress illness, and later explored new ways to cope with her chronic pain and surfacing tiredness. New coping strategies to counteract a willful and controlling personal style was to surrender and let go, to prioritize time alone with herself, to explore being more than doing, and to get inspiration from the beauty in nature. Related to work she gained insight in her leg symptoms as a signal to take breaks and move her body more at work, and to go home when she felt tired.

8.19.5. Life changes

The participant to her own surprise experienced spontaneous crying at home in the beginning of therapy without knowing why she was crying. She found out that she might have had stored up some sorrow and maybe also fear in her life, both connected to the deaths of close family members and also to her husband's dramatic illnesses. Her hypertension maybe also signaled that she might have suppressed some of her own reactions in order to support her surroundings. She formulated herself that “it was nice to be in a woman's hands” indicating that she felt safe enough to let go of her emotions. During the therapy she went on a holiday and experienced that she was more relaxed when she was on holiday than at home and felt much better. She realized that she would never again miss a holiday.

According to the participant her physical pain symptoms did not reappear except for the tingling legs with which she was still working. From the fourth session and on she felt more vitality and humor and was happy about that.

The participant had been working part-time during the whole therapy. At the end of therapy she formally ended her sick leave, but still did not work completely full-time, which she could easily do as an experienced manager. It seemed like her therapy had helped her to allow herself to work as long that it felt good and to go home when she was tired.

8.20. Analysis of the use of music - case two

8.20.1. Music as support for the pain relief process

The music functioned as a container while the participant worked with the pain relief processes and looked for visual and other kinds of imagery expressing the character of her symptoms. The music helped her to focus on her attention on the pain area, and not to distract from it.

8.20.2. To take the music in

In order to work with the pain symptoms I frequently asked the participant to “take the music into the body”, meaning listening with the whole body and paying attention to how the

music affected the body. This task was not easy for the participant who in the first session said, “The difficult part is to allow the music to get to it, I just have to dare that.” Maybe her need for control was more important to her than to risk the surrender to an unknown music. Later in the same journey she said, “It is difficult for the music to get in.” I was surprised to discover that she in a slight change of her formulation seemed to reverse the roles from her taking the music in to the music “wanting” to get in, as if the music got a sort of personalized will. I think that this little shift is about how the relationship with the music and trust into the music is built. In all her later journeys the music entered her body seemingly when it wanted to, and she invited it in.

8.20.3. Music as “healer”

The participant throughout the therapy course had intense experiences of music working inside her body and affecting her experience of pain and other symptoms. Several times she felt that the music removed the pain, and she reported later that it did not return. The dynamic of this is not easy to understand from an intellectual standpoint without making it too simple. It will be further discussed in the discussion section.

8.20.4. Music as peaceful surroundings

The calmness and beauty of the music helped the participant to imagine beautiful landscapes and scenes, in which she could relax and unwind. The peace of the music was experienced as landscapes (metonymic) and as she felt herself in the landscapes she got in contact with inner peace. In that way the music, the imagery and the inner sensation/emotion formed a self-reinforcing circle.

8.20.5. Summary of the use of music - case two

For this participant the music had primarily the following function:

1. The music was experienced as living being: music as companion
2. The music was experienced to remove pain symptoms: music as healer
3. The music provided experience of surrender and peacefulness: music as supportive environment
4. The music facilitated completion of fight response: music as empowering force
5. The music enabled contact with inner resources: music as aesthetic identification

8.21. Questionnaire data and measurements of physiological effects - case two

This participant was in group two. The mid-scores regarding Physical Symptoms are included because of the focus on pain in this case. They are written in brackets.

Table 8.10. Questionnaire data, total scores for participant 005

ID 005	Pre-waiting	Pre-therapy	Post-therapy	Follow-up
Well-being	40	80	72	80
Anxiety	8	2	4	2
Depression	19,5	7	8	6
Perceived Stress	12	9	13	13
Physical Symptoms	12 (8)	2 (6)	5 (4)	2
Mood	0 (29)	3	-5	-11
Sleep Quality	20	18	19 (12)	11
Work Readiness	2	3	4	4

As can be seen all measures except Perceived Stress improved from pre-waiting to follow- up. The Well-being score increased already before the treatment started, and kept its high level until follow-up with a slight fall at post-therapy. A similar profile is seen regarding general anxiety, depression and Physical Symptoms.

In order to compare the Physical Symptoms that the participant worked with during the therapy with the symptoms she scored in the symptom scale, I looked closer at the single items. At pre-waiting she indicated that the following symptoms were bothering her daily: stomach problems, heart pounding, pain in shoulders and nape and pain in the back, hips and legs. At post-therapy she complained of stomach problems, allergy, migraine, eye fatigue on a regular basis. At follow-up the only symptom left was stomach problems (diarrhea/constipation) some days in a week. When looking at the problems she worked with in the GIM therapy: rapid heart beat, pain in the groin, shoulder and unrest in the legs, it seems as they had all disappeared from the scoring at follow-up. A number of symptoms were not mentioned during the sessions but only in the questionnaires: migraine, stomach problems and eye fatigue. The stomach problems that still bothered the participant at follow-up did not seem to be handled during the therapy. However, it decreased from daily to some days a week during the study period.

Regarding Mood the mid-point measurement in the waiting period increased from 0 to 29. Especially the Mood sub-scales Tension, Fatigue and Depression were scored high at this time-point. At pre-therapy the level was low and decreased to a very low level (a positive mood state close to maximum) at post-therapy, and it continued to decrease /positive Mood increased until follow-up.

Sleep Quality developed in another way through the inclusion period: it stayed at almost the same rather high level (bad Sleep Quality) until post-therapy. At mid-point in the follow-up period it started to improve and this was kept throughout the follow-up period. Work Readiness increased gradually during the inclusion period, and the participant at post-therapy and follow-up indicated that she felt “rather much” ready for work.

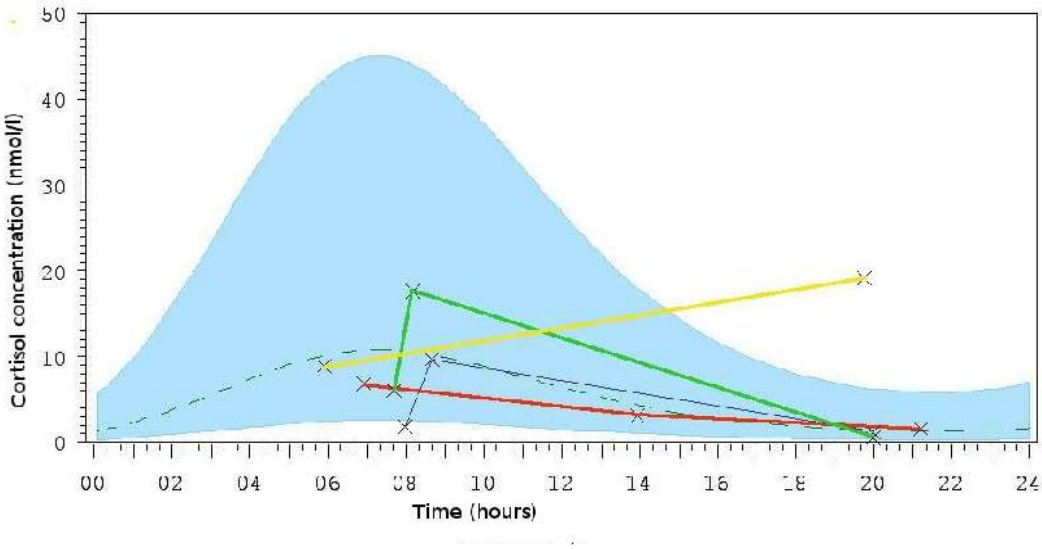
Table 8.11. Measurements of physiological effects, participant 005

ID 005	Baseline	Pre-therapy	Post-therapy	Follow-up
Systolic Blood Pressure (mm Hg)	140	149 (162)	-	165
Diastolic Blood Pressure (mm Hg)	80	88 (95)	-	105
Pulse (BPM)	97	84 (83)	-	88
Cortisol AwakeningResponse (nmol/l)	6	<1.6	6	-
Cortisol Reactivity (%)	-	806	214	-
Cortisol Recovery (%)	68	85	94	-110
Melatonin (pmol/l)	15	18	18	20
Testosterone (pmol/l)	60	42	30	23
Cortisol LC (nmol/l)	4	2	2	2

The participant suffered from stress-related hypertension and was medicated. Unfortunately the post-therapy measurement of blood pressure is missing. It seems as if blood pressure was considerably higher at follow-up than at baseline. This does not correspond with the questionnaires and the development in the sessions. I do not know if the medication changed during the period, and can not explain it with the information I have. On the contrary, pulse seems to decrease a little towards a more healthy resting pulse. The participant had a rather high pulse and in a journey told that she could feel her neck artery pulsate. The decreased pulse corresponds with the fact that she learned to relax more during the therapy

Melatonin concentration was increasing from baseline to follow-up. This corresponds with the development in Sleep Quality. The participant did not talk about her Sleep Quality during treatment. Testosterone concentration can be seen to decrease considerably from baseline to follow-up from 60 to 23. When thinking of change from control and anger to a more relaxed and peaceful state in the journeys it might be part of the explanation.

Figure 8.21. Cortisol variation (RIA) in participant 005



Note. The red line represents baseline, the blue line pre-therapy, the green post-therapy and the yellow line follow-up measurements.

The measurement of cortisol did not work so well for this participant as several tests were taken at wrong times or were not analysed. The cortisol curves at pre-therapy (blue) and post-therapy (green) seem to be normal but at follow-up (yellow) the evening concentration is very high (19). The participant did not indicate that she had extra stress that day according to the sheet following the cortisol tests, so this result seems odd.

8.21.1. Summary of case analysis and data comparison -case two

All questionnaire variables improved except Perceived Stress. In accord with the work in the sessions the report of pain symptoms decreased considerably. Testosterone concentrations decreased linearly from pre-waiting to follow-up. A cautious interpretation could be that the participant developed a more relaxed attitude and let go of trying to control and fight her problems so much.

8.22. Summary of findings in case two

- GIM assisted a pain relief process where the sensation of physical pain was released as it was symbolized as colours, forms, affects and movements.
- GIM enabled the renegotiation of anger and lack of control connected to the stress illness
- The music was experienced as a healing agent that entered the body and permanently eased symptoms of physical pain.
- GIM enabled experiences of deep relaxation and surrender that contrasted a personal pattern of control.
- The mandalas showed a development from focus on the head to contact with the whole body
- The imagery of nature scenes made it possible to establish a personal space of beauty and revitalization.
- GIM made it possible to look at personal patterns and emotions connected to pain and stress symptoms.
- GIM assisted the process of change to enhanced body awareness and healthful habits at work

8.23. Case three: Woman, teacher, age 32

8.23.1. Contextualization

The participant was 32 years old at the time of inclusion in the study. She was educated as a school teacher and had been working as a teacher for one year. Beside the teaching she also worked as a swimming instructor. She had been on sick leave for one month when she was included in the study, and she entered group one. The circumstances that led to her sick leave were connected to problems with an elder colleague, who seemed to have an alcohol problem. He and she made a school trip with a class to another country, where he drank every day (both red wine and whiskey), and she had been afraid of talking to him about it. When they came home, several parents complained about the teacher. The participant was uncertain

what to do, and was advised by her union to go to the headmaster which she did. The inspector afterwards talked to the colleague who lied about how much he was drinking, and the inspector closed the case. The other colleagues took side against the participant for going behind the back of their colleague. She felt excluded from the group and experienced that she was mobbed out. One day she burst into tears at school and could not stop crying when she came home. She went on sick leave with stress as the cause. She had breathing problems while walking which disturbed her because she as a gym teacher was used to be in a good shape. She was on full-time sick leave and had been seeing a psychologist several times. During the participation in the experiment she did not have any other treatment than GIM.

The participant was married, she had two children. The participant had met some difficulties during her upbringing: Her father died suddenly when she was 13 years old. She had felt supported by her mother during the loss, and had as an adult been going to a hypnotherapist to work more in depth with her sorrow, as well as with dark horror and fear of being alone. The participant was dyslexic and had been mobbed a lot by both her teachers and classmates during her childhood for being ”lazy and stupid”. She had decided to become a teacher and support children with similar problems in order to ”make a difference”. She was ambitious and happy about her own work and seemed to be popular among the pupils.

She formulated the following goals for the GIM therapy:

- Taking back her authority and find her strength to speak up to manager and colleagues
- Reflecting on her experiences and learning from them

8.23.2. Description of session 1 and 2

The participant had felt supported by the communication with the therapist/researcher during the intake interview, and had decided to look for another teaching job. She complained about sleeping problems that were not related to the current crisis: when she was trying to fall asleep she often kept thinking for hours about her planning. She would like to learn to relax to be able to switch off the thoughts. She agreed to take this situation as a focus for her first GIM journey. Listening to the *Romance from Stamitz' Cello concerto* she felt very calm, and she saw herself bicycling in a forest. When Pachelbel's *Canon in D* came, she felt herself floating in the air looking down at fields and the forest. Beethoven's *5th Piano concerto, 2nd movement* inspired her to see lots of animals and big butterflies, lots of them sitting on a bush and children trying to catch them. Even though she enjoyed the image she started to feel very sad and had a tingling sensation in the whole body. She coped with the emotion by only feeling her head. I asked her to use the music (Mozart's *Serenade for 13 winds*) to bit by bit feel the rest of her body again, if possible. She got an image of her son swimming and winning a contest and she had a feeling of pride. She saw herself diving among corals with the sun shining through the water.

Figure 8.22. Mandala from session 1, ID 020

After the session she told that when she saw the children at the bush she also saw her own children as through a tunnel, and then she had a whirling sensation and a very hard pressure in the chest[37]. She used the bright tones in the music to get away from the feeling.She was surprised how clearly she saw the animals and the trees in the journey. Her mandala expressed her flight through the forest, where she felt light and free. She could not immediately relate the journey to her sleeping problems.

In the second session she told that she was physically active again and had been painting a room. She had been contacted by the safety representative from her school, and had been crying in the telephone because she felt a pressure to come back but still did not feel ready. We discussed her conditions to get back to work: she would not take her biology lessons unless she could have a sparring partner and a decent teaching material. She would like to be able to tell about her part of the story to the colleagues without blaming the colleague who had been drinking, but she wished that he could have some help to recognize his problems. She would like to work together with one of her friends, a young teacher, with whom she could share her ideas, as she felt that her older colleagues were fixed in their own methods and did not like to try new ideas. Finally she would like to straighten out her relationship with the manager. She decided to rehearse that confrontation in a journey.

Listening to Pachelbel's *Canon in D*, she imagined the inspector. She thought that he had a stupid smile, and felt indifferent: it would not help to address him. I asked her to talk to him directly. She said, ”I wished you would listen instead of relying on old experiences, and talk so lengthy. I need being listened to! Turn around, see new ways, instead of laissez-faire! I need to get to know if my ideas are good or not. I am vomiting over your pocket philosophy directly after the book. It is false, and I feel humiliated. I need that you dare step forward instead of withdrawing and letting the vice-inspector do it for you. Stand up as a leader! Give insight instead of talking to people one by one using secretiveness. Open up! It is a horrible environment, and you create it! You have the last word. It would be nice if you listened to the college of teachers.” Listening to the A*dagio from* Rodrigo's *Concerto de Aranjuez* she

[37] The reaction she had in the journey made me think of the participant being close to restimulate a traumatic experience. I decided to step forward with much care and attention.

continued with the thought how it could be a great school if he took more responsibility. I asked what she was feeling, and she replied, “Silence.” I asked how she imagined that he responded, and she said that he was dumbfounded and started to use his ”I hear what you are saying” phrases. She said that she needed to see him take responsibility and that she felt like shaking him awake. I asked if she could do it, but then she felt like it was all the same, she did not believe in any change. I asked her to let the music get in between her and him (the peak in the piece at around 8.20). She said that they were just sitting looking at each other, he did not react. The Debussy *Andantino (String quartet*) began, and she raised from the chair and left. It felt good to go. She got out to her car, and it felt liberated. To Bizet's *Intermezzo from Carmen* she experienced peace.

She did not paint a mandala. In the discussion of the session she talked about her need of a leader who was more interested in development and process than this one.

8.23.3. Description of session 3 and 4

The participant had made an agreement with the school to begin to work 12 hours a week one month later. After the last GIM journey she had begun to imagine the inspector shrinking while talking in telephone with him. She had been visiting her work and it had been good to see the children. When asked about her contact to the colleagues she admitted that she had felt problems breathing and had started to cry in the teachers' room. The inspector had taken her into his office and ”lectured” and she had kept her silence. We discussed her fear of authorities, and her over-responsibility (always taking the tasks on her that nobody else took). She talked about her lack of self-esteem, and named some causes for it: childhood mobbing, her Danish teacher, attitudes in her family, her father's death. She had started to do horse riding and told that in her childhood her horse Fanta had been a source of safety and comfort. The focus of her journey became to contact any memories of self-esteem with the support of Fanta. She listened to the program ”Caring”. Listening to Haydn's *Cello concerto* and the *Humming Chorus* by Puccini she had a nice feeling of pleasure in the stomach, a feeling of safety and relaxation. When asked if the feeling was connected to the horse, she whispered ”yes”. To the *String Quartet* by Debussy I asked if she felt ready to look for good memories of herself as a girl together with the horse. She immediately felt migraine headache and nausea up to the throat, which became stronger each time she looked. I tried to go back to Puccini and Haydn, but the pain sustained and she could not imagine the horse anymore. She sat up and listened to the music and slowly the pain got away. She drew a mandala with the title ”Safety”.

Figure 8.23. Mandala from session 3, ID 020

She saw the pain as resistance, and I suggested that it could be the way of the body to describe the experience of herself as a child. She told that she very often had headache and stomach pain as a child. In the last part of the session we discussed how she could strengthen herself and refuse, and how she could navigate at the school.

In the fourth session she told about a meeting the day before with the inspector, the vice-inspector, and the union representative. She had begun to speak and had put her plan forward, and she had been critical! She had been visiting the teachers' room shortly, with a pounding heart. Besides, she still was looking for another job as a teacher.

The participant did a 5 minutes' Music Breathing exercise that helped her to relax. She did not paint a mandala. She told that she listened to music at home and was improving in letting the thoughts pass by. The rest of the session was verbal. The participant worked with the theme control that seemed to be important in many areas of her life. She had to control her body because she was hyper mobile. She had to control her food because she did not like herself if she gained weight. She had to control the food of her children (one with ADHD and one with allergy). She almost never had alcohol. When her father died she stayed at home for two days, then she went to school again, and she did not remember any feelings, she just had control of herself. I asked her where in her life she did not have control. She mentioned holidays and her privacy for half an hour every day. After her stress sick leave her mother sometimes took over and looked after the children. The participant received her help, and it was a new and strange thing for her to do.

8.23.4. Description of session 5

The participant told that for every session she sensed herself more from the inside, saying, “I feel more and more myself from inside for every session here. Before I felt myself more from the outside, I closed myself off and used the head.” She had taken the decision that she would not be stressed anymore and not fight anymore because she would only remain half a year at the school, and then find another place. She had observed that she had become better at pushing away problems and not being stressed by everything.

The participant would like to focus on the actual mobbing. We used some time to map the group of teachers. There were 45 of them. Two young women were her friends, but they

did not work in the same age group and building as her. Two men were OK, but neither of them was in her team. The persons in her team seldom met, as teachers normally do, so she was very often alone in her work. The mobbing was carried out by a group of around 15 women with an average age of 55 years, who had a club together. The participant thought that they defended the teacher with the alcohol problem because they themselves drank a great deal of red wine. She also thought that they were afraid of critique and that they practiced a more authoritative learning style than hers. The participant tried to use new knowledge about the learning brain: she built relations to the pupils, talked with them and spotted problems in time, she allowed chewing gum, toilet visits, music listening and fruit or water in the lessons to keep up the energy and concentration. She was engaged, and the other teachers seemed tired and uncomitted. The participant felt excluded, no one talked to her, and she withdrew. She would like to work with this, and we agreed on a focus of taking a trip to the teachers' room on the horse she was actually riding.

Listening to Adagio from Haydn's *Cello concerto in C,* Puccini's *Humming Chorus* and again the Haydn (as in session 4) she sat up in her chair and was guided to relax, and to feel contact and safety with her horse. I said, ”You are going to ride to a place where it can be difficult – would the horse like to help?” “Yes, it wants to”, she answered. She went into the teachers' room, and it was empty. That was nice, and she went back again. When she got back she felt headache and nausea, and related it to fear.”(I feel) soreness in my arms and legs, it radiates out in the hands, tiredness. (I) need to hide under my duvet. (There is) nice and warmth, dark and silent.” I asked her how the body was feeling. Her arms and legs relaxed a bit, and the headache started to lift and only remained behind the eyes. She still had nausea and felt difficulties breathing. I asked her to think of her horse, remember the smell of it, and ”..whisper to the horse how difficult this is and that you feel like puking about this situation”. Then the nausea disappeared, and she could breathe again, but the headache was still there. I said, ”Try and tell the horse how angry you indeed are at these 15 old women, who make life that sour, and who give you a headache...What do you feel from the horse?” “A kind of understanding”, she said. I asked her,”What would you like to do with the 15?” After a while she answered, “Puff – gone with a magic wand. That is a nice feeling! The headache lifts, the whole body becomes lighter inside.” I asked her how she did it. She answered,“I just point at them. They disappear like in a Donald Duck magazine!”

After the session she felt good. She did not want to paint a mandala. She told that she often had headache and stomach pain in the morning, and then she took painkillers and went to work. She now could see that her pain covered over fear, and behind that was the feeling of being stupid. We discussed how she could support her feelings of being good and clever, and she formulated some positive statements that she could say to herself, “I am a good teacher, a good human being, a good mother.” At last we discussed her possibility of continuing to work with her childhood mobbing after the GIM therapy has ended.

8.23.5. Description of session 6 and follow-up

In the sixth session the participant told that she had started to work part-time and that it was OK. She worked in a group to make a summer revue with both teachers and pupils, and it felt as a good way to air her feelings. She avoided the teachers' room because it felt ”negative”.

She did a short journey with a long relaxation and a verbal guidance to meet a wise woman. During the relaxation she listened to meditative music (*Blissful moment* by Bliss and *Bubbles of Joy* by Prem*)*. Then she listened to Beethoven's *5th piano concerto, 2nd*

movement. She felt a very deep and wonderful relaxation and her body became tingling and bubbling like soda water when the music became a little fast. While listening to Kobialka *(The Riddle song)* I guided her to be in a forest at a lake, and to see a very old wise woman with wise eyes come forward. The woman gave her something. It was a big glass ball. The music changed to Enya *(Day without rain)*. The participant had to use both her hands to hold the ball. It was completely transparent. She found out that the ball would guide her to believe in herself, and to be true to herself. The glass ball should be tended and taken care of, and if one was too hard on it it could break. She said, ”It is me, I have to be treated nicely.” It was transparent, and if it was held up in front of colours they would shine through.

The participant evaluated the whole therapy by saying that she had learned to talk herself down into sleep with the progressive relaxation exercise. She had got a lot of insights in between the sessions. She repeated from fifth session that she had “become better to feel myself and take action from that.” She felt that “the music has helped me out of the unpleasant, otherwise I might have been stuck in the negative if I had not listened to the body.” She had started to use music at home to feel herself, but she did not get any images.

At the follow-up meeting, she told that she had been able to talk to the teacher with the alcohol problem. She had one more crying breakdown at school as she felt the mistrust of her team colleagues. The group of 15 women had changed their attitude so it was more easy for her to be at the school. She still wanted to change her job, but was also considering how it would be to stay. She felt much better. She had learned to open more to others and not do everything herself in a ”perfection and control” way even though she felt bad if things in which she was involved were not OK. She had also learned that when she had a conflict it was important to go to the person directly. Both of her goals for the therapy (to be able to regain her authority and talk back to authorities and to learn from her stressful experiences) had been reached. She felt that she was relying more on her intuition and that her father's spirit was watching over her.

8.23.6. The therapist's comment

Working with this participant I from the very first journey had alarm bells ringing when she entered the sudden dissociative state, which I experienced in my own body as a kind of panic and high arousal. I suggested that some trauma material had been reactivated and decided that I had to work very structured and carefully with her. When she revealed her story, especially how she had reversed her childhood trauma into a mission for her life, I felt a lot of respect for her that might have caused me to misjudge her vulnerability. In my countertransference I had feelings of hopelessness for instance about her somatic reactions which seemed to stop the GIM process several times. I also felt her idealism and uprightness about her position in the conflict with her colleague and her inspector as both a stiffness and a strength in my own body. I wanted to protect her so that she would not keep on reenacting her trauma and wounds, and I supported her to try to move to another job along the way as a response to her urgent feelings of being treated unfair. I might have been caught in flight response, as it was my spontaneous response to help her to get away from the situation. In retrospect I focused more on how the therapy could help her grow and solve her problems at her current workplace so she could stay or leave with freedom.

8.24. Analysis of case three

At first the scheme with keywords from all sessions will be presented:

Table 8.12. Keywords for the analysis of case three

ID 020	Bodyself	Coping	Life changes
Session 1	Bicycling, flying, diving. Whirling, tingling sensation and pressure in chest	Only feeling her head, using bright tones to get away from feeling	Has been looking for another job
Session 2		Got inner peace after anger release (towards manager)	Physically active again. Listed up conditions for return to work. Crying in telephone.
Session 3	Pleasure and safety feeling in stomach. Horse riding. Nausea, headache.	Horse as a resource.	Visited workplace, crying in teachers' room, agreed on date of part-time work return. Passive when meeting inspector.
Session 4	(Relaxation)	Control as coping strategy	Critical and active in meeting with inspector. Able to feel herself from inside.
Session 5	Relaxation, horse riding, nausea, headache. Lightness.	Horse as resource, hiding under duvet, magic wand.	
Session 6	Bubbling relaxation Transparent glass bowl	Treat herself nicely	Start part-time work
9 weeks' follow-up		Able to talk herself down to sleep. Able to let go of perfectionism and be more open and cooperative.	Talked with colleague. Better feeling with group of 15 women.

8.25. Bodyself - case three

The words from the transcripts describing body-related experienced were:

(1)Folded hands over stomach. Licks lips. REM, bicycling. REM, weightless in air, flying in forest, sharp sight. Nods, sadness, it “turns around” in body, pressure in head, best to be in head. Swimming under water. (2) Walks out of office. (3) Feeling of safety and relaxation in stomach, whispers, headache, nausea, bad headache, neck, eyes, everything aches, nausea in throat, headache mostly eyes. (5) Headache, nausea, aching legs and arms, beams in hands, tiredness, relaxing under the duvet, pain behind eyes, difficult to breathe. Nausea gone, headache still there, point with magic wand, headache gone. Lighter inside. (6) Bubbling tingling inside like a shaken soda water. Holding glass bowl between both hands.

The number of bodily related experiences compared to other modalities was relatively large when taking into consideration that this participant had short music journeys from session 2-6. The participant can be seen to have repeated reactions of nausea, headache and breathing problems. Exclusively in the first journey before the unpleasant feelings, I observed that her eyes were moving (rapid eyes movement) indicating a state of daydreaming.

Several themes will be discussed in the analysis of the bodyself: The stomach, Sensory experiences, and Movement and freedom versus trauma and constriction.

8.25.1. The stomach

The stomach, often seen as the center of emotions, had a central place in the journeys: the participant had her hands on her stomach in the first journey, and later she experienced nausea. In her second journey she said that she would like to "vomit" because of her manager's weakness. In the third journey she felt relaxation and safety in her stomach and later she again felt nausea. The beautiful mandala with a red center and orange colours around illustrated the safety and could be seen as a centering in the belly. (According to Fincher (1991) a mandala with a strong center can symbolize the growing fetus in the uterus, or a process of protecting and nurturing a new idea or developmental process). In the fourth session the participant did not travel to music but talked on her extensive control of among other things food and alcohol, and also of her childrens' food. (The onset of her stressing conflict was her colleague's alcohol intake). In the fifth session she again felt nausea, and in one of the interventions the therapist said, "You feel like puking about this situation". In the sixth session no special stomach feeling was reported, but the glass bowl held between her hands may beside being a metaphor of her Self also be a metaphor of a stomach – as it was a round ball held in the height of the stomach.

Three levels of "stomach imagery" has been described: sensations in the stomach (food), emotions related to the stomach and metaphors of the stomach. I will proceed to sensory experiences, and return to the emotional level in the coping section.

8.25.2. Sensory experiences

The participant had several very clear sensation experiences of her inner body (proprioceptive sensing), but they were often painful. She had a tingling sensation in her first session that led to a whirling and constricted feeling. When she worked with relaxation she experienced pleasurable proprioceptive sensations. In the sixth session the participant was able to feel and contain arousal in her body – she described it as a bubbling or tingling sensation like shaken soda. It was a positive experience and did not lead to painful feelings as it did in the first session.

8.25.3. Movement and freedom versus trauma and constriction

In the first journey the participant was calm and happily experiencing bicycling and flying through a forest with vivid visual imagery of plants and animals. It was very delightful for her. This might also be because in her daily life chronic stress inhibited her in being as physically active as she used to be (she was probably locked in a freeze response). As she experienced imagery of children running after big butterflies, she at the same time saw her own children through a tunnel and she suddenly felt sad and got a tingling, whirling sensation in the body combined with pressure in the chest. The stream of visual imagery was suddenly changed to proprioceptive alarming experiences resembling a panic attack. My understanding of this is that she was touching traumatic experiences that was causing arousal (tingling) and fear (constricted breathing). As the participant had lived a childhood marked by mobbing from both peers and her primary teacher, as well as a traumatic loss of her father when she was 13 years old, there might be plenty of material that could be connected to the sudden loss of innocent joy. The image of the children catching butterflies, her own children in a tunnel (struggling with ADHD and allergy), and then her own childhood might have formed an association chain that involved sadness and unresolved trauma reactions presenting at a bodily level. Her immediate action in the journey was to cut off her body sensation and only feel her head. That might be because the outlet of energy locked in freeze response (whirling and

pressing) was too sudden and overwhelming. Afterwards the participant said that she had tried this reaction before, and it was evident that she did not yet know how to stay with the intensity of the emotions. With the help of the therapist and the music the participant managed to get back to resourceful memories of pride over her son winning a swimming contest and then images of herself diving in a coral reef. So the process of alternation between the intense survival energy and the resource experience was introduced. The mandala she painted with the road and the trees seems to communicate the lightness as she flew, but at the same time it is as if a sense of grounding was lacking, the trees were not connected firmly to the earth, and the road was disappearing into the forest and not leading towards any defined or visible goal.

It seemed to be important to be able to have resourceful images ready for next time the intense reaction would occur, and the participant thought about her horse Fanta, who helped her to feel safe in her childhood.

The pattern of experiencing alarming reactions on a bodily level was repeated in journey three and five, where an initial contact with her horse and a ride went into headache, nausea and breathing problems when she was nearing disturbing situations or feelings. In the third journey the reactions seemed to be connected to fear of re-experiencing childhood trauma, as she was asked to let the music open up to further resourceful experiences in her childhood, which she did not find. In the fourth it was fear connected to the mobbing taking place in her present life. The physical reactions came after the danger was over (riding into and back from the teachers' room). Her symptoms apart from headache and nausea were also soreness in legs and arms radiating out in the hands and tiredness. She probably had used an immense amount of energy to go to the teachers' room in imagination. This made me think of the connection between the two mobbing episodes. There might be a sort of re-enactment in the present mobbing that seemed to open up to old wounds and exhaustion. According to Levine (1997) the unconscious purpose of re-enactment is to heal the old trauma. It seems as the participant in several of her GIM journeys repeatedly went close to the overwhelming feelings and reactions, felt them as somatic sensations, and maybe bit for bit released some of the constricted energy associated with the trauma. She did not seem to develop metaphors of the pain or defensive manoeuvres. However, the final comments from the participant indicate that this is the case because she stated that “the music has helped me out of the unpleasant, otherwise I might have been stuck in the negative if I had not listened to the body.”

Gradually it became clear for the participant that her Physical Symptoms covered over fear, especially fear of unbearable shameful feelings of being stupid. She also remembered that she for many years had suffered from these same symptoms and had suppressed them with pills. These insights were a major breakthrough and a motivation for her to begin to listen to her body and the symptoms with more acceptance and care.

8.25.4. Summary bodyself – case three

The participant experienced pain in stomach and head (interoceptive sensing) and nausea when she approached childhood memories and memories of recent mobbing. Her symptoms were eased by the music, by imagined support from her horse and by the expression of aggression. The participant got an increased sense of her own being from inside and the connection between her feelings and her symptoms, and she learnt to listen more to her body.

8.26. Coping - case three

As already described the participant several times had difficulties coping with the emerging reactions in the GIM journeys. I will discuss her coping strategies both in the journeys and in her life situation in the following themes: Numbness and flight, Control, Coping with emotions, Renegotiation of mobbing, and at last the development of "A new attitude towards herself" will be described.

8.26.1. Numbness and flight

During the sessions the coping strategy used by the participant was to cut off from her bodily sensations and only feel or be in her head (using bright tones in the music to get away). Her main coping mechanism was numbing out or escaping from her Physical Symptoms and emotions.

As a first choice she would use the flight response as for instance in the first GIM session where she flew in imagination, but I think that as she was a highly responsible person, this would not work for her in social situations, so she would have to flee from her own body rather than from a place or commitment. She adopted the possibility of fleeing from her working place and finding another job, but as she started to return to the school she more and more focused on staying where she was.

During the therapy course the participant improved her ability to stay with her inner sensations and feelings, and she recognized that she improved from session to session with this. The empathy from the therapist and the music might have been very important for her in this process.

Another coping strategy both in her childhood and in the present situation was to be with her horse, a warm and secure animal who could not do her any harm but allowed her to feel nurtured and accepted as she was. When with her horse she probably fled from the complex and difficult company of human beings.

8.26.2. Control

Another coping mechanism had been to control her emotions, her body, her work, life, children etc. This pattern was discussed in a verbal session where it became more and more clear to the participant how big an issue control was in her life. The amount of tension in her body could also be connected to her extended attempt to be in control.

The participant seemed to have a personality that could be characterized as "A-type": competitive, ambitious, perfectionist and controlling combined with a habit of taking over-responsibility (taking all the jobs on her shoulders that others did not take).

In the relaxation part of GIM and also in the listening part a certain degree of letting go of control is involved. The participant in this way could experiment with this in a safe environment. She learned how to be in "controlled release" by the guiding, which she started to practice at home.

The goal of her ambitions was to be able to do good (do the best) for the school children, so that they should not go through the same as she did as a child: her dyslexia was not understood, she was mobbed and had felt helpless and without control. Her mission to be a good teacher might have served as an attempt to get into control over her old feelings of

helplessness. As I think of it afterwards, her mission seemed to energize her but at the same time it put a pressure on her: she would never really be able to undo the harm even though she was a superb teacher for a lot of pupils. She rather would have to work through her unmet feelings of fear and abandonment. The urgency of her mission also caused her to be extra sensible towards her leader and colleagues: She would need a high degree of engagement and straightness from them to be sure that they did not let the children down. She risked to end up as "lonely but strong" at her working place and in the long run to burn out.

In her other life roles she seemed to be a good mother, and she had a husband and several good girlfriends. However, I ask myself if she did not see herself as the one to manage everything rather than dare to express her own feelings and receive help and nurturing, or if the breakdown with stress maybe was a chance to look at herself, begin to trust others and be more open emotionally.

8.26.3. Coping with emotions

The participant was both a very independent person with her own ideas and a rather new teacher with the need of support and experience building. In the second journey the participant expressed her anger towards the inspector, who according to her did not take responsibility or support her in the actual conflict with the alcoholic colleague. During the attempt of renegotiation she was not able to imagine any answer or feeling of being heard by the inspector, on the contrary she gave up on him and went away. This might be a reflection on her earlier experiences of abandonment by adults who did not listen to her. It could even reflect her feeling of abandonment by her father who left her and as such did not respond to her needs as a young girl. She reported that usually when she was with authorities she resigned and silenced. The feeling of humiliation, rage and helplessness by not being heard or noticed might underlie the pattern of giving up and leaving.

The new component was that she in the GIM journey allowed herself to express her anger and dissatisfaction and also her hopes and aspirations, and she did it with a warrior-like power as can be seen in the description of session two. She might be totally right about the irresponsibility and inauthentic ways of her inspector and his use of empty phrases, but the point is that she expresses herself instead of getting overpowered and numb. Even though she did not get into a dialogue, she felt peacefulness afterwards indicating that the self-expression helped her. The renegotiation did not strengthen her relationship with her inspector but it did change her inner balance (and maybe psychic working model) from a (weak) child being lectured by the superior to an adult person expressing her views to another adult. She extracted a new coping skill from this experience which prevented her from being too submissive: to imagine the inspector shrink size while she talked with him in the telephone.

Her reaction just before her stress sick leave was a crying outburst in the teachers' room and this was repeated several times when she began to visit her working place: She got overwhelmed and felt unable to breathe from fear and desperation facing the fact that she was excluded, not understood and treated fair (combined with unconscious reenactment of her childhood mobbing). Even though it seems completely understandable that she burst into tears it also makes me think that it probably was not easy for her to contain her own emotions. Either they would burst out explosively or they would be withheld.

In the GIM journeys emotions such as joy, anger, peacefulness, safety and fear surfaced and she was able to feel them together with the music. As described in the analysis of the body imagery, fear often would be felt as somatic symptoms.

8.26.4. Renegotiation of mobbing

It did not seem appropriate to work with the childhood mobbing because of the time-limited therapy course, but in the fifth journey the participant was ready to confront the actual mobbing that had taken place at her school. In order to reduce and check the reality of the feeling of "everyone is after me" we did a mapping of the teacher college (45 persons) and found that a group of 15 women were the ones to carry out the mobbing and exclusion of the participant. We also discussed the culture clash between generations of teachers. The participant would like to rehearse to go into the teachers' room and recapture her space. In order to be sure that she had a resource imagery to support her we planned that she would imagine herself riding on her horse into the teachers' room, so that she was not alone, she was high up, and she could easily fly. In her imagery the teachers' room was empty (reminding of the lack of response from the inspector). The challenge as such was reduced to a manageable size. However, the participant after having been in the teachers' room did not feel empowered but got into her proprioceptive symptoms (headache, nausea), and fled under her duvet to feel safe and held. As she seemed on her way to get stuck I reminded her of her horse (resource imagery) and asked her to smell and feel it and to communicate with her horse. To strengthen her sense of connection I asked her to "whisper to the horse how difficult this is and that you feel like puking about this situation" (she had in an earlier journey whispered with and about her horse, so I matched and supported her style of intimacy), and to "try and tell the horse how angry you indeed are at these 15 old women, who make life that sour, and who give you a headache". She felt that her horse gave her "a kind of understanding", and when I asked her to do whatever she needed, she rapidly invented a magic stick and directed it towards the 15 women and made them disappear. After this action her physical distress disappeared. It happened so fast that I was almost not able to follow it at the moment. But looking back it was a very interesting move because she actually found a way to fight back instead of being a victim (fight response). She so regained her feeling of control and power over the situation. The easiness surprised herself – it was almost unreal as in a cartoon. But it had an immediate effect on her symptoms and her mood. As we talked about it afterwards she seemed to understand more of her own role and of her potential power. As in the confrontation with her inspector she experienced her anger and her ability to express and act.

8.26.5. A new attitude towards herself

In the last session I prepared a Music and Imagery experience with verbal guiding during the music phase to make a good closure of the therapy course, and to strenghten the participant's contact with her inner resources. She was told to meet a wise old woman and receive a gift. Her gift was a glass ball that seemed to be both vulnerable, beautiful, transparent to other colours and strong. She could identify herself with these qualities and also with the "message" of the ball, "to believe in myself, and to be true to myself". She felt that the glass ball was herself saying, "It is me, I have to be treated nicely." She realized that she needed to treat herself with more care and that she needed to be treated by others with more care if not to break. I think that this insight was very important and precious. She really saw her own fragility and beauty. Compared to her previous coping style of numbing, freezing flying and fighting, it was a beginning to integrate a more gentle way of containing herself together with a new sense of humbleness and spirituality. She also realized that she deserved to be treated nicely by other people.

8.26.6. Summary of coping

The participant changed her way of coping from control, perfectionism, numbing and flight to feeling and sensing her body signals, adapting a more allowing attitude towards herself and others, identifying her own needs and dealing with her fear and anger. She developed her ability to express herself in front of authorities, and she took her power back by imagining control over the colleagues who had mobbed her.

8.27. Life changes - case three

The changes reported by the participant during the therapy course and follow-up were interesting and connected to the changes in coping and body sensations as seen in the scheme of keywords.

8.27.1. Relaxation and access to inner sensation

The participant reported that she felt herself more and more from the inside for each therapy session. Earlier she had felt herself from the outside. She also reported that she learned how to practice the relaxation guiding by herself, so that she could talk herself down to sleep. This had had a positive influence on her Sleep Quality.

8.27.2. Changes in relationships

The first change happened already after the intake interview. The participant had felt supported and relieved when she told her sick leave story and this inspired her to look for another job. This can be seen as a step out of the freeze reaction of stress.

The participant told about how difficult it was for her to receive support from her mother who had helped her during her sick leave and taken care of her children for her. She addressed the need to learn to receive support from others.

The experience of talking back to her inspector in the second session did not lead to immediate changes – in the following confrontation with him in real life she again became silent. But after the third journey (two weeks later) she had been to a meeting with her inspector, vice-inspector and a union representative and at that time she had been actively expressing her conditions, critique and needs.

Her relationship with the colleague that had been drunk at the school trip changed during the follow-up period, where the participant had a communication with him and expressed her concerns and problems, and they got even about it. The relationship with the group of women in the teachers' room also changed, as she felt them less hostile and with a more accepting attitude.

Her relationship with her colleagues changed. At the follow-up meeting she told that she felt able to let go of perfectionism and be more open and cooperative.

8.27.3. Job return

During the therapy course the participant rode two horses: she both looked for another job, and negotiated her part-time job return. The communication in the second session helped her to become clear about her conditions for the work return, which she could express when talking with the managers at the school. She visited the school several times during the

therapy course, which had a strong emotional impact on her. When coming to the sixth GIM session she had started part-time work and was happy to be with her pupils but still avoided the teachers' room. At the follow-up meeting she seemed to be on her way to recover from stress and move towards full employment, and also to be responsible for herself and her relationships learning the skills to be in a complex working place. For her transition phase she joined a group doing a cabaret (revue) about the school – a place where she probably could express her anger and critique towards the managers and the ”15 women's club” in a humoristic and ”legal” way. As the loss of humour often is a sign of stress, this move pointed at a good prognosis for recovery!

8.28. Analysis of the use of music -case three

8.28.1. Music intensity and arousal

In the very first session the participant listened to Beethoven's *5th piano concerto, 2nd movement,* which according to Dag Körlin (GIM Workshop, Copenhagen, 2003) in some cases can access fragments of trauma memory (intrusive experiences) especially at the point where the piano enters after the long calm opening. In this case the start of the piano did not trigger a reaction. The piano trills seemed to inspire the image of butterflies and children, but the building intensity of the piano solo seemed to affect the arousal (tingling sensation) and then access traumatic memory on an emotional and sensory level. In the third journey the participant entered a state of safety and relaxation listening to Haydn's *Cello concerto in C (Adagio)* and Puccini's *Humming Chorus*. As she listened to the *String Quartet* by Debussy *(Andantino),* which has a solemn and dark tone and a more open structure than the other pieces, she got into constriction and distress, probably primarily because of the intervention to look for positive childhood experiences. When returning to the *Haydn* and *the Puccini* pieces she got out of the distress as she sat up and drew a mandala.

The “safety music” (*Haydn* and *Puccini*) was again used in session five, where she rode to the teachers' room on her horse, but here she also experienced the distressing sensations, and finally used her magic wand.

In the last session, pieces from the Mustress CD with grounding pieces were played during her Music and Imagery experience, but in the middle the Beethoven piece from first session was played again. This time she experienced a pleasant tingling and bubbling sensation (arousal) in her body without getting into trauma fragments. It could indicate that she had regained some flexibility in her ability to contain arousal between the first and the last session.

The participant reported that she used music at home to access her feeling of herself from inside, although she did not get any imagery while listening.

8.28.2. Summary of the use of music in case three

For this participant the music had the following functions:

1. The music provided a holding space for the investigation of inner sensations: music as holding
2. The music assisted the building up of tolerance to arousal: music as facilitator of inner regulation

3. Special music pieces functioned as signals of security: music as a safe place

8.29. Questionnaire data and measurements of physiological effects - case three

The following questionnaire data was collected for this participant:

Table 8.13. Questionnaire data, total scores for participant 020

ID 020	Pre-therapy	Post-therapy	Follow-up
Well-being	16	40	60
Anxiety	8	4	1
Depression	32	21	10
Perceived Stress	19	19	9
Physical Symptoms	22	11	3
Mood	9	14	-9
Sleep Quality	27	27	26
Work Readiness	2	2	3

As can be seen all measures except Perceived Stress, Mood, Physical Symptoms and Sleep Quality had improved at post-therapy and were even better at follow-up. The depression score changed from major depression (over 30) to no depression. Perceived Stress and Mood scores had reached very good levels at follow-up. Physical Symptoms also changed a great deal between post and follow-up. Work Readiness improved from ready to work "to some degree" to "very ready".

The Sleep Quality did not seem to change so much and the score was at an average level (max score 48). When looking at the detailed data the participant went to bed very late and needed a lot of time to fall asleep (up to one hour) and got up at minute 6:20 so she seemed not to get enough sleep (six hours). At follow-up both had improved a little so she got seven hours of sleep.

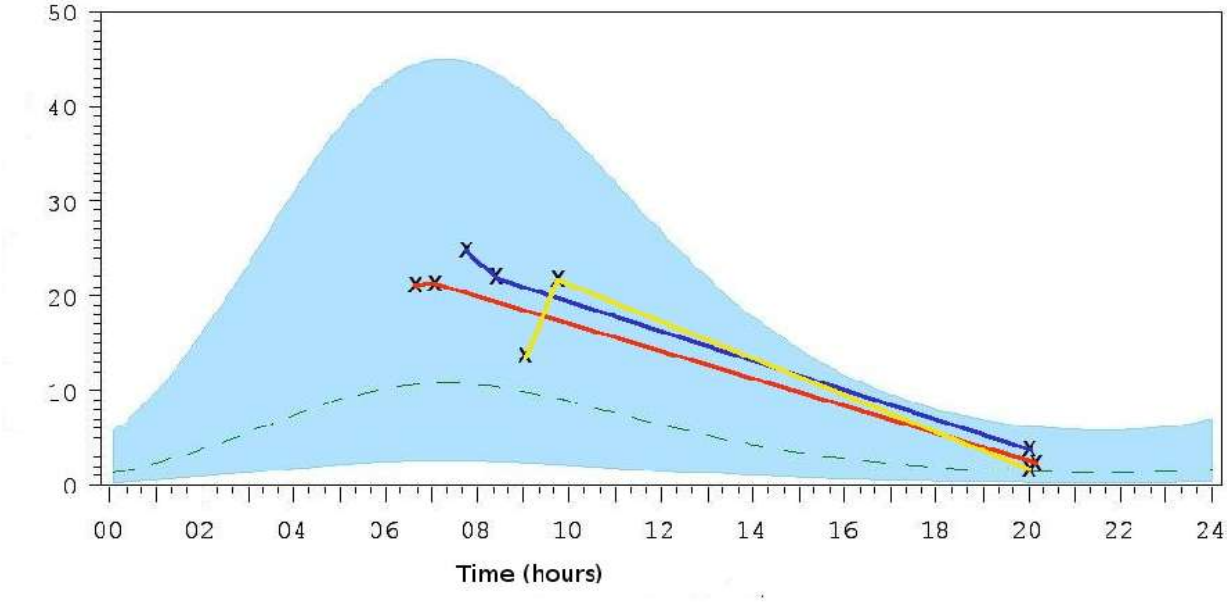
Comparing the questionnaire data to the case analysis, it somehow struck me how much the participant improved according to the questionnaires, as my feeling of the case was that she might have had some difficulties to use the therapy method sufficiently. However, the comparison uncovers that the participant must have benefitted very much from the therapy as she was positively influenced both emotionally and physically. The only variable that was not changed so much was the Sleep Quality.

Table 8.14. Measurements of physiological effects, participant 020

ID 020	Pre-therapy	Post-therapy	Follow-up
Systolic Blood Pressure (mm Hg)	124	113	-
Diastolic Blood Pressure mm Hg)	83	88	-
Pulse (BPM)	82	71	-
Cortisol AwakeningResponse (nmol/l)	20.6	26.2	12.9
Cortisol Reactivity (%)	2.9	-17.2	73.6
Cortisol Recovery (%)	92	87	92
Melatonin (pmol/l)	19	18	17
Testosterone (pmol/l)	33	38	26
Cortisol LC (nmol/l)	1.48	1.49	1.8

Blood Pressure and Pulse: Blood Pressure data are contradictory, but Pulse seems to be descending from pre- to post-therapy. Cortisol results from the RIA will be shown at the following graph.

Figure 8.24. Cortisol variation (RIA) in participant 020



Note. The red line represents pre-therapy, the blue line post-therapy and the yellow line follow-up measurements.

It can be seen that the follow-up Cortisol Awakening Response (yellow) is much lower than the pre and post levels (red and blue). The Cortisol Reactivity has normalized at follow-up (a nice and steep morning curve). That seems to fit with the participants experience of feeling much better at follow-up. Melatonin concentration was almost unchanged which is in accordance with the unchanged Sleep Quality in the questionnaires, however, the participant herself had gained some skills in relaxation that helped her to fall asleep. Testosterone concentration were a little lower at follow-up than at pre-therapy and it was higher at post-therapy. Overall it is difficult to decide what has to do with the therapy and what has to do with her preparations for job return that took place alongside the therapy course.

8.29.1. Summary of case analysis and data comparison -case three

All variables except Sleep Quality were improved at follow-up, and indication of major depression at entry was changed to no depression at post-therapy. Cortisol curves normalized and testosterone concentration was slightly reduced at follow-up. The data indicate a positive development that might indicate an effect of GIM as a whole.

8.30. Summary of findings in case three

This case shows how vulnerability caused by underlying stress and trauma can make it difficult to work with GIM in the traditional or modified form, but how it nevertheless was used to shed light at conflict areas, complete confrontation and renegotiation processes and support profound change even with short music journeys.

- GIM assisted the participant to imagine freedom in movement
- GIM enabled the imagined expression of anger and critique towards manager
- GIM provided a framework that made it possible to work with pain and distress associated with traumatic childhood memories on a bodily level
- GIM helped to renegotiate co-worker mobbing
- The relaxation training provided new skills to help to fall asleep in the evenings
- The verbal conversations provided support and clarification related to job return
- GIM helped the participant to change reaction patterns from perfectionism and control to more openness and co-working
- GIM helped the participant to learn from and begin to solve the interpersonal conflicts that lead to the stress sickle
- GIM helped the participant to feel and be with herself from inside her whole body instead of just being in her head
- According to the questionnaires and cortisol measurements a state of stress and depression was changed to a state of good physical and psychological health at follow-up

The sentences in the summary were member checked and agreed on by the participant, who also told that she had got a job on another school and was doing fine.

8.31. Case four: Man, pedagogue/therapist, age 55

8.31.1. Contextualization

In the fourth case description the only male in the group of four will be presented. He was included in the study in group two. He was 55 years old at the time of inclusion. Originally educated as a pedagogue he had been working for many years in a very big SFO with 2-300 children as a compartment manager of 20 pedagogical staff members. Together with his middle manager colleagues with whom he got on well, he had been working on a plan to improve the environment for the children. He identified himself in this process as

idealistic and creative. He described his first sick leave as a result of not being supported by the supreme leader at all in his and his colleagues' plans. He had felt that his ideas and ethics had been put down, and the working environment had not been good. He felt increasing stress and got on sick leave, and did not return to the SFO. He had begun to prepare a law suit against his working place (work injury case) but had given up on that. After the first sick leave he went through a two year long period of stress-related sick leave superseded by part-time work and different jobs in institutions with small children and children with special needs. On good days he could handle the demands, but on bad days noise or complex situations would get him into sudden fatigue and loss of energy, a feeling of being dizzy with a tingling unclear sensation in the head and an impulse to just run out the door without coming back, which he had done at some occasions. When asked if this reaction came suddenly he answered that the reactions increased over some time but he was not that good to catch the signals.

Half a year before inclusion in the study he was on sick leave compensation from the municipality, but despite the Danish law that ensures a quick case management, he had been left in a limbo for many months. He was very frustrated about it and felt burned out, hopeless and fatigued.

He was also trained to be a psychoanalyst but had not yet worked as such. He was divorced several years ago, and had two sons aged 16 and 18, who lived with him in periods. His mother had been depressive. Both parents had died, and his connection to his family was sparse.

The participant had earlier been in cognitive therapy and psychoanalysis but had not been working with his problems as related to stress before. He speculated if he was influenced by change in hormones as in a “male menopause”. He was medicated with a mild tranquilizer.

He identified his working theme as:

- Developing his ability to sense and read his bodily stress- signals

He was very fond of painting but had not been painting for a long time. In the intake interview we discussed his relation to creativity. He had recently dreamed that he scraped the colour out of some crayons instead of sharpening them and then he put explosive material inside. We talked about how he needed to explore his anger.

During the participation he had nine sessions with a psychologist, but he did neither comment on the content of these sessions while in GIM nor in the follow-up interview.

8.31.2. Description of session 1 and 2

The participant described which kind of part-time work he would like to apply for. It should not be children care. He also worked with an idea of doing a volunteer communication project in a place for homeless men, and he had made a first telephone call. He drew a pre-mandala showing disharmonic energies that wanted to get out expressing it “Krsj, energy!”.

Figure 8.25. Mandala from session 1, ID 007

The same day he came for therapy he had met a colleague from his former job at the SFO, and it reminded him of how he felt, when he got on sick leave. His metaphor of the old situation was, ”They are warning me with flags, and I turn away and look in another direction.” This became the focus of his first GIM journey. To Haydn's *Cello concerto in C, Adagio* he imagined turning around. He saw a fantastic landscape at an English estate. Then he became part of a reportage about Christmas at an old Swedish farm. It reminded him of his fragmented family situation and his longing for interrelatedness and community. I asked him if he could sense this longing, but he merely thought of it and experienced the cosiness and the fireplace as coming directly from or being in the music (Puccini's *Humming Chorus from Madame Butterfly*). Dvorak's *Serenade in E major (Larghetto)* reminded him of his mother's sadness, and related to her his own feelings of melancholy, stagnating and powerlessness that he would not like to involve others (the therapist) in, saying,“You do not feel like coming into that”. I asked if the music also had other qualities, and he imagined someone who was about to take off flying and he realized that it was himself. He sensed a tingling sensation in the solar plexus area. After some time a lot of busy woodland pixies swarmed up from the earth. He imagined the nature in two layers: the dark wet forest floor and the light floating spring. Listening to Bach's *Christmas Oratorio (Shepherds song)*, he visited the Danish queen, who was walking around smiling. I asked if she had a message for him and it was, “It is OK with dignity, it is OK to be worthy and to express it”. He sensed a warmth in the chest. To two repetitions of Warlock's *Pieds en l'air* he again was in the Swedish farm now with a beautiful waltzing princess. Thinking about the initial waving flags he heard an inner voice saying, ”It could as well be you, who were the king with the princess and the kingdom and everything.”

In the second session we discussed the polarities of the first journey. He recognized the depressive feeling in himself of being stuck and incapacitate. He felt that the rules of the society blocked him from taking any initiatives and that he lacked energy or an inner motor. Beside that he had problems with his memory. He felt it as if a brown-violet lump of slime was lying over his body from half over his face and down to the waist. We agreed to take the lump into the music session and look for what it could be covering. In order to provide energy for that I chose the ”Mostly Bach” program.

Listening to Bach's *Passacaglia* the participant explored the slime lump. The music made it stiffen like caramel, and then the music moved under the slime. A green superhero was being created underneath like in a birth, reminded him of Saruman's orcs (from The Lord of the Rings). It was green and sometimes it became more like Spiderman. He said, “They contain some strength, those guys”. The slime lump transformed into glimpses of rainbow light falling over his head. Then it was like the storm was over and the light came through in the sky. He relaxed and tried not to control the imagery too much, and experienced different colours in his inner world: red, violet, and golden caramel. Then he saw a man similar to a type with a lot of hair wax that he had seen in the train. He did not like him at first, but then he thought that he was just another one like himself, they were similar inside. Listening to Bach's *Come Sweet Death* he saw a blue-green stone or peacock in solar plexus, and then remembered the last scene in the Lord of the Rings where the group of elves sails away. The *Sarabande* made him feel pressure in the brain and the eyes. I asked him to breathe and put attention to his legs. It helped a little bit. He wanted the music to be more relaxed. In the *Doubleconcert and the Little fuga* by Bach he imagined a parade of old noble women, and there was a butler, whom the participant disliked. The butler might also has had a slime lump over him; he seemed superficial, closed and subjugated. I asked if the participant had anything to say to him, and the participant asked him to ”get a life”, but he did not listen, and the participant preferred to get away. A group of wild horses appeared with fluttering manes, jumping around. One of them was blue. The participant again talked about the artificial life and the Law of Jante[38] that he would like to escape from. As a music extender he listened to Richter's *”On the Nature of Daylight”*. He re-experienced the death of his father, and how he felt his father was flying out of the window while he let something lie back. It resembled the slime lump: one could just fly away from it or let it lie beside. I asked how it was to be without the lump. He said that it was a little unfamiliar. It was like it was being created.

After the session he talked about the possibilities that seemed to open up if the slime lump and the old systems died. He said, ”Maybe I should just work with my project (with the homeless men) and then the ”memory thing” (memory problems) would stop.”

[38] A pattern of group behaviour towards individuals within Scandinavian communities which negatively portrays and criticizes individual success and achievement as unworthy and inappropriate: ”*Don't think you're anyone special or that you're better than us”*. Described by Aksel Sandemose (1933).

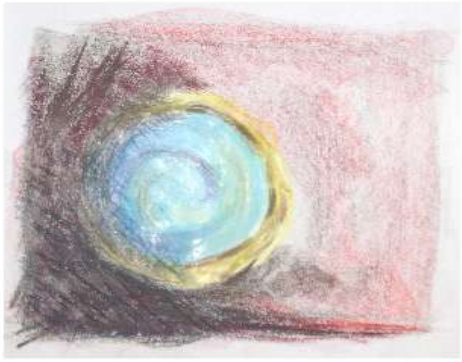
Figure 8.26. Mandala from session 2, ID 007

8.31.3. Description of session 3 and 4

Coming to the third session, the participant was tired and felt that he was still affected by anesthesia from a visit to the dentist the day before. We worked verbally for some time and he found out that he felt bad and slightly overwhelmed at the dentist. He felt better as we went through the whole procedure identifying the times where he had not been asking for time or information enough to adapt to the procedure. Since last session he had been talking to a woman at the place for homeless men, but it did not lead to anything right away. I encouraged him to go on. He did a short GIM journey, where he focused on ”finding a quiet inner place from where the creative impulses start”. He listened to Vaughan William's *5th Symphony, 1st movement* (12:53) and talked about the light in the paintings of Turner[39]. The participant imagined a turquoise spot or gem stone mounted in gold that stayed there for a long time and then exploded into light. Darkness and light exchanged. The Danish musician Peter Bastian came by laughing and spoke fantastic things about creation. Dark red colour blended with the darkness and light and the turquoise spot. It reminded the participant of a painting he made long ago. Then a lot of royal persons came, and an image from Lord of the Rings with a burning king. The fire became a fireplace with dying embers, and finally the embers became a red-blue gemstone in almost complete darkness. The mandala illustrates the turquoise gem stone in gold, and maybe also aspects of the red-blue stone that represented the inner source of creativity he was looking for.

[39] J.M.W. Turner (1775-1851), English romantic landscape painter.

Figure 8.27. Drawing from session 3, ID 007



The participant had developed an idea of doing ”communication therapy” in the corner of a coffee shop or in a another place where people could come in from the street and have mini consultations about how they could change their communication. In the fourth session we discussed his ideas and how to get it manifested in the world. He said that he faced a massive burnout and resignation when he looked in the same direction as usual. He agreed on trying to visualize how he could be working as a communication therapist. After the guided relaxation that was accompanied by Pachelbel's *Canon in D*, he listened to Beethoven's *5th piano concerto, 2nd movement*. I introduced him to imagine himself doing communication therapy. The participant imagined that some young people came to him and he thought that they were more frisky and confused than him and maybe could benefit from his age and experience. I asked him to describe the place. He was sitting at a table in the corner of a cafe, and he felt relaxed and fine. In front of him sat a sad young girl, who turned into the girl named Divya who used to present the weather report in Danish Television. I asked him what he was doing. ”I ask what has brought her to sit here. Then she says (it was about) how she got along with her boyfriend. I ask her of examples on how they talk with each other.” He explained his idea of using a mental microscope to look for what was happening between them. “I tell her what I see: fight, attacks, accusations that are packed up. I ask if she can see it. I talk with her about how one can relate to it.” Listening to Bach's *Double violin concerto, 2nd movement* (Stokowski), he continued to say that she would not understand it right away. Then he explained once more that under her boyfriend's words something else was hiding. ”If he was shouting that she was a jerk, what was he expressing behind that?” The participant said that she probably would have some resistance, and maybe say that he (the boyfriend) did not feel like he was heard by her. The participant said that he was installing a loupe to be able to hear behind the words, and try to act from that new consciousness. He would give her a paper with five words and instruct her to go home and follow the principles. After he had finished the imagined consultation I asked him, ”[(What do you) feel in the body?] Good. [How?] Satisfaction. [Where?] Here {points at solar plexus} and it spreads. [Let it spread]... [How does it fill you now?] Out in the whole (body), also in the toes. [(Is it) still satisfaction?] Yes and it is blue. I have blue toes right now. [What is the rest?] Dark red, colours from last (GIM session)”. He listened to Miles Davis' *”In a silent way”*, and just relaxed. After he woke up he said, ”How could I forget this kind of satisfaction?” He painted a mandala showing his body feeling.

Figure 8.28. Mandala from session 4, ID 007

8.31.4. Description of session 5 - 6 and follow-up

In the fifth session the participant again felt tired “as an old rag” and said that he had lost his faith and power of motivation. It began after a telephone call from a colleague from his former working place (the SFO). The colleague had been fired, and the manager had been denounced for the bad psychic working environment he created. It all came back to the participant how he and the two other managers had made a development plan for the entire place and how the top manager had pigeonholed it. The participant wanted to take up his work injury complaint case again. Good news was that he had got a new social advisor who had said, ”We are going to get something done with you”. That was the first time he had heard that. He thought that the lack of outlook had been more difficult than the fatigue itself.

I asked the participant about his body feeling of fatigue and then about his body feelings related to possibilities, creativity and satisfaction. He felt the lack of energy as a buzzing warm feeling and the feeling of life energy as a light and bright feeling in the whole body. Then he had a very long guided relaxation with music. At each part of the body I asked him to feel relaxation, energy, satisfaction, the bubbling sensation of creativity and breathing. The music was all meditative pieces from the ”Mustress Sleep” (5.4.3). When he came back he told that he had been ”very far”. He had seen a blue/white bubble as the Earth seen from space. Both the fatigue and the energy feeling was still there, but the tired energy had changed to a much lighter feeling. He did not draw any mandala.

In the sixth session the participant told that he again was in a depressive hole, after having read a statement from a psychotherapy outpatient hospital saying that he had social incompetences. We discussed it until he felt more at ease with the meaning of the statement. He also complained that he had lost his contact with his spirituality by which he meant that he earlier in his life was able to meditate daily.

Figure 8.29. Mandalas from session 6 a and b, ID 007

He brought two mandala drawings to the session, one of them he called the ”cosmic dancer” (6a). Both of them expressed life energy and balance in different ways. I suggested that he could take the dancer as a focus for the GIM journey. Listening to Elgar's *Serenade for strings (Larghetto) and Enigma variations 8 and 9* he focused on the center of the picture which he sensed in the place of the ajna chakra (between the eyebrows). It expanded and pulsated. If he moved away from the focus in the forehead the picture became heavy red and brown. He asked for a lighter music that was not that red. I played the *Romance from the 1st Piano concerto* by Chopin, and he felt that the piano was in harmony with the yellow Figure but that the Figure was still more lively than the music. To Debussy's *Prelude to Afternoon of a Faun* he saw a big eye outside his pineal center. It filled the whole sky, and the pupil was yellow-green and opened and closed. He said that the music was like springtime or like a creative process, something was being formed but not defined yet. I played Warlock's *Pieds en l'Air* but he felt that this music was not at all in harmony with his picture because of all the dramatic elements. Listening to Bach's *Little Fugue in G minor* (Stokowski) he finally felt that he could use the music. The yellow Figure became happy and moved from side to side, up and down and turned around.

At the follow-up meeting the participant told that he was now in a course focusing on his competencies. He had made a CV and felt more confident about himself. He told that he planned to paint mandalas in an atelier he could share with other people. He had responded to a job announcement. He had a private psychotherapy client and was happy about this work.

8.31.5. The therapist's comment

My relationship with the participant was influenced by the fact that he himself was also a therapist. It gave me a feeling of being on common ground, but I also went into feelings of uncertainty from time to time. In the last session I really tried to meet his inner image with the music but he refused the music the whole time, and it made me aware of a possible common pattern of ambition and the need to get it absolutely right. The participant was very conscious about himself and the work we were doing, and he often used irony and kept himself at an intellectual distance. I felt very much sympathy for him but I missed a deeper sense of emotional contact in our conversations and also in the journeys. An example of it was in the first journey where he worked with the way he missed family connectedness. Well into

imagery of an empty place, he said that he had thoughts and feelings about the atomization of his family and the wish to belong to a community. I asked twice, “How do you feel about it”, and the first time he answered, “Right now it is only something I think about and remember”, and the second time he said, “It is much more something in the music”. Looking back on it, I think that maybe I was not being precise enough in my timing or sensitive enough to the shame and difficulty connected to the lack of connection with his family, other people and maybe also me. But I also recognize that it was not easy for him to explore his feelings directly.

The fact that he was feeling so tired and depressed and each session presented these symptoms made me feel increasing impatience combined with frustration, like sand disappearing between the fingers. I tried to reframe and support his positive resources and images, but the recurrent fatigue really made me understand how chronic stress and probably even burnout can lock a person up. Trying to support his longing for more energy and spirituality, I maybe slipped into forgetting the focus of the therapy: being aware of stress body signals as well as paying attention to the lack of emotional contact. However, I still think that the work we did was beautiful and meaningful.

8.32. Analysis of case four

The case is very complex, and there are many motifs and themes developing in the sessions. Keywords for the sessions:

Table 8.15. Keywords for the analysis of case four

ID 007	Bodyself	Coping	Life changes
Session 1	Tingling sensation in the solar plexus area Energy (mandala)	Flying Identifying with royal persons	Meeting with former colleague
Session 2	Slime lump and the birth of the hero Butler versus wild horses	Compassion (identification) Flight (death)	Motivation to work with communication project
Session 3		Overcoming anesthesia Transformation (by fire)	Set back (dentist) Has contacted the Men's home
Session 4	Energy in solar plexus spreading to whole body Blue toes	Imagining future work joy	
Session 5	Deep relaxation and energizing	Perspective (saw the Earth from outside)	Tiredness New social advisor
Session 6	Tingling third eye (big eye outside) Moving cosmic dancer	Asking for the right music	Statement about social incompetencies
9 weeks' follow-up			Competency course. Applied for a job Doing psychotherapy

8.33. Bodyself - case four

8.33.1. Body cues in transcript

The following notes are excerpts from the transcripts of the places where imagery related to the body was described.

> (1) Tingling and tickling sensation in the solar plexus area, warm circulating feeling in chest. (2) stiffening ”slime lump” around body, moves lips, brain and eyes are tense, restriction in chest. (4) relaxed, “blue satisfaction” spreads from solar plexus to toes (6) Tingling sensation in brow, image of cosmic dancer moves.

The number of body-related notes in the transcripts are quite few and the those notated were mostly interoceptive. The imagery from all journeys associated with the body was very often connected to energy experiences more than to direct sensations of the body (all the energy experiences are not in the excerpts).

8.33.2. Themes

This case proved to be difficult to analyse for body imagery and as such interesting for the whole analysis, as obviously not all GIM therapies are equally related to body imagery. Even though the goal for this therapy was to learn to be more aware of bodily stress symptoms and early warnings of overwhelm, it turned out that the most of the sessions were used to work with the sense of energy depletion and demotivation.

I have chosen to analyse the body-related energy imagery and the metaphors of body imagery: The slime lump, The dancers in the eye and The bodies in the mandalas.

8.33.3. Body-related energy imagery

The solar plexus area was mentioned several times along the therapy course as a place where the participant could recognize feelings of energy. In the first journey he experienced a tingling in the solar plexus as he realized that it was himself who took off and flew, getting away from heavy feelings of depressions related to his mother. In the second session he imagined a blue-green stone or peacock in solar plexus accompanied by an image of goodbye. In the fourth session after having worked with his idea of communication therapy he sensed satisfaction and well-being starting in solar plexus and spreading to the whole body. Solar plexus seemed to be an important place for the participant related to emotions of both sorrow and joy.

In the fifth session the participant identified two energy sensations in his body: the stress/tiredness sensation was warm and buzzing, and the energy sensation was light and bright. After a guided relaxation focused on the feeling of energy, creativity and liveliness in the body, he felt that the tired sensation was lighter than before.

8.33.4. Body metaphors 1: The slime lump

In the third session the participant worked with his feeling of being buried under a slime lump. The slime lump gives new meaning to the concept of depression: something that he could imagine as very corporal and tactile was pushing him down or so to speak depressing him. The lump is also a very powerful metaphor of the frozen energy in a chronic stress state

where one's life energy seems to be out of reach. However, the image of slime is still alive and organic: even if it is disgusting it is not made of ice or stone. While listening to the music a process of transformation began to take place. The slime lump stiffened into caramel, a sweet and hard mass that could have fixated him. The caramel could maybe be associated with too much sweetness (smothering) and to less action? However, he was not fixated because under the slime some very strong male creatures were being created: first in the shape of orcs (monster fighters) and then in the form of Spiderman, a more heroic Figure still with supernatural powers. The very organic process reminded of birth and gave me a feeling of an enormous energy that had been buried inside. There might be some serious inner conflict between the lump and the hero. After the hero and the feeling of strength had surfaced, two other male Figures emerged in the journey: a ”looser type” with pomade hair similar to a man he had seen in the train, and a superficial confined butler (a butler keeps his mouth closed, does not show his personal sympathies or emotions, follows order and bows). They might represent other aspects of the slime lump, as the butler also ”might have been under a slime lump”. The participant in the journey went through a process of accept and compassion with the first one, as he sensed that behind the surface he and the other man were alike and shared humanity. The other one he rejected, and was obviously not yet ready to meet this kind of personality. Looking at the therapist's notes about the lack of emotional contact with the participant, the butler and the participant maybe shared some personality traits of being too obedient and polite in a stiff way that might be the focus of future work.

8.33.5. Body metaphors 2: The dancer in the eye

The sixth session was very special in that the participant imagined his own mandala placed in the ajna chakra[40]. At a certain point the participant also imagined a big eye outside the body that filled the whole sky with a pulsating pupil. I could associate it with “Big brother is watching you” or the Evil eye, but it seemed more related to a positive feeling of being noticed by a Godly being. The experience of being seen was exactly what had been lacking in his present life situation for a long time. As he after some time eventually got a music that related to or recognized the mandala body in his own third eye, the Figure began to move and dance with the music. Even though the participant did not yet feel the life of his own body, he was able to experience liveliness on an energetic level, which hopefully might spread to his feeling of body energy over time.

8.33.6. Body metaphors 3: The bodies in the mandalas

Unlike the other analyses I will analyse the mandalas more detailed because they in this case reveal more about the development of the body imagery than the transcripts. The first mandala was made before the journey as a pre-mandala. It s in a geometric style with two triangles inside each other and strong lines going outwards behind the triangles. When I look for information about the state of the body, it is like the body is not really present, as the geometric Figures seem to represent ideas and balances. The energy is somehow restricted by surrounding lines. I can see that the triangles are grounded on a green colour in the bottom, energy is radiating out, and there is a blue center in the middle corresponding to another blue center in the top as if there is a mind's eye overlooking everything. The second mandala shows the organic fight of the brown slime lump with something that seems to be two green Figures. The lump is weighing down the middle figure, and the other green figure seems to

[40] An energy center between the brows. Ajna's key issues involve balancing the higher and lower selves and trusting inner guidance. Ajna's inner aspect relates to the access of intuition. Mentally, Ajna deals with visual consciousness. Emotionally, Ajna deals with clarity on an intuitive level. The Chakra Bible, Patricia Mercier, Octopus Publishing Group Ltd., 2007, p. 267

push upwards against the lump. Underneath a lot of yellowish-brown round shapes are coming up. To the right a figure made of blue flames reminds me of a worrying mother, and to the right a lot of curly violet is freeing itself upwards. Above the whole scenery another minds eye or center is overlooking.

In the third center no mandala was made on the spot but a drawing of the blue gem was made at home. It does not remind me of a body, but is much more round and material than the first mandala. The mandala from the fourth session shows the energetic feeling in the whole body of the participant after the experience of working out his ideas. The feet are blue and the upper part of the body is red with a yellow energy close to the body. Even though the blue toes make me think that the blood does not fully reach the feet, it is still a nice clear colour compared to the red colour which is slightly brown-grey and not so clear. The mandala indicates that a sense of embodiment has taken place, and I also think about the strong upper part of the body as showing a social response (opening out to other people). The sixth pre-mandala showed an orange-yellow dancer on a background of radiating violet colour. The dancer is more like an energy than flesh, and its balance point is the forward reaching pelvis. It reminds me of a Spanish bull fighter – ready for life!

Looking at all five mandalas it seems that the participant had increasing contact with his body and his life energy.

8.33.7. Bodyself summary – case four

Bodyself experiences were not verbalized or predominant. The times they occurred they were experienced mostly as interoceptive sensing. Solar plexus was central to body feelings. Body-related imagery was connected to experiences of energy and metaphors of the body. The participant experienced a tension between a covering caramel slime lump and emerging superheroes and monsters. The mandalas showed increasing embodiment and life energy.

8.34. Coping - case four

The whole GIM process seemed to be a kind of hero's journey in an atmosphere that often was connected to Tolkien's Lord of the Rings, where the participant confronted life and death, light and darkness, good and evil, and strove to the restoration of his life energy. The process of coping that evolved in the music journeys will be analysed focusing on the following themes: From heaviness to energy, Reclaiming dignity, Work satisfaction and Creativity.

8.34.1. From heaviness to energy

The very first idea of coping that the participant presented was ”turn around and look in another direction”, which had helped him to manage the stressful events connected to his former workplace. He used this method throughout the therapy as a way to get away from burnout and resignation and look for new energy and possibilities. He turned away from the Jante Law, he turned away from the stiff butler, and he flew away from the depressive energy related to his mother. He recalled the minute when his father died, and the impression that the soul of his father left the body behind. Similarly the slime lump could be left behind and give place for new life. When I guided him into a deep relaxation and contact with his body he went far away and looked at the Earth from outer space. Hence, the coping method he

preferred was a symbolic flight. The experience of being in outer space can also be seen as a transpersonal experience allowing him to get a new perspective on his life and existence.

It seemed as if he associated his depressive state with his mother and that he was ambivalent to involve his feelings about her with me (”you would not like to get into this”). It seemed though that the opportunity to take off with the music was surprising and uplifting. As a psychoanalyst he probably might have dealt with the feelings concerning his mother a lot of times. So taking off might be associated with freedom and energy.

Images of woodland pixies swarming up and a group of running wild horses as well as the very strong guys under the slime lump indicated a contact with a free flowing natural energy very opposite to the fatigue he experienced.

I think that besides the flight response he also needed to get more in contact with the fighting response to be able to get on with his life. The orc and the dancer indicated a beginning contact with the fighting response.

In each session the participant showed up with heaviness, demotivation and fatigue. In each session he gained some new energy. I will look at which kind of coping he developed through the journeys.

8.34.2. Reclaiming dignity

In several journeys the participant imagined royal personalities such as the Danish queen or a beautiful waltzing princess, and he heard an inner voice saying that it also could be for him to win the princess and the kingdom and be a king. He also saw an English estate, and met noble old women and a butler. In other journeys he imagined famous cultural persons. Imagining these royal and famous people might have helped him to regain or reclaim his own sense of worthiness and dignity, that he might have lost during his experiences with stress, depression, marginalization from the job market and social isolation. The contact with royal Figures could also refer to an inner kingship i.e. the ability to reign in his own kingdom and regain a feeling of government and authority, where he could decide and control his own life.

8.34.3. Work satisfaction

The ability to act on his own ideas and plans had become limited and difficult in the life of the participant, as he in his working life had experienced a serious rejection of his ideas and goodwill. In order to open up new ways of unfolding work satisfaction in imagination, he agreed to try one of his ideas of future work in a journey. He had been thinking about a concept which he called ”Communication therapy” where he met clients in an informal setting as for instance a bookstore or a coffee shop and worked with their problems in a combination of therapy and counselling. In the imagination of how he could carry these ideas out in practice, he was surprised to meet young people who might need advice from an older guy, and this experience gave him the impressions that he and his knowledge could be useful for somebody. As the counselling with the young woman progressed he explained his loupe or microscope technique, where he tried to enable the client to look and hear behind the surface and to be more empathic in difficult communicative situations. After having carried out the session I asked him to feel his body, and he recognized satisfaction in the whole body, a feeling that he had almost forgot. It seemed like this way of working had a very good effect on his self-esteem and that it probably could help him to trust more in himself and the possibility to work with his own ideas and concepts in the future. It indirectly served as a renegotiation of his feelings of hopelessness and abandonment.

8.34.4. Creativity and creation

In several of the GIM journeys the participant worked with his creativity as a source of new energy and self-expression. Creating mandalas was a very important part of the therapy, and he also went home and painted between the sessions. His mandalas impressed me by their clarity and beauty. He had been painting earlier in his life and found it absorbing and meaningful. In one of his journeys he focused on looking for the inner source of creativity. He remembered the beautiful paintings of Turner, and then imagined a beautiful turquoise stone framed in gold that seemed to be this source. It later exploded and light and dark shifted, until the dying embers of a fire again became a precious stone. Turquoise has been connected to healing in many cultures, and according to colour interpretation it "may be a reminder of the capacity of the psyche to heal itself in ways you cannot know or understand. The difficulty the turquoise may bring to your attention could be a tendency to resist emotion, fearing the deeper unconscious imagery it may arouse" (Fincher, 1991, p. 70). Even though the participant travelled deep in many journeys, emotions did not surface easily, and the creativity seemed to be one of the ways to work with it. The importance of creativity for the participant's coping with stress seemed to be that he could get a connection with his source of energy through the source of creativity. It also seemed as if he through creativity could experience flexibility and transformation, as a metaphor of the possibilities of transformation in his outer life.

Creation was also the theme in the slime lump session, where the new strength was being born as if from the earth, and in the work satisfaction session just described he also creatively developed a new way to work with therapy. In the sixth session he used his own mandala as a focus for the journey, and he seemed to integrate the liveliness and centeredness of the cosmic dancer, as a symbol of his own self, who was moving and flexible and carrying a lot of energy. So the creativity seemed to be connected to spirituality which he also missed deeply in his life and connected to in the GIM sessions.

8.34.5. Summary of coping – case four

By imagining his spiritual and creative resources and his work satisfaction the participant found a new sense of satisfaction and energy. By mirroring himself in royal figures he reclaimed his sense of worthiness. By confronting his sense of being held down, he was able to open up to images of heroic strength and power. The participant in his journeys moved away from freeze states by activating flight responses and a beginning recognition of his ability to fight and act.

8.35. Life changes - case four

Parallel to the therapy the participant by himself tried to look for jobs and to find creative ways to realize his ideas through voluntary work despite the prohibition to work when you receive social benefit in Denmark. GIM did not seem to influence his return to work directly, as it was merely working on his energy level and motivation. Though, two major influences from his life situation influenced the therapy: Retraumatizing contact with former colleagues and the lack of support from his changing social advisors at the local jobcenter.

8.35.1. Retraumatizing contact with former colleagues

Two times during the therapy he met or talked with a former colleague from the SFO where he was a manager, and this trigged a whole range of reactions and stress symptoms in him, which he had to cope with. I regard it as retraumatization, and it surely delayed his recovery process. The therapy was kept on the focus of rebalancing, and he did not seem to have resources to go into a renegotiation with his former manager.

8.35.2. Social system

The participant had accidentally, I assume, been neglected by the social system, and he had not been offered any kind of help to get back to work during his sick leave. This could for instance have been a supporting social advisor, admission to job-seeking courses or stress management courses. Connected to his lack of family support he was left in a limbo without knowing what and when something was going to happen. I believe that this was contributing to his sense of helplessness and fatigue, and in fact was adding to his initial stress reaction. In the fifth session he finally got a new and engaged social advisor who after the GIM therapy had stopped put him on a competency course. According to the participant this helped him profoundly to just do a new CV and look at all his competencies in total, and he applied for a job and started up to work with his first client. It is quite possible that the therapy prepared and encouraged him for that, but he did not relate it in the evaluation.

8.36. Analysis of the use of music - case four

This participant worked with music that was more evocative and subtle in accord with the original indication of GIM as a tool for expanding consciousness, and his way of journeying showed that he was experienced with his inner world and spirituality. The music supported the contact with spirituality and creativity that he had missed during his stress illness.

8.36.1. Music as family

In the first session the participant was experiencing a cosy fireside connected to family connection and gathering, which the participant was missing in his life. He saw an old Swedish farm with snow outside, homemade cookies and a fireplace. When I asked him more about it, listening to Puccini's *Humming Chorus,* he said, ”I don't know. The music IS the community, the cosiness”. The music was a choir piece with female voices, and it can easily be imagined that the togetherness of the voices could inspire the feeling of family.

According to my/the therapist's comment about the same image (8.31.5), it was difficult to get the participant to share the feelings connected to the missing of family. The experience he had that the music was identical with the image made me think that the music also might contain or be the feeling about it, and be his way of processing the feelings related to the theme. Music, feeling and imagery were not separated but a whole, an entity of being. The fact that it also dealt with connectedness made it further interesting as the concept of ways of relationing and being together is also actualized in the experience of the music.

8.36.2. Harmony between image and music

In the sixth session the participant journeyed with his mandala (the Cosmic dancer) in his mind. He stated that if he turned his head the colours would change so it was a very

delicate balance. No matter what music I played he thought that it was not quite in harmony with the image: either it was too red, too dramatic, or not light or lively enough. I could have chosen to just let him experience the music and the frustration but I joined the game of searching through all my music without finding the right piece. Eventually I came about the Bach's *Little Fugue* that had both lightness and movement, especially in the first part. I think the image was released and finally could move and dance as I also hoped he would be able to in his life when supported and recognized in a way that was good enough.

8.36.3. Summary of the use of music - case four

For this participant the music had the function of facilitator for imagery, embodiment, relaxation and contact to resources. There were two times where the music had a special role:

1. The voices in the music became one with the feeling of family: music as metaphor of belonging
2. Precise attributes of the music harmonized with the mandala and brought it to dance and move in imagery: music as moving force
3. The music supported an expansion of consciousness and contact with transpersonal states that enhanced the experience of energy and hope: music as opener to transpersonal states of consciousness

8.37. Questionnaire data and measurements of physiological effects – case four

Questionnaire data from four measurements is presented in the table. Numbers in brackets indicate midpoint values.

Table 8.16. Questionnaire data, total scores for participant 007

ID 007	Pre-waiting	Pre-therapy	Post-therapy	Follow-up
Well-being	36	32	36	68
Anxiety	13	11	8	6
Depression	33	35	27	13
Perceived Stress	(31)	21(23)	21	18
Physical Symptoms	11	12 (6)	9 (4)	15
Mood	56	44 (40)	38	24
Sleep Quality	27	22(19)	24	16
Work Readiness	(1)	2(3)	1	3

As can be seen the Well-being total increases and passes the cutoff for stress (50) at follow-up. Generalized Anxiety is indicated at baseline and at post-therapy it is no longer indicated. Depression is initially over the cutoff value for Major Depression and even worse after the first TAU period. At post-therapy it has decreased to moderate depression, and at follow-up there is no depression. Perceived Stress decreased at pre-therapy but did not

decrease under the mean level of stress (15) in working people from a study by Larsen (2006). Physical Symptoms decreased at during and after therapy but seem to increase after the end of therapy. When looking at the single items it seems as if the already reported symptoms got worse and two other symptoms started to appear after the end of therapy (dizziness and heartburn). Sleep and Mood decreased continuously over time with a little increase from pre- to post-therapy. The final Mood value was indicating that the participant still experienced negative mood states to some degree. Work Readiness at follow-up was dramatically changed from 1 at baseline to 3 already after three GIM sessions (a little ready to very much ready to work). Directly after therapy had ended the participant seemed to have lost his readiness for work but at follow-up it was scored to very much ready again. It can be seen that Mood and Anxiety was changed the most at post-therapy, and the other measurements were changed most clearly at follow-up. The overall feeling of not having been able to establish a profound change during therapy is partly supported in the data, even though there is a clear change on almost all variables at follow- up. I think that the competency course that the participant was attending in the follow-up period might have been a very important factor for the improved follow-up measures. Another possibility is that the participant needed some time to integrate the processes before a change could be visible in the scores.

The measurements of physiological effects will be presented in the following table.

Table 8.17. Measurements of physiological effects, participant 007

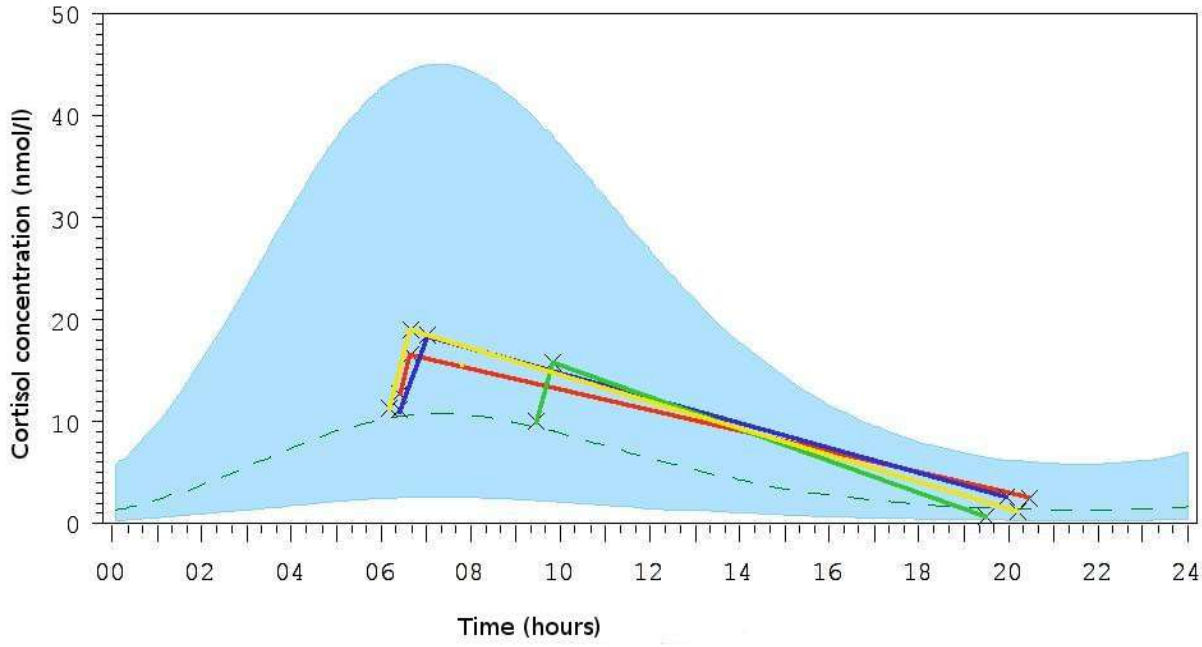
ID 007	Baseline	Pre	Post	Follow-up
Systolic Blood Pressure (mm Hg)	109	117	127	108
Diastolic Blood Pressure (mm Hg)	75	59	77	68
Pulse (BPM)	83	97	72	97
Cortisol Awakening Response (nmol/l)	12,5	11,1	9,4	11,9
Cortisol Reactivity (%)	28	63	62	59
Cortisol Recovery (%)	85	86	92	95
Melatonin (pmol/l)	16	16	16	16
Testosterone (pmol/l)	144	131	196	156
Cortisol LC (nmol/l)	4,4	3,8	3	3,7

The Blood Pressure is normal but seems to be a little higher at post-therapy, whereas the pulse was normal that day and very high at the other time-points.

Testosterone concentration seems to be increasing and is at its peak directly after the sixth session. The levels seem very high compared to the reference level (68.86) for his age (Granger et al., 2004). Melatonin concentration is unchanged (and normal). Concerning cortisol concentration the Awakening Response and the LC concentration stay at almost the same level, but both Reactivity and Recovery increase. This could indicate that the diurnal curve of the participant developed so that he experienced more energy in the morning and more relaxation in the evening. The participant experienced fatigue and lack of energy in the beginning of therapy and in most of the sessions. The Reactivity improvement could indicate that he actually changed his metabolic processes but not as a clear result of the therapy. The

cortisol curves seen graphically (red is pre-waiting, blue pre-therapy, yellow post-therapy, green follow-up):

Figure 8.30. Cortisol variation (RIA) in participant 007



Note. The red line represents baseline, the blue line pre-therapy, the yellow line post-therapy and the green line follow-up measurements.

All the curves after the baseline (red) increase more in the awakening phase (Reactivity). It could indicate more energy in the morning and a start of the rebalancing of the cortisol release pattern, even though the participant did not seem to recognize this.

It is difficult to see any clear direction in Blood Pressure and Pulse. The changes in Testosterone concentration could be an effect of therapy and it is at its highest directly after the last session. When looking at the Cosmic dancer mandala it certainly could be an image of improved testosterone. Cortisol Reactivity could be connected to participating as it changes and keeps up already at pre-therapy.

8.37.1. Summary of case analysis and data comparison - case four

The questionnaire data showed an improvement at follow-up on all variables except Physical Symptoms. The improvement was less clear at post-therapy, although the indication of Major depression and Generalized Anxiety at pre-waiting was no longer there at post-therapy. Cortisol curves seem to have slightly increased reactivity, and testosterone concentration was very high especially right after end of therapy. Data seem to support the analysis of enhanced mood and motivation.

8.38. Summary of findings in case four

This case illustrates how GIM can be used to overcome severe stress, demotivation and fatigue and open up to positive resources and experiences. The participant was rather isolated

and far from getting back to work when he started, and it was not clear if the therapy helped him to get some steps closer to working, or just gave him more hope and energy.

- GIM provided contact with new energy
- GIM supported the experience of inner resources such as self-esteem, hope and satisfaction
- GIM assisted the unfolding of an idea for future work in imagination
- GIM supported the confrontation with burdening sensations and gave space for images related to power and strength
- GIM showed different personalities that could illustrate patterns and ways of being
- The GIM process enabled a precise acknowledgement and mirroring to take place, which built up the inner self contact
- The mandalas showed an increasing contact to an empowered bodyself
- The questionnaires showed that the participant came out of depression and anxiety, and a medium improvement on all scales and measurements except Physical Symptoms and Melatonin concentration.

The results were member checked and accepted by the participant.

8.39. Case comparison

The cases will be compared with regard to the two of the three main themes in the analysis: bodyself and coping. The summaries will be presented together in a table, and then the different findings will be commented. The concluding sentences from each case will not be included in the case comparison, as they contain the same information as the summaries, but they will get into the mixed results section (9).

Case comparison experiences related to the bodyself.

Table 8.18. Case comparison: bodyself summaries

Case 1	The participant developed a new sense of boundary and grounding (exteroceptive sense), and after that she got into contact with and expressed her anger that she felt in her stomach (interoceptive sense). The degree of movement such as walking and dancing in the journeys (proprioceptive sensing) increased indicating that her freeze state was dissolving. She felt her professional goal and passion in her heart.
Case 2	The participant had a lot of body imagery dominated by interoceptive sensing. During the therapy the participant worked with her pain symptoms by visual, emotional and movement imagery related to the pain, and by experiencing the music taking away the pain (in legs, shoulder and groin). She identified and worked with a controlling way of being and she also allowed herself to let go into resting, relaxing, floating and just being.
Case 3	The participant experienced pain in stomach and head (interoceptive sensing) and nausea when she approached childhood memories and memories of recent mobbing. Her symptoms were eased by the music, by imagined support from her horse and by the expression of aggression. The participant got an increased sense of her own being from inside and the connection between her feelings and her symptoms, and she learned to listen more to her body.
Case 4	Bodyself experiences were not verbalized or predominant. The times they occurred they were experienced mostly as interoceptive sensing. Solar plexus was central to body feelings. Body-related imagery was connected to experiences of energy and metaphors of the body. The participant experienced a tension between a covering caramel slime lump and emerging superheroes and monsters. The mandalas showed increasing embodiment and life energy.

All four participants increased their awareness of their bodies, the degree of whole body and vitality in body imagery during their therapy which also could be seen in the mandala drawings. The interoceptive modality was dominant for all four participants, meaning that they increased the inner sensing of their bodies related to the self-regulation processes (the vagus nerve, gut transmitter system and ANS). Three of the four participants worked with their stomach sensation and emotions related to the stomach.

The participants worked with different and sometimes contrasting aspects of embodiment and activation/relaxation. In case one enhanced feeling of boundaries, grounding and movement were important markers of self-esteem and strength, whereas in case two floating, release, surrender and peacefulness were connected to pain relief and decrease of control and tension. Both participants felt more in control in the end of therapy. In case three the participant experienced a variety of emotions and got access to her body and gut feelings however, difficult it was. In contrast the case four participant had subtle experiences of light and transcendence connected to an enhanced sense of identity and creativity, but not so many feelings were reported. Both participants found themselves more in connection with themselves at the end of therapy.

8.39.1. Case comparison of coping

Table 8.19. Case comparison: coping summaries

Case 1	The participant developed her emotional coping ability by developing her sense of self-protection and abilities to defend herself assertively instead of withdrawing. By renegotiating a specific past situation she got to express her anger. During the journeys she had several experiences of overcoming obstacles in a symbolic way (defense manoeuvres) and gained increased sense of self-confidence and empowerment as well as images and "models" she could use for future coping in similar situations. She had several reaffirming

	experiences of the power of her creativity and how she should handle it, and her visions of positive work situations gave her the ability to direct her career in ways that were closer to her heart.
Case 2	The participant engaged in a completion of a fighting response against her stress illness, and later explored new ways to cope with her chronic pain and surfacing tiredness. New coping strategies to counteract a wilful and controlling personal style was to surrender and let go, to prioritize time alone with herself, to explore being more than doing, and to get inspiration from the beauty in nature. Related to work she gained insight in her leg symptoms as a signal to take breaks and move her body more at work, and to go home when she felt tired.
Case 3	The participant changed her way of coping from control, perfectionism, numbing and flight to feeling and sensing her body signals, adapting a more allowing attitude towards herself and others, identifying her own needs and dealing with her fear and anger. She developed her ability to express herself in front of authorities, and she took her power back by imagining control over the colleagues who had mobbed her.
Case 4	By imagining his spiritual and creative resources and his work satisfaction the participant found a new sense of satisfaction and energy. By mirroring himself in royal figures he reclaimed his sense of worthiness. By confronting his sense of being held down, he was able to open up to images of heroic strength and power. The participant in his journeys moved away from freeze states by activating flight responses and a beginning recognition of his ability to fight and act.

The four participants all worked with coping and defensive manoeuvres in their GIM sessions. All four participants worked with the renegotiation of different situations (two of them were directly connected to negative situations at work, two of them were related to overcoming body feelings of pain or restraint). All four participants worked with anger as part of the renegotiation. The anger could be seen as a way to complete fight responses or to gain control over the situation. Participant three and four little by little came out of numbed states first by imagery of fleeing and later by imagery of fighting during their therapies.

In one of the cases childhood trauma was directly connected with the current work trauma, in two cases trauma related to loss of or fear of loosing one's partner due to life threatening illness added to the work stress, and in the fourth case lack of attention from a depressive mother maybe acted as a background for the current hopeless feelings. In all four cases coping abilities grew out of confrontation with burdening experiences related to job stress and/or life stress.

Coping abilities were developed in many different areas: Coping in relation to oneself (perfectionism, self-critique, hopelessness etc.) happened to be an increased ability to maintain personal needs and take oneself seriously. In case one, three and four enhanced self-esteem and increased feelings of worthiness grew out of the therapies, and ability to use the imagery experiences and methods as tools to get back on a positive track was gained. New coping abilities in relation to social interaction and co-working were developed in case one, two and three. This happened both in relation to communication with managers/authorities (case one and three), working together with colleagues (case one and three), better coping with employees and family members (case two) and in relation to costumers (case four). Increased contact with and nurture of one's own creativity as part of the work identity came out of the GIM sessions in case one and four, where the coping abilities had to do with how to stay in contact with and guide the creative ideas, so that a more satisfying work life could be established.

8.39.2. Case comparison of special use of music

The analysis of music in all cases in the horizontal analysis enhanced the understanding of how music was helping the process of coping with chronic stress in the sessions and in the home use of music. These statements illustrate special ways the music influenced the four participants in the case study on a more detailed level.

Table 8.20. Case comparison: role of music

Case 1	A metonymic transformation of music into imagery of different landscapes and environments took place: music as environment The music was initiating movement qualities linked to psychological qualities: music as mirror of bodyself The music had a direct effect on the body and was changing the sensation of skin and muscle tension: music as a source of physical comfort The music was facilitating the expression of emotions in imagined renegotiation dialogues: music as support for expression of emotions The music was challenging and provided a possibility to develop challenging imagery and defensive manoeuvres: music as a tool for empowerment
Case 2	The music was experienced as living being: music as companion The music was experienced to remove pain symptoms: music as healer The music provided experience of surrender and peacefulness: music as supportive environment The music facilitated completion of fight response: music as empowering force The music enabled contact with inner resources: music as aesthetic identification
Case 3	The music provided a holding space for the investigation of inner sensations: music as holding The music assisted the building up of tolerance to arousal: music as facilitator of inner regulation Special music pieces functioned as signals of security: music as a safe place
Case 4	The voices in the music became one with the feeling of family: music as metaphor of belonging Precise attributes of the music harmonized with the mandala and brought it to dance and move in imagery: music as moving force The music supported an expansion of consciousness and contact with transpersonal states that enhanced the experience of energy and hope: music as opener to transpersonal states of consciousness.

Several themes seem to be common in the lists from the four cases: Music served as a (supportive) holding space or imagery of environments and landscapes similar to the flow of music served as the holding space in case one, two and three. The music was experienced as a support for emotional expression in case one, two and three. The music influenced the body directly either as a nurturing or pain relieving force or as an inspiration for movement imagery in case one and two. The music in itself were experienced as a sort of companion or symbol of community in case two and four. The music helped to access inner self experiences of different kinds: regulation of arousal states (case two), mirror of psychological qualities (case one). In case four the music stimulated transpersonal experiences.

8.39.3. Summary of comparison

Common for all the four cases interoceptive bodyself experiences with enhanced stomach sensations and renegotioations experiences with expression of anger were described.

Experiences related to both the relaxation response and the activation response brought about an enhanced sense of body, increased imagery representations of the whole body and a deepened sense of empowerment and energy. Traumatic experiences related to both work and life stress were resolved, and coping with inner critique, authorities/managers, social interaction at work and stress was enhanced in all cases. Coping with stress lead to enhanced contact with work identity, competencies and creative potentials. The music acted as an emotional support, stimulation to body regulation and pain relief, support for renegotiation and confrontation. In one case it was experienced as a companion, and it acted as a supportive environment and facilitator for the contact with inner resources in all cases.

9. MIXED RESULTS

9.1.1. Identification of the process of converging

As it was stated in the introduction, the design is a QUAN + QUAL convergent parallel design, which means that the results from each strand are meant to be presented together. The results will be presented together with an interpretation and discussion of each result.

The word converge will be clarified a little. To converge means ”come towards each other and meet at a point”[41]. The two kinds of data are not providing exactly the same perspective to each other. Adding the qualitative results to the quantitative can be a way to illustrate, explain or contextualize the data – for instance when a case study brings numbers into a human context, and provides examples of how the results came about. Adding quantitative results to qualitative data can confirm the unique and individual findings and contextualize (statistics brings the single case or phenomenon into a whole sample context).

When the mix of results has equal weight of both strands I understand the coming together of results as more than a mutual illustration, and less than a mutual explanation. Maybe one could call it a two way mirror or, if it is successful, an illumination!

According to Creswell and Clark (2011) there are three technical ways to do the mix:

1. Side-by-side presentation, where the two kinds of data are presented side by side in a discussion or in a table,
2. Joint display, where categories or themes are displayed in a merged data analysis, a convergent/divergent findings display or a case-oriented merged analysis display with qualitative data placed on a quantitative continuum or scale,
3. Data transformation merged analysis, containing a quantification of qual data or a narrative of quan data.

I have considered the many ways to merge the different kinds of data, and tried to identify some guiding principles, with the purpose in mind that the presentation of the two kinds of results should be able to add to the understanding and not only be colourful images. I have considered the following guiding principles to use for the choice of which quantitative results should be presented with which qualitative results.

1. Research questions guide the mix.
2. Common themes for both analyses: for instance stress symptoms, job return, mood, coping
3. Important results/findings: for instance the 14 main themes or the case study sentences from QUAL/ the significant outcomes from QUAN
4. Divergent/convergent results

[41] Source: http://www.studystuff.in/content/agreement-english-vocabulary-through-word-groups-image, 15 December 2011

The process of finding useful ways to converge data opened up to a truly creative process, realizing that there were many ways to do it, and no correct ways. By trial and error, discussions with the PhD group and supervisors, I worked with different solutions. The presentation willshow the most informative and logical displays, but also some of the more illustrative and juicy ones. The way of placing the data can give the impression that one is illustrating the other (usually the information to the left is perceived as the primary). This means that it can be difficult in a graphic way to really do a parallellization of the data.

9.1.2. Presentation of statistical results and important qualitative themes

The statistical outcomes of the mixed effects model (GEE) of the parallel group are presented in a joint display with the 14 main themes in the GIM journeys. The themes are quantified so that the most frequent themes are in the top of the table.

Table 9.1. Convergence of effect sizes (GIM/TAU and Early/late intervention) and 14 journey themes, sorted by importance

Main themes of GIM journeys	Number of jour-neys	Number of partici-pants	RCT results Effect sizes/ significance	Effect sizes GIM/TAU parallel Groups	Effect sizes Early/late intervention Groups
New ways of being	21	11	Well-being	1.37*	1.10
Imagining future work and creativity	18	13	Perceived Stress	0.70	1.11*
Confrontation/renegotiation with family members	18	10	Depression	0.88	1.08*
Contact with the inner child	17	10	Total Mood Disturbance	1.04*	1.04**
Confrontation/renegotiation related to work/sick leave	15	8	Anxiety	0.88*	0.80**
Uplift/relaxation by being in nature	13	11	Physical Symptoms	0.78*	0.59
Body sensations	12	10	Sleep	0.73*	0.54
Energy processes	12	5	Pulse	0.80	0.0
Transformative journey in inner landscape/space	8	7	Work Readiness	0.52	0.67
Pain relief processes	11	6	Cortisol LC	0.43*	0.11
Deep relaxation	8	6	Awakening Cortisol Response	0.57	0.02
Deep music experience	6	5	Melatonin	0.18	0.38
Symbols of work satisfaction	5	5	Cortisol Recovery	0.37	0.23
Memory of supportive family relations	5	5	Blood Pressure Diastolic	0.31	0.15
Sessions without GIM	9	6	Cortisol Reactivity	0.30	0.13
Total	178	-	Testosterone	0.22	0.08
			Blood Pressure Systolic	0.04	0.22

Note. The cell content in the grey and white sides of the table are not directly connected. Both themes and effect sizes are sorted by the highest frequency/highest value. Significance level: $p< 0.05$ * $p<0.01$** $p<0.001$***. The total number of journeys is higher than the actual number (19x6=114) because each journey was allowed max. 2 main themes.

The two sides of the table include data that are not directly connected. However, the main results from qualitative and qualitative analyses seemed to agree regarding the types of themes and the types of outcomes: The highest effect sizes were found in the psychological variables Perceived Stress and all the different kind of mood-scales (Total Mood Disturbance, Generalized Anxiety, Major Depression, and Well-being). The most frequent main themes were New ways of being, Renegotiation processes, Contact with the Inner Child and Future work. I suggest that there could be a relation between the effect of the work with these themes and large effect sizes in coping and mood variables. Further down in the table the physiological measures can be seen, which had mostly small effect sizes. All the main themes connected to body-related work (Body sensations, Relaxation Pain and Energy Processes) were less frequently applied in the therapies. Possibly there is no direct relation between the main themes that were worked with and the variables that were changed. For instance it would not have been possible to work with psychological issues in many of the cases before a connection with body sensations and a feeling of relaxation had taken place.

Another observation related to clinical implications is that the most frequent main themes were not all directly related to the work situation, but were also related to family relations, inner transformative work, inner child work and body work. This suggests that in a therapy with work-related stress a holistic approach including the whole situation of the person has to be adapted.

The convergence of the two tables inspired me to formulate a new sort of thematic sentences which can be seen as an outcome with support from both quantitative and qualitative sides. This will be showed in the following table, where the original table of the 14 themes in meta-categories are converged with significant parallel group outcomes. The new outcome themes were named Quan/Qual gains and can be seen in the right side of the table.

Table 9.2. Convergence of 14 content themes in 4 meta-categories and variables with significant outcomes for the formulation of Quan/Qual gains

Themes from analysis of sessions	Variables with significant outcomes Parallel group (GIM/TAU)	Quan/Qual gains
A Relation to bodyself		
1 Body sensations 2 Deep relaxation 3 Pain relief process 4 Energy process	Physical Symptoms Sleep Quality Well-being	1 Decrease of bodily stress symptoms 2 Increased energy and well-being
B Relation to inner world		
5 New ways of being 6 Contact with the inner child 7 Transformative journey in inner landscape/space		3 Enhanced coping with inner and outer conflicts
C Relations to other people		
8 Memory of supportive relationships 9 Confrontation/renegotiation with family members 10 Confrontation/renegotiation related to work/sick leave	Anxiety	4 Overcoming traumatic work experiences 5 New relational competencies
D Relation to surroundings/ the world		
11 Deep music experience 12 Uplift/relaxation by being in nature 13 Finding a work satisfaction symbol 14 Imagining future work	Total Mood Disturbance	6 Improved mood 7 Hope for future work life

The seven Quan/Qual gains combined quantitative outcomes and themes. Gains number 1,2,3 and 6 were supported directly from both parts of the study, and gains number 4, 5 and 7 were mostly supported from the qualitative part of the study and have not been measured in the quantitative part of the study.

Now qualitative and quantitative results that show different aspects of the therapies will be converged.

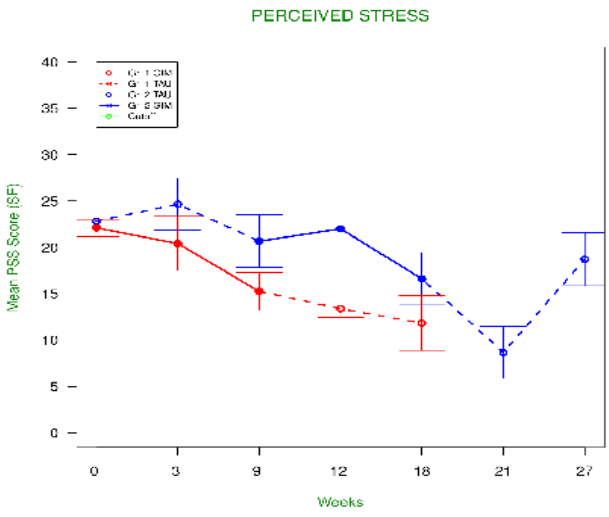
9.1.3. Journey narratives and Immediate Stress State effect sizes.

For all participants a short narrative was formulated about the whole process of their therapy course. The narratives have been arranged in a table by the type of illness narrative in which they were categorized.

Figure 9.1. Convergence of journey narratives, mean Perceived Stress and Immediate Stress State effect sizes

Narrative type	Narrative
Hero/heroine's journey (Quest narrative)	Breaking free from a negative relation, learning from life and inner wisdom. Going into dark places finding confidence, purpose and skills to express him/herself with passion in the world. Searching for the authentic Self, and for creativity and energy to bring ideas into being. Taking care of anxiety, healing the inner child and coping with problematic leaders. The dance of energy: integration of head-body split and executioner/victim reaction pattern by nurturing the inner child. From loneliness and over-performance to finding the ”real me” with needs for contact and support.
Quest narrative	Rebirth to a new (working) life with more love of self and others. Striving for personal space, strength and freedom. Nurturing the sensibility: stop to be a victim, take care of self and choose his/her own direction. Overcoming fear and sorrow creating an energetic and strong feeling of self and self-worth. Searching for contact with bodily sensations and developing a feeling of safety, ability to act and joy of life. Meeting sorrow through a new relation to music, and finding support to abandon the inner judge. Striving for the right to receive support and give oneself care, trust and space. Learning to feel body and emotions and to trust herself and other people.
Restitution narrative	Finding solitary ways to relaxation and freedom of pain trusting the inner nature. Learning to say no as a network programmer and to realize a dream of a farmer's life. From loneliness and contraction to connection with hope, spirituality and nature. Transformation of way of being: from temper and perfectionism to tolerance and lightness.
Chaos narrative	Changing personal narrative from a failure story to a story of self-esteem, care for others and freedom.

Immediate Stress State sub-scales	Effect size pre- post-therapy course
Worried - not worried	0.82
Stress - no stress	0.72
Restless - calm	0.67
Relaxed - not relaxed	0.65
Tired - full of energy	0.53
Sad - happy	0.39
Safe - not safe	0.35
Pain - no pain	0.13



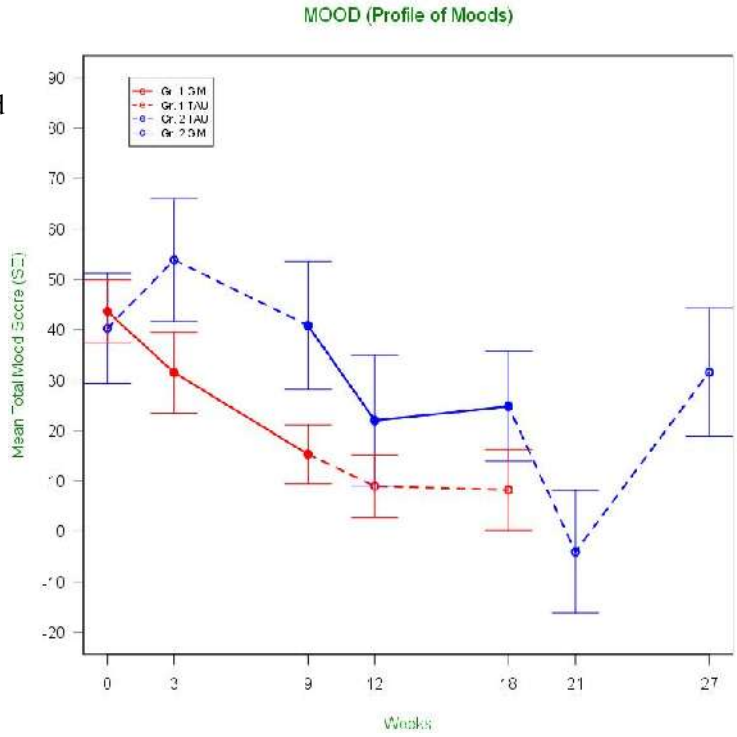
The narratives illustrated in a poetic way the two types of quantitative stress measures. In the narratives a development from negative to positive states could be seen, which corresponded well with the development in Immediate Stress State, as it was measured by a visual analogue scale. The Hero/Heroine's journeys represented the therapies where the most dramatic changes were taking place compared to the other narratives. In the Immediate Stress State sub-scales the largest changes were related to worrying, stress, restlessness, relaxation and fatigue. Both relaxation, restlessness and tiredness are connected to arousal states, worrying is a more psychological component, and stress can be both. The main variable in the study, Perceived Stress, can be seen to change more during therapy than during waiting in both groups. The narratives explain the background of change in Perceived Stress, as coping ability was increased and new personal qualities and ways of being were integrated.

9.1.4. Mood and participant evaluation of therapy

The participants wrote comments in their questionnaires and spontaneously evaluated the therapies verbally (comments were written down instantly). The comments to therapy were expressions of their personal views and were not influenced by specific questions or demands. Many of the comments regarded their improved mood. These types of comments are converged with the mean Total Mood Disturbance.

Figure 9.2. Convergence of mean Total Mood Disturbance and participants' spontaneous evaluation of therapy

I have become better to feel myself and take action from that. The music has helped me out of the unpleasant, otherwise I might have been stuck in the negative if I had not listened to the body.
I clearly became in better mood after each visit at Bolette's and went home with high spirits.
I was a little down before every session – then the therapy loosened up.
I get more energy by the therapy. I sing when I leave the therapy room.
I feel good, especially 3-4 days after therapy.
Music gives an uplifting atmosphere: it allows all the good things that have been.
It has been good to focus on the positive (good things) and amplify these.
I feel gratitude for the process.
I am grateful for the therapy. I show my emotions more to my family.
I have got a feeling of calmness and motivation to take decisions.
After working with the sorrow: I feel I am able to live again. I am surprised how much I can get out and relate to people – a contrast to when I was down and on the way to a depression. I am better to push unnecessary things away from me: it can well wait until tomorrow. I don't live under other people's premises – I can be my own sun!



The comments from the participants illustrate positive feelings that they experienced both during and after the music therapy sessions. The increased contact with emotions also affected their daily lives after the conclusion of therapy. The comments confirm the clear decrease of Total Mood Disturbance that can be seen in the line graph.

9.1.5. Body and pain

Embodiment has been a major theme in the study. It has been shown how stress symptoms in the body can be the key to emotions and insights linked to the psychological part of chronic stress. In the convergence of results sentences from different persons in the multiple case study are presented with mean Physical Symptoms scores and a mandala sequence used for the study of bodies in mandalas from the case study four.

Figure 9.3. Convergence of mean Physical Symptoms, body sentences from multiple case study and mandalas.

GIM helped the participant to feel and be with herself from inside her whole body instead of just being in her head

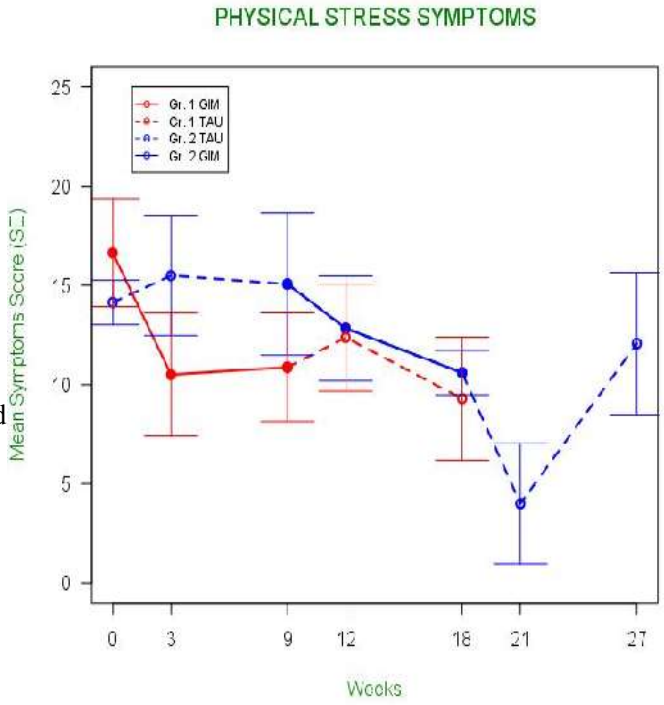
GIM assisted a pain relief process where the sensation of physical pain was released as it was symbolized as colours, forms, affects and movements.

The music was experienced as a healing agent that entered the body and permanently eased symptoms of physical pain.

GIM enabled the development of embodied self-protection such as the feeling of physical boundaries

GIM supported the emergence of a renewed experience of embodied self-esteem and joy

The mandalas showed an increasing contact to an empowered bodyself



GIM assisted the participant to imagine freedom in movement

Note. Mandalas from case study four, session 1,2,4 and 6.

The mean Physical Symptoms can be seen to decrease during the treatment in both groups, and this development is supported in the body sentences where the experiences of the bodyself were increasingly powerful and positive. The development of embodiment in the mandalas illustrates how a mental focus (straight lines and symbols) develops into a more earthy sense of the whole body and finally well-being and vitality in the body as well as readiness for movement were expressed. The three sources of information all agree in the direction of improvement in the positive experience of the body.

9.1.6. Renegotiation of troubling work situations

Renegotiations were carried out in 15 sessions. Sentences from the analysis of coping in the multiple case study is converged with Testosterone in men and women and with mandala illustrations of renegotiation situations. The increase of Testosterone was hypothesized to be connected to successful coping.

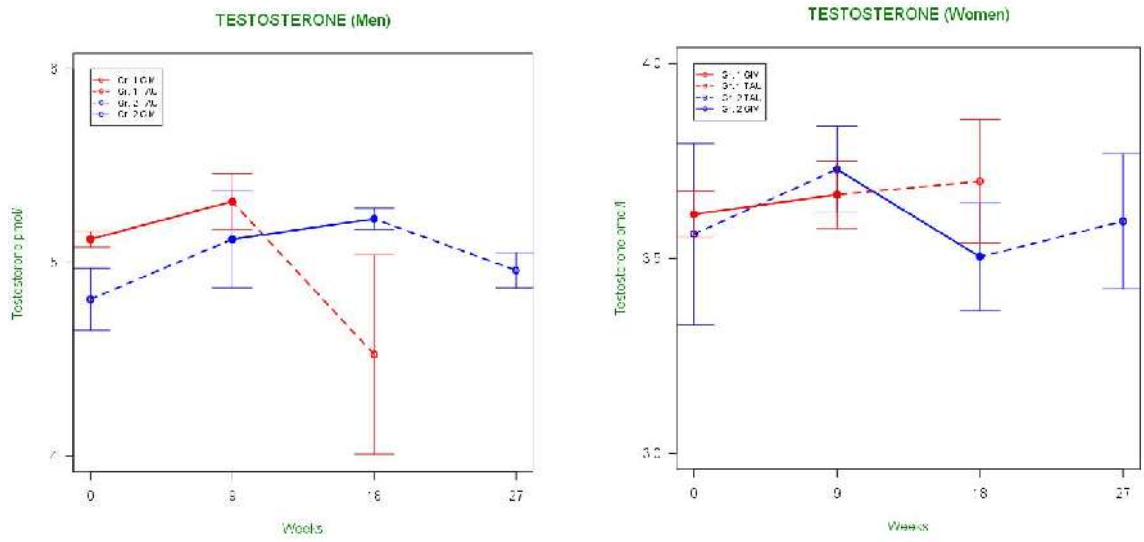
Figure 9.4. Convergence of mean Testosterone, sentences from multiple case study and mandala

GIM supported expression of anger towards managers

GIM enabled renegotiation of former work defeats

GIM helped to renegotiate co-worker's mobbing

GIM helped the participant to learn from and begin to solve the interpersonal conflicts that lead to the stress sick leave



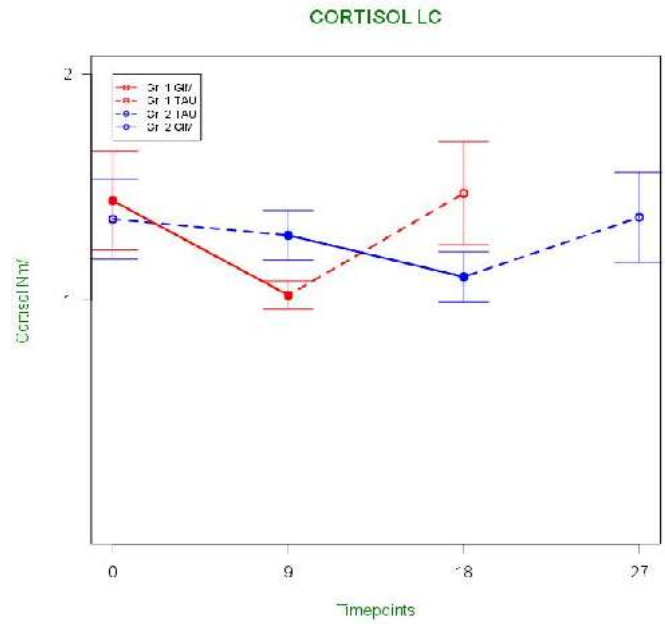
Note. The mandala is from case study one

In the mandala a renegotiation situation of the expression of anger is illustrated, and the sentences described different sorts of renegotiation of work-related issues. The mean (logtransformed) Testosterone in men and women seemed to increase during treatment except for women in group 2. After treatment it decreased in men but increased in women. No significant effects were found. The tendency of increasing Testosterone supported the experiences of succesful renegotiation.

9.1.7. Coping and hormones

Coping with stress was a main theme in both the qualitative and quantitative analyses, and it was a central concept in the research questions. I have chosen the best out of four cortisol outcomes to confirm the coping sentences from the multiple case study. Cortisol was hypothesized to decrease parallel to a decrease in stress-related helplessness.

Figure 9.5. Convergence of Cortisol LC with coping sentences from multiple case study



GIM provided inner experiences of movement that resolved the initial freeze state

Overcoming imagined challenges produced new coping strategies

GIM provided a framework that made it possible to work with pain and distress associated with traumatic childhood memories on a bodily level

GIM helped the participant to change reaction patterns from perfectionism and control to more openness and co-working

GIM supported the experience of inner resources such as self-esteem, hope and satisfaction

The sentences from the multiple case study cover a variation of coping experiences that were related to both defensive manoeuvres in the GIM journeys, coping with childhood trauma, coping with inner demands and finding inner resources that increased the mood state. There is an overall impression of succesful coping. The mean of Cortisol LC decreased after therapy in both groups, but it increased towards follow-up. There was a significant effect of GIM at week nine compared to no TAU. The succesful coping with different kinds of stressors (inner and outer, present and past) is convergent with the change in Cortisol concentrations from baseline to the end of therapy, and also between groups.

9.1.8. Job return

Figure 9.6. Convergence of job return statistics and means of Work Readiness with sentences about work from case study and work satisfaction mandalas

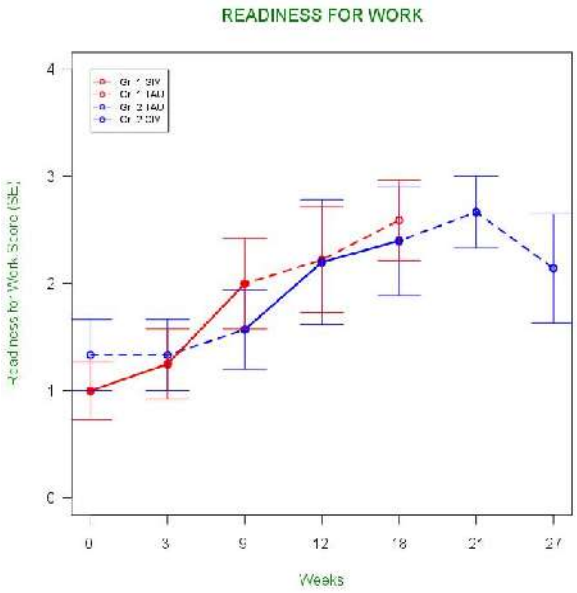
GIM enabled a renewed contact with professional competencies and goals

GIM assisted the process of change to more body awareness and healthful habits at work

The verbal conversations provided support and clarification related to job return

GIM assisted the unfolding of an idea for future work in imagination

	Esti-mate	SD	Effect size
Full-time sick leave	0.39	0.50	0.78
Any sick leave	1.41	0	-
Job return (> 30 hours a week)	0.62	0.50	1.24
Economic self-support	-0.76	0.48	1.58



Note. Mandalas from participant 2, 3 and 8.

Qualitative results suggested that GIM both helped with a contact to personal competencies and strength related to work, a reasonable return to work, and coping strategies to prevent further job stress. The large effect sizes of the three job return variables confirm the qualitative results from the multiple case analysis.The increasing degree of Work Readiness throughout the study indicates that the participants became more and more ready for work, except for the last follow-up period in Group 2. The mandalas show the expectations or

dreams for a future workplace with a high degree of work satisfaction, and they illustrate the positive direction in the other results.

The mixed results have been presented and a discussion of the converged results will be carried out after separate discussions of quantitative and qualitative results.

10. DISCUSSION

10.1.1. Discussion overview

At first the findings of the randomized controlled trial will be discussed and related to relevant literature, and experiences from the conductance of the trial and problems related to the measurement methods will be briefly outlined. After that the most important themes from the qualitative analysis will be discussed in relation to relevant theory, followed by a discussion of the convergence of the mixed results. At last limitations of the study and perspectives on clinical work with similar populations and future research will be presented.

10.2. Discussion of findings from the quantitative analysis

The research questions for the quantitative part of the study asked whether GIM would have any effect on biological and psychological variables related to stress compared to TAU and whether early GIM would have greater effect on variables of biopsychosocial stress than late GIM. Biological measures of stress were hormones (cortisol, melatonin, testosterone) and blood pressure, and psychological stress was measured by self-report questionnaires. The social variables were connected to job return.

10.2.1. Analyses of GIM versus TAU and early intervention versus late intervention

A great deal of studies in stress management has consisted of intervention versus standard care, but not many studies have been investigating the significance of early intervention in persons on long-term sick leave. The present study is the first longitudinal study where music therapy is used as a treatment method for work-related chronic stress. The statistical analyses in the study reveiled significant effects related to psychological stress symptoms in both the parallel groups study and the study of early versus late intervention.

The study was characterized by a high compliance and attendance from inclusion to follow-up. The drop-out rate was very low (1 participant, 5% of the total sample). All participants met for all sessions and follow-ups. This high degree of attendance might be explained by a close fit between the treatment method, the therapist and the needs of the chronically stressed persons on long-term sick leave.

10.2.2. Psychological effects

10.2.2.1. Mood changes

The results indicate that GIM, both compared to standard care (TAU) and as an early intervention versus late intervention, seems to have a strong and lasting impact on mood-related measures (Total Mood Disturbance (TMD), Well-being, Anxiety and Depression). Between GIM plus standard care and standard care (TAU) alone significantly enhanced Well-being and decreased Total Mood Disturbance and Anxiety were documented. Between the groups receiving either early GIM or late GIM Total Mood Disturbance, Anxiety and Depression decreases were significant. The effect sizes between groups regarding Well-being, TMD, Anxiety and Depression ranged between medium and very large (0.80-1.37).

An explanation of the great impact of GIM on mood states might be the ability of the music to induce positive inner experiences of imagery that are closely related to emotions. A second explanation can be that the therapeutic method addresses emotions and provides an opportunity directly to experience, express and let go of negative, complex and mixed emotions, when the client is ready for it. It is very interesting that the impact on mood states seemed to be of a lasting effect and was not only a momentary relief, as indicated by follow-up scores. The explanation of this could be found in the ability of the GIM sessions to establish an implicit learning of new ways to own, evaluate and cope with emotions, both on a conscious and on a more bodily level.

The mood findings are congruent with other GIM studies, where significant changes in mood, depression and anxiety between GIM and controls also have been documented. Several studies in GIM with both clinical and non-clinical populations also used the Profiles of Moods States, and found similar differences between GIM and controls (McKinney et al.1995, 1997), see 2.4.9. In a pilot study with ten women with breast cancer McKinney and colleagues found that TMD significantly changed at post- therapy (the mean score was 4.20), (McKinney, 2007). In a controlled study of GIM with eight cancer patients, differences between treatment and control measured by POMS were similar to the present study: TMD was 40 in the control and -10 to 10 in the treatment group (Burns, 2001).

Effects on depressive symptoms and anxiety in the chronically stressed are congruent with several previous studies with GIM and other music therapy approaches in different clinical populations. A Cochrane meta-analysis of five RCT studies in music therapy with clinically depressed patients reported greater reduction in symptoms of depression in four of the five studies among patients randomized to music therapy than those randomized to standard care conditions (Gold & Maratos, 2008). In a new randomized controlled trial with 79 adults with clinical depression 14-20 sessions of individual music therapy combined with standard care were compared to standard care alone (Erkillä et al., 2011). Significant changes in favour of the music therapy group were found in depression (MADRS), anxiety (HADS-A) and general functioning (GAF) at three months' follow-up.

In clinical trials with a population and design similar to the present study, but with other kinds of intervention, the effect on Major Depression (MDI) between intervention (six consultations with a doctor and homework) and control was significant but only at one year's follow-up (Netterstrøm et al., 2005). Effects of a stress-intervention based on emotion-refocusing and restructuring techniques on psychological variables in a group of 75 American correctional officers were non-significant (the differences in scores of anxiety and depression were even largest in the control group) (McCraty et al., 2009).

These results indicate that music therapy might have a potentially stronger mood changing effect than other interventions.

10.2.2.2. Sleep and Physical Symptoms

Hard-to-change stress-related symptoms such as bad Sleep Quality and Physical Symptoms significantly decreased in the GIM group compared to the controls (0-9 weeks), but the significance was not present in the early versus late intervention analysis (0-27 weeks). Effect sizes were medium large both between GIM and TAU (Sleep Quality 0.73 and Physical Symptoms 0.78) and between early and late GIM (Sleep Quality 0.54 and Physical Symptoms 0.59).

The initial significance of the variables can be explained by a strong immediate effect of GIM on self-reported symptoms related to physical state. GIM was modified to meet the exact needs of the chronically stressed enabling them to focus on the bodily processes such as relaxation, pain relief and the regulation of the autonomous nervous system, combined with the therapeutic work with emotions and relations. A longer treatment period might be needed to create a lasting effect on Sleep Quality and Physical Symptoms.

In research on music listening and pain reduction several theories of the process have been proposed. In a controlled study of endurance of cold pressor pain music listening versus humour (movies), arithmetics and no intervention was studied (Mitchell et al., 2006). Listening to preferred music significantly increased the time of keeping the hand in the cold water. In a similar study listening to preferred music increased the degree of perceived control and tolerance to the pain significantly compared to silence or visual distraction (looking at artworks) (Mitchell et al., 2008). The authors proposed that music listening provided an emotionally engaging distraction capable of reducing both the sensation of pain itself and the accompanying negatively affective experience. In the present study the music was not preferred music, but similar mechanisms may have been activated. Further discussion about pain is carried out in section 9.7.3.

The effect on Sleep Quality was strong compared to two other studies. In the Swedish study of stress treatment (Perski & Grossi, 2004) where Sleep Quality measured by a similar scale was significanty changed within the intervention group but not between groups, and it did not sustain at follow-up. In the MARS study with three months of cognitive group treatment (n=102) a non-significant medium effect size (Cohens d, ES= 0.64) of Sleep Quality measured by a similar scale (Nordic Sleep Quality) was reported (Willert, 2010). The study group were mainly women working in the social, health, teaching and administrative fields similar to the present study population.

10.2.2.3. Perceived Stress

According to the scatterplots (6.3.) Mood and Perceived Stress seemed to be strongly connected in the study. Perceived Stress was a primary variable, and it was significantly changed in the analysis of early/late GIM. The effect sizes of Perceived Stress was in the large range both between GIM and TAU (0.70), and between early and late GIM (1.11).

An explanation to this could be that Perceived Stress related to new experiences of coping that could not be measured directly after the end of therapy. The participants might have needed some time to settle in the new level of empowerment and action related to situations in their life, compared to mood states that could be felt much more instantly. The large effect size was promising in the establishment of Perceived Stress as an indicator of change in chronic stress states, and the difference between early and late GIM indicates that it makes a difference according to the improvement of coping ability whether the treatment is placed in the beginning or late in the sick leave period.

The change in Perceived Stress was congruent with another stress measure in the breast cancer GIM study from 2005 (McKinney et al., 2005, unpublished) where the Daily Hassles scale was used. The amount of hassles was significantly changed from pre-test to post-test. Total scorings above15 in PSS indicated a 64% probability of sick leaves over 15 days in a Danish epidemological study (Larsen & Kellenberger, 2008). In the figure illustrating mean total scores of Perceived Stress in this study (.) the scores of Group 1 were below 15 at the

end of therapy. This indicated a tendency in the group to move beyond the risk zone of further stress related sick leave during the study as measured with Perceived Stress.

In previous studies of stress treatment using PSS results point in different directions. Two studies using CBT treatment: de Jong and Emmelkamp (2000) and Gardner et al. (2005) did not find a change of coping ability as a result of the intervention, but in Willert (2010) Perceived Stress was significantly changed after three months compared to a control group receiving no treatment. In Willerts study mean PSS in the intervention group decreased from 26 to 20 (SE=2) whereas the mean scores in the present study decreased from 23 to 15 (13 at nine weeks' follow- up) It seemed like the participants in Willerts study were a little more stressed from the start, but they did not improve as much as in the present study, and their mean score did not decrease under the cutoff for sick leave risk (15) as in this study.

10.2.2.4. Immediate Stress State (VAS)

Significant changes of Immediate Stress State were observed both pre and post the single sessions and between the beginning and end of therapy (before session one to after session six). The highest effect scores in direction of decrease of stress were found on the items stress-no stress, worry-no worry, restless-calm, tired-energetic and relaxed-tense. The items pain-no pain, sad-joyful and safe-not safe had small effect sizes from pre- to post-therapies. The safety component was added because of my construct of stress as related to trauma (and a break in the feeling of security), but did not seem to be changed as much as some of the other items. The small effect size in Mood (sad-joyful) surprising compared to the large effect sizes between groups on TMD and Depression as described above. An explanation of this could be that the ”joyful” might be too far from the emotional state of the participants so that they did not score so high on this item. The item stress-no stress could have been the only item in the scale. But as stress is not specifically well-defined, the risk to have very different answers was present.

In the graphic presentation of the Immediate Stress State (6.22.) two jumps were observed on the progress of recovery from stress as measured by the VAS: one after session three and one after session five. An explanation could be that the first three sessions were weekly, and there was two weeks' interval between the last three sessions. After the third session the participants had time to integrate their experiences of the first three sessions and then came in for the fourth session in an improved state. The results do not clearly indicate that biweekly sessions would be better all the way through the therapy courses because it can be an effect of the whole introduction period. The smaller jump between session five and six could be explained by the closure of the therapies. As a therapist I observed the participants having relatively bad states in the fifth session complaining about their health and life situation, whereas in the sixth session they seemed to already be ready to fly and presented with plans for their future. This might be part of the dynamics of therapist-initiated ending of treatment that they focused on their resources and centred themselves more, and that they wanted to show that they could manage on their own and that the therapy had been succesful.

10.2.2.5. Psychological measures compared to meta-study

The psychological effect sizes were generally medium to very large in all the psychological measures. The meta-study of music therapy and stress management (2.4.2) by Dileo and Bradt (2007) showed similar results, as the effects of psychological measures generally were high.

10.2.3. Physiological effects

I will now discuss the physiological effects in the study (the biological part of the biopsychosocial model). One significant result was found in Cortisol LC, the rest of the variables were non-significant between groups in both analyses and with low to medium effects sizes (0-0.57).

10.2.3.1. Cortisol results

The main focus of the cortisol analysis was to establish a method of measuring cortisol in a way that reflected the general state of the participants more than the immediate outcome of the single sessions of GIM. The difference between the two kinds of outcome can be further illuminated when looking at the continuum of scientific trials going from pragmatic to explorative (Thorpe et al., 2009). They described pragmatic trials as a help for users to choose between options of treatment. Pragmatic trials investigate outcomes that are related to cost-benefit and pragmatic solutions. Explanative outcome studies test causal research hypotheses and are more related to specific clinical investigations. Investigating the diurnal hormone profile can be regarded as a pragmatic outcome because it tries to measure the general regulatory mechanism of stress in the participants as an effect of GIM therapy, instead of just investigating the fluctuations of cortisol concentrations realted to music experiences.

Cortisol LC proved significant between GIM and standard care, even though the significance was just below the significance level ($p=0.049$). The direction of cortisol LC concentrations proved to be decreasing as it was hypothesized. This points at a marked difference between groups, but the result has to be interpreted with caution because of the problems related to multiple testing. The Cortisol Awakening Response (CAR) also had p-values close to significance (0.07 and 0.09) indicating a direction of decreasing cortisol concentrations. Between GIM and TAU the effect size of CAR was medium (0.57).

The decrease of cortisol can be interpreted as a decrease of allostatic load (stress) and hopelessness. The results are congruent with McKinney and colleagues' study , where they found significant changes in single plasma cortisol tests after ten sessions of GIM compared to waiting list controls (McKinney et al, 1997). The results of both studies are promising compared to other music therapy studies including GIM studies where no significant changes in cortisol could be found (Dileo & Bradt, 2007).

The development in Cortisol Reactivity and Recovery was contradictory between groups, and no significance between groups was found. Referring to theory (2.2.4.), the possibility of two different tendencies in the material was foreseen: some of the participants might need to relax their HPA-axis and decrease their cortisol concentrations because of high levels of acute stress, but others might be in a state where the HPA-axis already had been suppressed through a feedback mechanism in longitudinal stress conditions. In the latter situation the participants would need to raise the cortisol reactivity in order to rebalance their cortisol pattern and energy level. In this study Group 2 participants had a higher risk to develop the second reaction because they had waited longer before receiving treatment and because they already before entering the study had a longer mean sick leave duration than Group 1. Looking at Figure 6.6. (Reactivity) it can be seen that Group 2 had increased Reactivity after treatment, which could be explained by a higher degree of participants with suppressed HPA-axes in this group; still, it does not explain why the Reactivity was so high at the baseline measurement.

Another way to try to understand the Reactivity curves is to look for odd values in the raw data material. The mean Cortisol Reactivity was influenced by negative values that came forward when the Cortisol Awakening Response was higher than the concentration 30 minutes later, or when the evening concentration was higher than 0-3 nmol/l. According to Hansen (2008) a decreasing morning curve pattern seems to arise in about 20% of the cases without any known explanation. This was also the case in both groups, but it was most evident in Group 2.

The calculations of Reactivity and Recovery required all three tests in a sample to be complete, and the absence of all three tests in all the samples reduced the data for these variables. The compliance in the collection of saliva might have been influenced by the stress level in the participants. In some cases the saliva samples were not collected directly after waking up but some minutes or hours later, so that the level of cortisol might already have started to decline. When sleep patterns are disturbed (as it often is the case in stress conditions) it might have been unclear for the participants when to take the first sample if they for instance woke up several times at 4 and 5 o'clock before the right time to get up from bed arrived at around 6 or 7 in the morning. In a study of compliance and cortisol sampling both healthy persons and persons suffering from fibromyalgia were collecting cortisol at home in a similar situation as in my study. The self-reported compliance with the collection of saliva procedure was 93%, whereas a technical device monitoring the real sampling times revealed that it was only 71% (Kudielka et al., 2004).

Despite all the insecurities and contrasts, the change of Cortisol Reactivity can be seen to be significant over time ($p=0.04$) in the analysis of early and late GIM, and this indicates that as a whole there has been a change of Cortisol Reactivty during the participation in the study, which is not connected to group, but to values from pre-therapy to follow-up.

The Recovery patterns of the two groups also seemed to have contrasting directions. Recovery explains to which degree the cortisol curve approaches to zero in the evening. Figure 6.8**.** indicates that all participants seem to have a better Recovery after nine weeks in the study. From here the curve increases, which means that there is higher probability for stress in the evening compared to the morning levels. An explanation for this could be that the participants start to prepare themselves to get back to work after having been on sick leave.

10.2.3.2. Testosterone and Melatonin

No significant changes between groups were seen for either of the two hormones. The direction of Testosterone in the line graph (6.8. and 6.9.) indicates increasing concentrations after treatment, except for women in Group 2. A semi-qualitative analysis revealed that some of the participants had a clear direction towards increased Testosterone throughout the study, and others had a decreasing direction. No ad hoc analyses could identify any predictors in the two subgroups, but a tendency was seen that the participants with increasing Testosterone were the ones on full-time sick leave who might have had more time to spend on their recovery. Melatonin could be seen to be slightly decreasing in the study. I would have espected an increase of Melatonin, but as it was measured during the day, the results could also be interpreted to illustrate a decrease of sleepiness during the day.

Melatonin was also measured in a GIM study with 10 women with breast cancer (McKinney et al., unpublished, 2005). Melatonin did not change significantly but the effect size was medium (.56) from baseline to follow-up. This was larger than the effect size between early and late intervention in the present study (.38).

Results of increasing Testosterone were found in other studies of populations affected by stress. During a study of Testosterone in the mucicians in a symphonic orchestra one of the musicians fainted several times during performances. The orchestra received professionnal help to cope with the increased performance anxiety and regain the members' trust, and during this process Testosterone increased significantly from before the intervention (Theorell et al., 2007). In a Swedish study of the effect of choir singing versus participating group discussions in persons with Irritable Bowel Syndrome (which is strongly connected to chronic stress) it was found that Testosterone increased in new singers (Grape et al., 2010).

10.2.3.3. Blood Pressure and Pulse

No significant effects in Blood Pressure (BP) could be seen in this study. It can be explained by the fact that a large part of the participants had a normal blood pressure from the beginning. When looking at the analysis of the subgroup with hypertension, a significant change in Systolic BP towards a normal range can be seen ($p<0.001$).

This result appeared in a small group of only six subjects, but was congruent with another GIM study in Blood Pressure in 30 unmedicated hypertension patients (McDonald, 1990) where significant changes in both systolic and diastolic BP were found, and the systolic BP continued to decrease at follow-up, when GIM was compared to no music or verbal therapy.

Pulse differences in the parallel groups analysis after nine weeks were seen to be non-significant, but the effect size was large (.80). An explanation of this can be the immediate calming effect of the GIM session (the pulse was measured after the sixth session). Another explanation can be the resolution of stress in the GIM group, as the high resting pulse can be a sign of sustained arousal. When looking at the graphic illustration of the group means (5.8.5.1.) it can be seen that in both groups the baseline mean pulse is around 75-80 BPM, whereas the group means after treatment are closer to normal with a mean of ca. 65 BPM in both groups. A tendency towards an effect on pulse can be indicated.

10.2.3.4. Physiological measures compared to meta-study

In music therapy studies of stress management medium to large effect sizes on physiological measures such as blood pressure, heart rate, respiration rate and IgA were found in the meta-study described at 2.4.2 (Dileo & Bradt, 2007). The present study has shown large effect sizes in Pulse, and medium effect sizes in CAR, but the rest of the measures had small effect sizes between groups or between early and late GIM. The low effect sizes might be connected to the small sample, random variation, the low number of sessions or low initial disturbances in physiological measures. In the meta-study larger effect sizes in psychological than in physiological measures were found, and this was also the case in the present study.

10.2.4. Social measures

10.2.4.1. Job return

Job return parameters were non-significant between early and late intervention. The odds ratio of Any Sick Leave at six months' follow- up was 4.08 indicating a strong impact of early intervention on being on any kind of sick leave, even six months after treatment in both groups. Odds ratios of Full-time Sick Leave, Working and Economic Self Support were 1.86, 1.48 and 0.47.

The number of participants on full-time sick leave were reduced from 72% to 17% at follow-up. The number of participants working in the beginning of the study was 39% (on part-time sick leave) and this number increased to 83% at six months' follow-up, indicating that 16 of the 19 participants were not at sick leave at follow-up.

When looking at the statistics from the Business Council of the Labour Movement (2007) in section 1.1.2, the rate of return to work on usual terms after one year of sick leave was one out of five. In the present study more than half of the participants returned to work on usual terms after one year of sick leave.

The high job return rate can be interpreted to relate to the effects of treatment, where a renewed sense of coping and increased mood might have supported the ability to return to work, even though the physical stress symptoms were not fully recovered. The self-reported Work Readiness increased during the whole study in both groups, and also reflected the increasing motivation and ability to begin to work again. In many cases the process of job return was gradually beginning with a few hours, so the large effect on Working at least 30 hours a week six months after treatment was indicating that not only did they return to work, they also coped with a full schedule.

Comparing the percentages of work return to the other Scandinavian stress intervention studies described in 2.3.2. the rate of full-time sick leave decreasing from 72% to 17% in the present study was a little larger: the percentage of participants on full-time sick leave was reduced from 81% to 30% in Perski andGrossi (2004), and in Netterstrøm et al. (2005) 18% in the intervention group were on sick leave after one year. In the present study the percentage of working participants increased from 39% to 83% which was much compared to the working or work training participants increasing from 19% to 61% in the study by Perski and Grossi (2004), and similar to that by Netterstrøm et al. (2005), where 82% of the treatment group and 42% of the control group were working after a year.

Women older than 50 years on sick leave did not return to work in either of the groups in the Netterstrøm study. In the present study five women over 50 years returned to work, and two men over 50 years were sent at competence course and granted flex job status (but they did not yet have a job).

The non-significant effect on job return was also congruent with results from a PhD study of cognitive group interventions against work-related stress with a population similar to the one in the present study (Willert, 2010). A non-significant effect on job return was reported but it was not observed immediately after treatment. Data on absenteeism (days on sick leave) from the DREAM database also indicated an effect on job return, but in the study a lasting effect could not be identified at four months' follow-up, as new periods of sick leave were found in several cases.

A report from NFA of job return describes two sets of factors that inhibited versus supported the return to work (Borg et al., 2010). Inhibiting factors indicated were high age, low socio-economic status and repeated periods of long sick leaves. Comorbidity with inhibiting factors were decreased level of functioning, passive/reactive problem solving strategies, hopelessness, and hypothesized factors were low motivation, negative expectations and fear/avoidance. The indicated supportive factors were high efficiency, active problem solving strategies, and hypothesized high motivation, positive expectations and a strong work identity. The understanding or explication of one's own illness seemed to play an important role in the process of returning to work. Early intervention was also mentioned to be strongly supported in literature to be an important factor for job return.

In the present study most of the participants were characterized by high motivation and positive expectations, even though they suffered from depression and anxiety etc. They were all of relatively high socio-economic status. High age in the present study did not seem to have a negative influence on job return. Early intervention proved to be an important predictor of recovery from job stress.

10.3. Discussion of findings from the qualitative analysis

This part of the discussion seeks to elicit an understanding of the GIM processes operating "behind" the effect changes in the quantitative analysis. The research question related to the bodyself, coping and life changes of work-related stress patients in GIM. The main findings from the horizontal and vertical analyses will be combined in a theme- oriented discussion. The themes will be: the processes of the bodyself, relaxation, pain, coping, renegotiation of trauma and work stress. The significance of the music will be discussed along the way (when relevant), as well as in a separate section.

10.3.1. Main findings in the qualitative study

In the horizontal analysis including the whole transcripts material short narratives for all 19 participants were formulated, and they typically expressed the journey from negative to positive qualities:

From being in negative relations, being in a victim position, with over-performance, temper, perfectionism, anxiety, fear, sorrow they changed to positive relations as feeling more love for oneself, love and care for others, self-esteem, personal space, chosing one's own direction, feeling strength, freedom, solace, trusting oneself, trusting others, listening to one's own wisdom and intuition, contact with authentic self/"real me", creativity, tolerance, lightness, integration of head/body split, hope, spirituality and contact with nature.

The type of illness narratives relating to Frank (1995) were for all participants the Quest narrative, although three participants who started in the Restitution narrative and one who started in the Chaos narrative all developed into the Quest narrative.

A number of 14 main themes (8.3.6) were identified through a hermeneutic phenomenological analysis process inspired by van Manen. The themes emerged from the transcripts of GIM sessions and were closely associated with the content of the sessions. The themes were placed in four main categories inspired by different kinds of relationships between the observing "I" and the different spheres in GIM ranging from the focus on one's own bodyself to the focus of the inner experience of other people and the world. "Relationship to bodyself" included Body sensations, Deep relaxation, Pain relief process and Energy process. "Relationship to inner world" included New ways of being, Contact with the inner child and Transformative journey in inner landscape/space. "Relationships to other people" included Memory of supportive relationships, Confrontation/renegotiation with family members and related to work/sick leave. Finally "Relationship to the world" included Deep music experience, Uplift/relaxation by being in nature, Finding a work satisfaction symbol and Imagining future work.

The observation that the work-related renegotiation journeys mainly worked with complicated and troublesome relationships leads to a discussion of the importance of social trauma as part of work stress (8.3.25).

The music used in the GIM sessions was categorized according to the GIM terminology as supportive and evocative, and in addtion to that two further categories were established: grounding and containing music. Seven participants out of 19 needed primarily grounding and containing music, and the rest was able to work with the usual GIM repertoire, although not always with a complete GIM program.

The participants listened to music between the sessions and the analysis of their reflections on how they used it also reflects a learning process of using music for stress management. The music listening was used to relax, to fall asleep, to get more energy, to regulate the emotional state, to establish a personal space, to establish a limit to upsetting thoughts, to get somatic release (from pain and restlessness) and to access a more light and easy way of being.

The participants found that the therapies changed negative mood states, helped them to relax, increased their inner strength and improved mental coping. Some participants experienced a positive relation to the therapist and the music, and others reflected on their improved ability to endure and enjoy social contact and on how they got support to their return to work.

In the vertical analysis a multiple case study of four therapy cases selected by a principle of diversity was carried out. Processes of bodyself, coping and life changes were analysed. The results were complex and individual, and only a few main points will be outlined from the case comparison: In all four cases the connection to the felt sense of the body was developed, and there was an increase in interoceptive sensory processes. One of the participants experienced a deep relationship with the music that helped her to let go of chronic pain. Two of the four participants worked successfully with work-related traumatic situations. All four participants went through renegotiation experiences with expression of anger. Many different sorts of coping manoeuvres with both inner and outer conflicts, and both life and work stress were carried out in the music journeys. Coping with stress led to enhanced contact with work identity, competencies, work satisfaction, hope for the future and creative potentials. The music acted as an emotional support, stimulation to body regulation and pain relief, and support for renegotiation and confrontation. In one case the music was experienced as a companion, and it acted as a supportive environment and facilitator for the contact with inner resources in all cases.

10.3.2. The focus on the body in stress therapy

A general interest in body-focused research across many research disciplines has been called the ”corporeal turn” (Sheets-Johnstone, 2009). In the present study the focus has been to understand the therapeutic experiences of people with chronic stress and the way their body imagery unfolded in the interaction with music.

In a chronic stress state the body can be numbed to a certain degree, and at the same time different kinds of disturbing and meaningless symptoms seem to attract an exaggerated and worried focus on the body. One has become ”out of sync”, and has lost the normal trust in the body signals, or as Frank (1995) put it: the normal flow of the life narrative has been broken. The therapeutic narratives told ”in and through the body” have been telling stories of conquest of personal space, the right to choose one's own direction, the need for care and acknowledgement and the integration of head-body splits. In all 22 therapies (including the pilots) the transformations of the sensations in the body have been beneficial for the process of feeling at home in the body. In the imagery many of the participants find ways to cope with

their stress symptoms but they also got very positive body experiences such as floating, deep relaxation, lightness and buzzing with life.

The first category of main themes (”Relationship to bodyself”) was directly related to embodiment and bodily processes, but also in many of the other journeys themes such as New ways of beings, Transformative journey in inner landscape/space, Uplift/relaxation by being in nature and the Renegotiation themes a lot of movement and body processes took place. In the case studies the processes of the bodyself were rich and many-facetted.

10.3.2.1. The bodyself

When looking at Helen Bonny's early teachings about how to guide in cases of body imagery (2.7.4.) she thought of the body as a vehicle for exploration and transformation as she regarded GIM as a therapy aimed at personal growth and spiritual transformation. I agree with Bonny that the ground-breaking and transformative processes in GIM involve parts of the personality that are beyond the Ego and maybe also beyond the ”normal” sense of the body. However, as a consequence of the in depth study of the bodily processes in GIM I might slightly disagree with Bonny regarding her view of the body as a vehicle for transformation. I think that the body is not only a vehicle for processes going on in ”higher” states, it is rather the ground and an inherent part of the process. This way of thinking was supported by Mark Johnson and Georges Lakoff, who found that the perception of the body in the world is the basis of perceptual thinking, and Johnson developed their work further in his understanding of embodiment as the foundation for all our symbolic expression and interaction (Lakoff & Johnson, 1980; Johnson, 2007). Johnson also showed how movement and spatial direction are connected to the experience of music.

I believe that ranking mind over body or seeing the body as a vehicle for the mind is so fundamental in the way of thinking in our culture that it demands a certain discipline to find other ways and words to describe the body as an inherent part of the (spiritual) being. The concept of the bodyself in the present study was created as a conceptual framework for work with the embodiment or body focused journeys as an integrated part of spirituality or the spirituality as integrated in the body. Examples from the study illustrate how this integration was experienced. In case one the participant moved up over the six-angled crystal house to a place of eternity and felt the gentle wind upon her skin. Another participant was brought to an abyss of love in Heaven and she felt angels carressing her skin (8.3.11.). They were both in contact with timeless being or feeling and a felt (exceroceptive) sense as parts of the same experience. The whole range of the bodyself was activated.

In the literature of transpersonal GIM experiences “body imagery” including change of body experience is included as one of the transpersonal states, where other kinds of deep states of being at one with the universe might exclude sensory awareness for a while (Lewis , 1998-99). In this study the body experience was changed in a few of the journeys (such as looking at one's dead body and ascending soul, feeling a limb or the whole body as very big, flowing or buzzing etc.).

10.3.2.2. Modes of sensory perception

I have used the different modes of sensory perception as a way to describe body imagery. I found that all modes of perception except the vestibular sense seemed to occur in the imagery. I had thought that the proprioceptive sense would be the most common because it has to do with the perception of movement. But in the comparison of the case studies it

became clear that the interoceptive sense was experienced by all four participants and that it was connected to the focus on the stomach as a center for emotions and strong physical sensations. In the literature review the interoceptive sense was linked to the ”gut feeling”. The professor of anatomy and cell biology Michael Gershon identified a ”second brain” in the stomach, consisting of neurotransmitters and millions of receptors connected to the head brain via the vagus nerve, but also able to work independently of the head brain (Gershon, 1999). The working of this system is too complex to explain here, but it makes me think that the process of awakening the stomach sensation after having been numbed in a state of chronic stress also is connected to what I would call the awareness of the instinctual intelligence of the stomach. I belive that a good ”stomach feeling” of things can help to intuitively sense and guide oneself in the daily complexities in modern working life.

Imagery connected to the exceroceptive sense appeared to be important for experiences of the skin as the limit of the body. In many cases of chronic stress the ability to say no and defend one's boundaries on a psychological level is reflected in a diffuse sense of embodiment. In case one this process was exemplified by the imagery of a thick crocodile skin with scales that could help the participant to feel protected and grounded when experiencing negative comments from her colleagues.

Imagery connected to proprioception appeared to be movements of all kinds: dancing, walking, running, jumping, flying etc. Movement imagery often reflected the flow and rhythm of the music. As the imagery of movement was experienced as very real it might have an impact on the bodyself even if there are no physical movements. The philosopher and developer of “Somatics”, PhD Thomas Hana, observed that body areas with tensed muscles can be blocked from conscious attention (Hana, 2004). If the area is moved, the brain and nervous system reconnect to the body and start to work with the tension and loose it up. I wonder if the proprioceptive imagery involving the tense body part can help to re-establish the reconnection. In the light of freeze or immobilization states proprioceptive imagery can be seen as a way of coping, a way of moving out of feelings of being stuck or fixed. These processes might even not be fully conscious but be part of the intelligence of the body. The proprioceptive sense was experienced in many journeys. Sometimes the experiences were instantly connected to psychological qualities: In case study one participant experienced ”efficacy in movement” and it gave her a feeling of being competent at her job that compensated for her present feelings of inadequacy. In case three the participant experienced how she flew through a forest, and she had a strong feeling of freedom. I saw it as a contrast to her daily feeling of fear connected to her sick leave, and perhaps also to her habitual control strategies. In both case one and two the participants walked through landscapes and the long periods of walking seemed to really bring them to new places in themselves, where they could experience beauty and peacefulness as well as power.

10.3.2.3. Pain relief processes

One of the 14 main themes was named “pain relief process” because a great deal of the participants in the study suffered from physical pain symptoms related to stress such as headache, pain in shoulder, neck and back and worked directly with the pain in the sessions. The pain relief processes turned out to be quite successful, as described in the case study two, where the participant in a powerful way worked with the music and her chronic pain symptoms. The participants' experiences in the study were congruent with the findings in Bjellånes’ study of group GIM and fibromyalgia patients (Bjellånes, 1994), where the participants felt a change from having a “pain body” to having a “positive experience body”.

While conducting the sessions I developed the idea that pain might be a kind of communication system in the body-mind. Inspired by Lowen (1969), I hypothesized that when we in stressful periods of life repress body cues or symptoms (tiredness, disinclination, irritation, tension, fear) then the next level of communication from the body could be a stiffening and a pain symptom that became more and more cut off from the original situation and feeling. I guessed that chronic stress symptoms could consist of an accumulation of body signals related to many intolerable or even double bind situations as described by Prætorius (2007) 2.2.5. In the sessions I encouraged the participants to try to let the music help them to stay with the pain instead of getting away from it, and try to let it communicate what kind of feeling or information it contained. It seemed like emotions and psychological contents related to the pain surfaced through imagery. Even though it was not always obvious what the imagery meant, it changed at the imagery level, for instance regarding form, colour and intensity of the imagery as the pain started to fade. The participant could often get a meaning out of the imagery, for instance in the example in section 8.3.7. where the pain in right arm was interpreted as held back action related to the participant's realization that she had to break up her relationship with her partner. After the formulation of the ideas of pain and body communication I found a reflection of the same ideas in Arthur Mindell's work. He saw pain and other symptoms as possibilities of deepening the awareness of one's dreams and inner dynamics, and he also worked with the amplification of symptoms until they changed "channel" to for instance visual or auditory imagery (Mindell, 1985).

The idea that pain perception can be changed by music is congruent with pain research, showing that pain is happening in the brain, not in the body, and is closely connected to cognitive processes (expectations of pain or pain relief), to emotional state and to general life circumstances (Butler & Moseley, 2003). This indicates that the expectation of music or music therapy to be helpful, and the way music influences the emotion, could contribute to the pain relief.

The mechanism of music as analgesia is connected to music as a distraction from pain. In a recent PhD study of music and pain it was stated that "the main mechanisms by which music induces analgesia are emotion, distraction and placebo effect"(Villareal, 2011, p. 68). The distraction from pain seems to be the direct opposition to the process of investigation that has been undertaken in the present study. I think that it is important to distinguish between the idea of music as a distraction (moving away from the body) and music as a supportive force that helps people to deal with pain (moving into the body). The two strategies might be used in different situations. For instance in cases of acute pain such as injured tissues or incurable diseases such as terminal cancer a need of pain management and distaction from pain would be the most appropriate, whereas in cases of chronic pain, somatization conditions or non-severe pain the possibility of pain processes might be helpful.

The processes in the body are preconscious or unconscious and difficult to describe in words as they are normally just functioning below the threshold of consciousness. Focused attention is in itself a focused energy, and together with the music the focus allows a process where the sensations of the body become a little more conscious. The imagery coming out of the pain processes that seems very abstract and difficult to understand, may in some cases mirror the underlying biological mechanisms. The pulsating jellyfish in case two could for instance be a metaphor for the blood pulsation or even the cell pulsation in the body. The quality of the colour could perhaps give an idea of the energy in the pain – for instance: the more black or dark the place is, the more frozen – the more red, yellow or light it is, the more alive.

The creator of GIM, Helen Bonny, suffered in her late years from angina pectoris, and shared

her healing journey in the section about music as a language of immediacy (Bonny, 2002, p. 103). She told how she tried to recover following the prescribed exercises, diets, mental relaxation, imagery etc., but it did not seem to help. She realized that the common practices seemed to cut her body from mind and spirit, and found that "my mind had not been making communication with my body at levels deep enough to make a difference" (Bonny, 2002, p. 112). Inspired by the Mother from Sri Aurobindos Ashram in India, a night with increasing pain she started to do a meditation where she focused on the cells, keeping her attention to the deepest place of pain, and thus letting the body reorganize or rearrange itself at a cellular level. Her distress did not develop into an angina episode, and it became a turning point in her process. Bonny connected meditation and music as two ways of the "language of immediacy", where a one-pointed focus of consciousness can lead to experiences of "All-That-Is". I think that the rearrangement on a cellular level while being in the moment of immediacy with a firm focus on the pain might be one way of perspectivating the experiences in my data material where pain relief happened spontaneously.

10.3.2.4. The relaxation response

In the review of music therapy literature many studies reflected the effectiveness of relaxation and music in stress management (2.4.7.). It was interesting to find out whether the participants in this study benefitted most from the relaxation part or from the problem or process-oriented part of GIM. Six of the participants needed an approach where a long guided relaxation to quiet and soothing music was the only component in one or two of the six sessions. The decision to work exclusively with relaxation was informed by the present state of the participant as assessed during the prelude. When a participant for instance had almost not been sleeping for a couple of nights and felt vulnerable or anxious, I would try to provide a nurturing space in the music without outer demands as mentioned in the modification guidelines (2.7.10.). The initial guided relaxation in GIM served as an important part of the work in all sessions and was often prolonged, and on a few occasions music served as a background for the relaxation. Music during relaxation is not part of the normal GIM procedure, but has been used in music medicine and in medical music therapy such as Guided Relaxation and Music, (Schou, 2008). Many participants worked with the perception of their body sensations, gave in to the heaviness of their body and also benefitted from a body-centered focus. In some of the journeys not connected to one of the body-related themes deep relaxation was a beneficial ending point. Hence, in line with the manual guided relaxation and music was not the main treatment method or modality in this group of participants, and the problem- and process-oriented focus turned out to be appropriate and useful.

10.3.3. Processes of coping

10.3.3.1. Resource imagery

Many of the 14 main themes described GIM journeys where positive states of mind and body were reached through imagery: Deep relaxation, Memory of supportive relationships, Deep music experience and Uplift/relaxation by being in nature. The positive experiences and states that were reached during the music experience had the function of momentarily bringing the participants away from the state of chronic stress, into a more vital or healthy state of being. This was congruent with the description of music therapy and stress management by Pixie Holland (1995) where positive imagery combined with improvisation helped the clients to have experiences of strenght and nurturing. In relation to trauma therapy the positive states act as resources in the work with problems and conflicts, so that an oscillation between resource and renegotiation can be established. The aesthetic qualities of

the music contributed to the positive states that were reached in the journeys, for instance the experience of beautiful landscapes or places in the inner world. As described in the literature review positive peak states have the role of being a focus points for hope that can be used in the coping process also outside the journey. The GIM imagery in this study also helped the participants to remember and return to self-caring activities such as nature walks, music listening and positive company.

10.3.3.2. Cognitive appraisal

The 14 main themes all in one way or another contributed to the process of coping with chronic stress, and especially the themes ”New ways of being” and “Confrontation/renegotiation related to work/sick leave” highlighted the coping processes. In the multiple case study the case comparison summary stated that traumatic experiences related to both work and life stress were resolved, and coping with inner critique, authorities/managers, social interaction at work and stress was enhanced in all cases. Coping with stress led to enhanced contact with work identity, competencies and creative potentials.

The processes of coping have been described from different theoretical perspectives. Lazarus described coping as ”constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus, 1984, p. 141). The GIM processes in the study fit very well the description of efforts to manage external and internal taxing demands, but it is not enough to say that the efforts were cognitive and behavioural, in that they were also emotional and coupled with the inner bodily regulative processes. However, in his later cognitive-motivational-relational theory Lazarus included cognition, motivation, emotion, input from the environment and actions, and he also dealt with difficult interpersonal working relationships as sources of work stress.

Lazarus distinguished between problem-oriented and emotional coping and the elements of the two were described in section 2.1.5. It is primarily the second element characterized as efforts to reduce emotional discomfort when a situation could not be changed that has been used in the GIM therapies. The emotional coping elements included in GIM were: distancing, seeking social support, self-controlling, accepting responsibility, breathing, ”meditation”. Elements from problem-focused coping were ”confronting” and ”learning new skills”, and these coping elements were connected to the actions that participants were empowered to do in their lives when thay had been empowered by their work in therapy. Some elements in positive coping behaviour seem to be lacking from the above mentioned description of coping elements such as: processing difficult emotions and therapy. Accepting and learning from the stress situation seemed to be included in the concept ”positive reappraisal”.

The attempts of coping with specific stress situations at work happened to tap into creative resources of the participants during the GIM journeys. As often reported in the GIM literature, it seemed as if the music provided sufficient support to find new perspectives and coping strategies. In this specific study the strategies supported the ability to use problem-focused coping that could be applied directly in real life work situations (such as the ability to assertively speak out to one's manager instead of withdrawing or to use music induced “ways of being” to cope with stressing situations). In this way stress-related work in GIM is distinctively different from stress management based on cognitive-behavioural therapy. Instead of working with the left brain hemispheres mental evaluation of stress or the behavioural components of stress, where the cognitive understanding is thought to lead to a new appraisal of stress, GIM is based on emotion and embodiment coupled with cognition, a

combination of left and right brain processing, where the music provides a connection to inner wisdom in the individual person allowing him/her to find creative solutions and skills to handle the stressing situations and feelings they meet in their lives.

10.3.3.3. Defensive manoeuvres

The defensive manoeuvres in GIM (Goldberg, 2002) were described as ways to cope – in the imagery – with challenging imagery and emotions during the GIM journey. in the present study the challenging imagery was seen to be representations of inner conflict material, and the coping effort in GIM gave the client increased power and ability to meet outer challenges. When the music stimulated emotions that were appraised as challenging, the defensive manoeuvre could be to avoid the emotion, to find contrasting emotions in the music, to try to let go of the emotion or to express it maybe using different bodily expressions. Many of the participants in the study had a depressed mood in the beginning of their therapy and could not cope with music with too much sadness as for instance *Swan of Tuonela* by Sibelius. This corresponds with a finding in a study of music and depression where depressed persons seem to perceive calm music as dark or sad (Punkanen et al, 2011). In Torben Moe's PhD study with psychiatric patients in group GIM he also discussed defensive manoeuvres as an explanation of how the patients actually developed stronger ego structures through GIM, enabling them to cope with their daily lives in a better way. This was described as transformations in the ability to contain and meet difficult emotions and imagery and was also illustrated by increased GAF scores (Moe, 2001). In GIM therapy with persons suffering from chronic stress the use of defensive manoeuvres seems to be a valid concept to describe how stress can be managed in the format of a GIM journey: In the study defensive manoeuvres on different levels played a role in almost all the journeys. Examples taken from the four case studies: The participant in case one created a light house of crystal where she could stay as the darkness surrounded her. In case study two the participant pushed away her ”illness” in spiralic movements with her arm. In case three the participant used a magic wand to make the bullies disappear, and in case four the participant flew up in the air and escaped a depressed, powerless and stagnated state. The examples of defensive manoeuvres were all embodied actions. But perhaps defensive manoeuvres can also be ”passive”, as for instance surrendering to the music, relaxing, receiving caressing touch or forgiving another person. These kinds of manoeuvres were in many cases also solutions to challenging states for the participants and provided new coping experiences. Not only imagery could be challenging but also the experience of the music itself. In her study of “pivotal moments” in GIM Denise Grocke described how coping with negative experiences of incongruent music could be accomodating, for instance ”I am waiting for the drums to end” (Grocke, 1999). It seems to be a passive defensive manoeuvre of patience that can work well in some cases.

Another concept linked to coping that has been running as a red thread through the study is the renegotiation of traumatic episodes based on Levine's theories. I have found that it has been very helpful for the work with chronic stress patients to integrate the techniques of Focusing and Somatic Experiencing in GIM throughout the therapies and in the analysis of coping.

10.3.3.4. Renegotiation of work-related social trauma

At the beginning of the study it was a large question for me whether the participants would present stress symptoms that resembled traumatization and furthermore if they would report traumatic incidents from workplaces leading to their chronic stress states as hypothesized from reading Prætorius (2007) and from experiences in the pilot study. It turned

out that a great deal of the participants identified some very painful situations leading up to their sick leave, in which they experienced helplessness and loss of control and with which they afterwards were mentally preoccupied for weeks or months. In a few cases trauma material emerged during the GIM journeys in the form of body reactions or fragments as described by Körlin (2002).

The work traumas in the therapies related to mobbing, severe power struggles, dependence on persons with psychopathic personalities and/or misuse of alcohol, neglect from managers and absurd amounts of work load or demands. When the participants brought some of these situations up a thorough verbal discussion was carried out, and then the therapist would suggest that the participant could try to enter into the situation again and with the support of the music do whatever he or she might want to change in it, with a strong emphasis on the felt sense of the body. The rationale behind this was explained in section 2.7.8. The idea of renegotiation was used in quite many journeys. In most of the occasions it was not necessary for the therapist to intervene and bring in the resource imagery, but in some cases it was very important, such as in case three, where the participant felt physically unwell after having been close to the place where the mobbing had taken place. In high stress states combined with overwhelming feelings Hippocampus is overflooded with stress hormones and the ability to mentalize and talk gets lost (Fonagy et al., 2011). When the participant stopped to talk, I knew that I had to continue to talk to her and find ways to empower her until she was back on track and could continue her renegotiation process. The example shows that there can be a very delicate balance between freeze and renegotiation, and that therapeutic work with severe trauma demands specific skills and training.

Renegotiation was a powerful way of working, and according to the participants it had immediate effects on sleep quality, rumination, general well-being or the relationship to managers and family members. The idea of renegotiation is basically in harmony with the process of GIM, where resources and challenges seem to appear interchanging in a cyclic way (Körlin, 2002). In two case studies similar processes in GIM were described in the treatment of Vietnam veterans with PTSD (Blake, 1994) and in a outpatient GIM group of young women with mild psychiatric disorders (Beck, 2007a).

From my perspective one of the important components influencing the success of renegotiation was that the solutions and new ideas came from the participant (and the music) and not from the therapist. The client-centered creative process is a central potential of the GIM method, and I think that the deepened state of consciousness together with the music listening served as a support to find new solutions to previous unresolved and bothering dilemmas. Another important component was the presence of and resonance with another human being when the renegotiation took place. Levine, from whom the inspiration for the renegotiation in GIM stems, recently published a new book where he emphasized the significance of the relation to the present, calm and resonant therapist in the renegotiation process (Levine, 2010). In GIM I as the therapist was providing safety, containment, emotional warmth and holding enabling the spontaneous renegotiation processes to happen. I resonated with the experiences of the listener with my whole bodyself, serving as a witness and also attuning to the experiences of the listener, keeping a communication with subtle articulation of the voice. This attitude is basic for the GIM therapist. In renegotian processes an extra awareness of body cues and subtle changes in the affective responses were applied in order to track and support the actual process in the nervous system (for instance the signs of orienting response, freeze response, fight or flight completion or the activation of the "social system"[42] following a succesful renegotiation). Verbal interventions suggesting the memory

[42] The social system was explained as the (brain reinforced) ability to engage in social contact which is not

of resources (helpers, states, places etc.) could be used to avoid overwhelm and establish an oscillatory movement for instance between two polarities or qualities in the journey (the renegotiation between the trauma and the healing vortices).The renegotiations of work situations were in almost all of the cases about problematic relationships with managers or colleagues. This was congruent with the observations of the stress researcher Richard Lazarus who also related stress to relational meanings:

> By focusing mainly on the arrangement of work in industry and, to a lesser extent, on personality variables as separate sources of work stress, the inner workings of the stress process itself have been overlooked in much past research. These inner workings have to do with the nature of ongoing stressful encounters between person and environment - usually involving personal conflicts - and the coping processes arising from such encounters, which influence stress levels from moment to moment and across diverse encounters (Lazarus, 1999, p. 131).

In the "researcher's reflections" section 8.3.25., the connection to the group and the acknowledging attention from peers and managers at the working place are discussed. The threat of being excluded can elicit strong feelings of fear, shame and anger. However, when these feelings surface in therapy, it is not always appropriate to express them furiously as in the cathartic therapies of the seventies but to find adequate expressions that are grounded in the body.

Levine underlines the importance of not going into re-experiencing and emotional catharsis in trauma therapy because it can lead to further imbalance and retraumatization. On the contrary, he advocates for a separation between the felt body sensations and the strong fear and rage, so that the body can complete the fight and flight reactions on a sensory level (Levine, 2010). He also concludes that "feelings accessed through body awareness rather than emotional release, bring us the kind of lasting change that we so desire" (Levine, 2010, p. 345). In GIM it can be difficult to separate body sensations and emotions because of the strong impact of the music. The awareness of the importance of opening up to the feelings through the body seems to be a good key. In the renegotiation session in case study four the participant expressed her anger towards her headmaster, and it helped her to find a new way to contain her strength in the following real life confrontations with him, but it did not lead to a healing of the conflict, and the traumatic excess energy in her body did not seem to be fully released. On the other hand, the participant in case study one after the successful renegotiation of the humiliating situation with her former manager felt more grounded and secure, and then she dared to open up to the expression of her anger. Afterwards she felt relief in her body, and it seemed like the energy was well released. These examples support the idea of using body feelings to track the emotions, and not go for a cathartic outlet.

In some situations the work renegotiations touched existential perspectives of life and death and good and evil such as the example with the renegotiation of the relation to a manager that had also been a personal friend (section 8.3.18). The tension and feelings of betrayal in his work situation entered into an archetypal level of war that symbolized the fight for his own identity and integrity. This was not the only example of work renegotiations that took place in a collective sphere. While renegotiating her relation to a superior another patient imagined walking in the landscape outside Berlin after the bombardments of the Second World War. Levine mentions the enormous energies stored in trauma and the archetypal narratives that are often associated with them. The intensity of these renegotiation processes reflects the fact that work-related problems can touch psychologically raw survival and

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possible in traumatic "shut down" or immobilisation (Levine, 2010). In GIM it could be recognized by imagery of contact to other living beings or a feeling of contact between therapist and listener.

protection of one's identity and sanity concerning one's whole being in the society and the world.

10.3.3.5. Music in the renegotiation process

The role of the music in the renegotiation sessions happened to be quite important, as the music added another dimension to the process. In the treatment of clients with severe trauma the music has to be administered with great care because even small dynamic changes can stimulate a retraumatisation response (Beck, 2007b). Körlin worked with ways to prepare a client to GIM where symbolization processes can allow an integration of the dissociated feelings and experiences, and where the generation of imagery in itself is then a part of the trauma resolution (Körlin, 2010).

The participants in this study were quite occupied with their imagery, and the music seemed to work primarily as a holding space, providing reaffirmation and support to move forwards. One of the music pieces that I used most frequently for the renegotiation sessions was a version of Pachelbel's *Canon in D*, which worked well as a supportive music inducing strength because of its steady ostinato combined with the musical pace and the soft but firm melodic lines and orchestration. In a discussion after my presentation at the research symposium Music and Health in Everyday Life, December 2009 in Oslo, the Norwegian GIM researcher Gro Trondalen added that she also thought that the repetitions and the ostinato in the music gave the clients the direct message to come again, and again, so that they were encouraged to do what was needed to manage the difficult situation. This is in line with Lisa Summer's use of repeated music pieces in GIM as a way to be held at the same place (Summer, 2010). The exact process of a renegotiation with pain can be studied in case study two, session two, where the participant went through different sensations and emotions of her shoulder pain, and found a way to push with her arm and in this way complete a fight response. The music kept the whole experience together in time, it stimulated the imagery formation, and it supported the different conflicting self-regulating processes needed to release the energy. For me as the therapist it also helped to create a bond to the participant, to stay with her and to join her imagination.

10.3.3.6. Renegotiating life stress issues

Even though the coping attempts were mostly related to the sick leave and stress problematic in almost all cases some of the sessions were spent on life stress issues. The renegotiation journeys happened more often with family members than with managers or colleagues. Of the 14 main themes four were work stress-related themes (5, 10, 13, 14) and three were life stress-related themes (6, 8 and 9). The need of the participants to address problems related to life stress was met with a welcoming attitude as the problems might contribute to or be connected to the actual work-related stress, as discussed in previous research. Basic personality problems such as type A or D personality, low self-esteem, helper-role etc. would occur both in the relation to family members and to fellow workers. The participants on full-time sick leave spent their time at home, where relationships with their family came into focus.

In the journeys, despite the formulated journey foci, the spontaneous and free flowing imagery processes seemed to direct the awareness towards buried emotions from events much earlier than the sick leave, such as the loss of close family members or traumatic childhood memories. In the web of imagery these memories were weaved together with the present experiences of loss of work, loss of health and security, loss of ability to feel in control or to manage etc. The understanding of stress vulnerability as connected to early life stress was

illuminated clearly in these processes, where close to half of the participants seemed to have been raised in different kinds of dysfunctional or broken families, where they had been missing love and support due to psychological illness in one of the parents, alcohol abuse or early death of a parent. It has been discussed widely that early stress, insecure attachment styles and emotional trauma influence the capacity to regulate affects induced by stressful events (McEwen & Lasley, 2002; Taylor, 2010) influencing the formation of inadequate coping strategies (Schore, 2003).

Experiences in the workplace "family" had in some cases triggered emotional childhood wounds and body memories. In one of the therapies the participant reported that as he was criticized by a specific colleague the hundredth time he suddenly broke down and felt helpless as a little child, left the workplace and never came back. Through the GIM journeys he realized that he had spent most of his childhood alone in the fields without close relations to his parents. In a short-term therapy of six sessions with a work-related focus early childhood problems could not be worked through, but it seemed like the journeys where the participants were able to meet with their "inner child" or have corrective experiences of care and support had a deep impact and played an important role in the reframing of their present situation of work-related stress. Neuroaffective theory on the way of working of the memory when one is faced with a situation with strong emotional charge, tells that within milliseconds one is searching for association chains of similar components and events and for ways of managing it (Hart, 2008). According to Hart new experiences can superimpose old ones. I speculate if an intense negative event or a selection of events in the present or in the past could have an impact on all the connected memory components when connected to the imagery of a nurturing and helpful counter-experience in a GIM experience,. The corrective experiences seem to lead to new ways of being in the bodyself and being with others, such as more open or trusting ways of being.

The multi-leveled music and imagery experience is more than a thought; it is rather an embodied experience, and I guess it has the ability to touch, change and create new pathways that are stored in the instinctual part of the memory, which includes sensory experiences. I also believe that the process of conscious understanding of early experiences and their repetition or re-enactment in the present life is very important (as carried out in the postlude phase of GIM). The old patterns can be reframed and the new coping strategies found in the journey can be integrated in the self-understanding and be accessible for conscious action in the future. This process happened in many of the therapies as a movement from being a victim to taking responsibility and control.

10.3.3.7. Inner transformation

One of the 14 themes was named "New ways of being" and it was strongly connected to coping with what Lazarus called the inner taxing demands. The first journeys in case study one and four were categorized as "new ways of being"-journeys. They both dealt with feelings of inadequacy and social isolation, and the client struggled with the critical voice of a strong inner judge. For both participants the changes happened at the body level: as the development of a psychic shield in case one and as a fight to get rid of the feeling of a sticky lump that was pressing him down in case two. The new ways of being emerged from the imagery as an embodied sense of self- protection and as a new sense of strength (a super hero was born from under the lump). In other journeys related to the theme inner conflicts were projected into imagery as (sub)personalities with specific characteristics that confronted each other and were integrated at a new level (example at 8.3.14.). The "Transformative journeys in inner landscapes" also had to do with inner struggle and ways to overcome inner conflicts

and patterns. Feelings of for instance helplessness, stagnation and depression were imagined as landscapes where the participants were supported by the dynamics in the music to find coping strategies as on a hero's or heroine's journey. The coping strategies could often be transferred to use in daily life during the verbal communication, as for instance in case one, where the surprise of being able to move around and behind the huge dark wall became a symbol of coping, saying, "there is always a way out, you just have to look in another direction!" Several of the participants who were on part-time sick leave instantly used coping abilities that they learned through the journeys at work.

In the development of new attitudes and ways of being the defensive manoeuvres were linked to creativity and integration. Sometimes new ways of being were closely related to the music, as in the case where the participant experienced that she could feel herself in a different way when she listened to music: instead of being controlling, over-effective and upset to a degree that led to a stress collapse, she found herself being forbearing, mild, surrendering to the music, light and flowing. These new ways of being became integrated in her personality and used as coping mechanisms to prevent new stress episodes. This illustrates how in GIM ways of being can lead to new ways of doing. New ways of doing can be used in daily life as described in the life changes of the case studies.

10.3.3.8. Symbols of work satisfaction

The themes Finding a work satisfaction symbol and Imagining future work focused on shaping the future work situation so that it could be linked to the personal experience of meaning and purpose in life and prevent further stress. The two themes are connected to the themes of resource imagery.

In several cases where the participants had lost their original job and had to find a new job, the symbol of work satisfaction became an important focus for job seeking. One of the participants was working as a bookkeeper but also felt an attraction to give massage. She got an image of carressing hands. After some time she found a job as a bookkeeper in a small institution of handicapped people where she actually was able to hug and express her care physically with her hands. In case four the participant in a GIM journey tried to carry out his own idea of communication therapy, enabling him to feel satisfaction in his whole body. At follow-up he began to work with his first client. A third participant worked with computer programming but dreamed about being a farmer. In his positive work imagery he had cows, and at the end of therapy he bought two calves.

10.3.4. Life changes

In three of the four case studies the changes in daily life as reported during the therapies and at follow-up were changes in self-esteem, finding a new and better job, increased coping abilities in social situations, increased self-care related to work, decreased pain symptoms, more vitality and humor, increased connection to feelings, increased connection to receive support and co-work, increased sense of bodyself (interoceptive sensing), rebalancing of energy. The participant from case study one wrote in an e-mail almost two years after the end of her therapy, "I still think of important imagery from my journeys at difficult moments in my life", indicating that the imagery from her journeys functioned as coping tools in her daily life even years later.

The models of work stress presented in the literature review (Demand-Control-Support, Effort-Reward, Person-Environment-Fit, CATS) were all used in the verbal communication

about job stress contributing to the understanding of the distress that the participants felt. Different dimensions of the models could be recognized in several of the cases, for instance lack of support and lack of control over one's work. I think the qualitative results document that it was the direct experiencing and working through of the bodily sensations, emotions and transformations that initiated the change and provided new perspectives and possibilities of action that really changed the life situation of the participants.

10.3.5. Music, body and coping

10.3.5.1. Music and the autonomous nervous system

The chronic stress condition was explained originally as a dysregulation of the Autonomic Nervous System (ANS), where prolonged arousal was a mix of symptoms related to the two branches, the parasympathetic (relaxation) and the sympathetic (activity). GIM was thought to be able to provide possibilities of both relaxation and activation, so that the flexibility of the nervous system could be recovered. Reflecting on the way the regulation of the nervous system came about in GIM I think that the musical environment that was set up and attuned to each participant and situation served as a space, where the listening body could "take in" what it needed to carry out many different regulative processes. In the initial GIM sessions I communicated with the participants about their perception of the music while they were listening, so that I could find the right type of music and the most convenient volume. Some of the participants reported thrills, tingling or relaxation or other kind of physical responses besides their imagery, and I also looked for breathing patterns and noticed my own level of tension. I often toned down the volume if a music piece had sudden peaks with drums or horns. In this way I regulated the musical space until the participant appeared to feel safe and held or carried by the music, and until the imagery was positive or manageable. When looking at the use of music in all the journeys together I noticed that after a successful attunement between music and listener in one of the first sessions, it became possible to challenge the participants with more dynamic music and still maintain a feeling of security and trust. I have speculated a great deal about this experience, and I think that it is a little different from the ISO and entrainment principles where the music in the beginning matches the state of the listener and after that entices the listener into another state. The music in this case was used to reflect the dynamic range of the participants sympathetic and parasympathetic functions.

In a chronic stress state there is a reduced flexibility. One cannot relax fully without feeling restless and one cannot be fully active without feeling stressed (for instance it can be difficult just to walk without cardiorespiratory strain). Once the dynamic range in music has been found (for some it was the first movement of Beethoven's *Fifth piano concerto,* 2nd movement, for others it was the new age piece *Blissful Moment*), I observed that the participant reacted with a letting go attitude that I interpreted as an embodied "now I can feel safe and understood". Especially when influenced by stress there is a tendency to be hyper-alert to sounds and sudden changes of sound in the environment. The parts of the brain that pick up the sounds of the environment and detect danger or no danger (amygdala and hippocampus) might be reacting to a repetitive calm music environment with a relaxation response because the next seconds and minutes can be anticipated and expected to be calm (Vuust & Frith, 2008.). Many music pieces begin and end with more quiet passages and have some dynamic development in the middle. Tension and release in the nervous system may reflect tension and release in the music, perhaps at an unconscious level. I believe that this is one of many ways of which we can choose to interact with the music. I think that as the GIM

process carries on, these music pieces began to induce imagery and emotions, movements and body sensations of all kinds and that in this process the nervous system expanded the ability to relax and surrender and also to be active and expansive.With Daniel Stern's words the cross modal vitality forms are playing with the levels of arousal (Stern, 2010). Little by little the flexibility of the nervous system was increased and the conditions for a more healthy self-regulation were provided leading to homeostasis in "real life". Accordingly, the choice of music was not guided by an effort to mirror states of stress, anxiety or being shut down as in the ISO principle, but by the need to identify and select music with a dynamic intensity range that could provide the nervous system with a difference in stimulus small enough to allow the participant to begin oscillating between the branches of the ANS more freely, and thereby enhance adaptation and self-regulation in the direction of homeostasis. In practice the choice of music from session to session involved the assessment of many factors such as the participant's degree of vitality and mood in the prelude, metaphors developed in the prelude, journey focus, ability to relax (as a therapist I resonated with the degree of relaxation in my own body), and the imagery and reaction to the music that was played. In many sessions I prepared six to eight pieces of music and only used four or five for the journey, dependent of how the journey unfolded.

Therefore, in many cases in the beginning of treatment the tolerance of dynamics in music was small because of the limited flexibility in the nervous system (both arousal and relaxation were inhibited by the freeze reaction). As the treatment progressed resilience and flexibility increased, the dynamics in music could be tolerated more easily, and more dynamic music could be played for the journeys.

10.3.5.2. Special aspects of the relationship with music

In the evaluation of a participants' comments to the music, I described a journey where the participant focused on how music could be used directly related to work stress (p. 202) saying, "I think that I shall take the chance to create a distance to the negative part of my job that keeps me awake in the nights. Try to put the music on after a working day or in the morning, or when I feel sad and do not feel I can make it... The music can create a distance, a breathing space." This example illustrates some very important aspects of how music can facilitate coping processes related to work and stress. I believe that one of the interesting aspects is that the music at the same time seemed to access her beliefs and value system, her emotions and her bodily senses of her work (lightness as a contrast to merry-go-round). The music not only provided a mental reframing of her work situation, it reached many levels at the same time, and created an emotional imprint of support and motivation.

In case study two the participant developed a relationship with the music that seemed to involve a feeling of the music as if it was a living being. The music "entered her body" and "took away the pain", it "wanted to get in" and so on. In case four the participant sensed community in or with the music. A third participant reported several times in her GIM journeys how she felt that the music intended to help her saying, "the music says that it will be there for me", and she reported how it supported her and comforted her when she got into feelings of complete loneliness and helplessness in the journeys.

Research into intersubjectivity has shown that we are inherently capable of reading each other empathically as an inherent part of our body and nervous system (Trevarthen & Aitken, 2001). I wonder if in the altered state of GIM the music is felt as a living, almost human, presence because of these abilities. The ability to relate to the music in a very deep and embodied sense might be close to experiences of relationships with other human beings in

infancy.Antropomorphism is well known in GIM – and reflected in Kohut's theory of self object functions (Kohut,1957). I wonder if the relative isolation of persons on sick leave with stress is making them especially vulnerable. They have lost their social sphere of work, often their situation are not fully understood by their spouse or close family, they are cut off from themselves and often in an existential crisis. Many of the participants went back to similar difficult situations of anxiety and loneliness in their childhood. Hence, I suppose that the stress sick leave situation for some persons can lead to a deep need of closeness and comfort that may evolve in the relationship with the music.

10.3.5.3. ***Home use of music***

Including music listening at home was considered as a way to enhance the effects of the GIM sessions. The comments from the participants on their home use of music were not collected systematically, but as the experiences with music at home appeared to be an extension of the experiences in the sessions, the home use of music can be regarded as an information about their compliance.

The participants listened often in their first sessions to music from the CDs they got for home listening, so the "new" experience of GIM may also have resonated within them as they listened to the same music at home.

Many of the participants reported that they benefitted from music listening, and some of them used it on a daily basis. Their relationships to the music were developing and deepening. Some of the participants used the music listening to establish a special situation of comfort and care, others used the music as a supportive background music. The way they used the music both included embodiment aspects: to relax, to fall asleep, to get more energy, to get somatic release (from pain and restlessness) and coping aspects: to regulate the emotional state, to establish a personal space, to establish a limit to upsetting thoughts and to access a more light and easy way of being. The comments from the participants showed that some of the therapeutic processes in GIM were integrated and transferred to the home use of music.

Music listening at home had for a few of the participants caused experiences of anxiety and painful imagery or body states that they used for self-development (for instance one participant used the music to work with difficult memoires related to her mother). In these cases the music provided the necessary holding space to process the difficult emotions and body sensations. Some of the participants reported an increased awareness of which kind of music was good for them at each moment.

What I see from looking at the ID of the participants and their comments is that those who improved the most (according to the self-report scales) listened more to music at home and liked the music more, and that the ones who were not improving as much also were the ones who reported difficult or strange experiences with the music or reported that they preferred other kinds of music. There are two questions rising out of this observation. One is the question of the participants' music preference as related to the music offered in GIM. Even with the inclusion of new age and film music GIM offers a limited stylistic repertoire that might not suit everyone. The selection of music pieces outside the GIM repertoire did not reach the high standards that characterized Bonny's music compilations. As mentioned in the literature review regarding music preference (2.4.6.) there is a common agreement of the importance of client-selected music for stress reduction. In GIM it seems to be different, perhaps because of the special situation where the music serves as a therapeutic agent for the imagery in altered states and not exclusively for listening and where it is also part of a triangular relation between therapist, client and music. In the home use of music listening

music preference played a different and important role for the relationship with music. Some of the participants who benefitted most from GIM began to choose the GIM music as their preferred music for nurturing and relaxation, and I belive that the positive experiences from the sessions became a part of the positive expectations linked to the music.

The other question is whether listening to music at home works better when the level of stress symptoms is not too high. From the literature about stress breakdown and also from some of my participants' stories, the first period after a complete stress breakdown can be accompanied by an increased sensibility to sounds, problems with concentration and distress when listening to music. I suggest that music listening in these conditions can be counter-indicated. For others though the holding space of music can be a really great help to be able to relax or to be distracted.

Apart from an additional effect of music therapy, music listening at home enabled the participants to be able to use music as a self-help tool to cope with stress during and after the end of the study. It was a process of empowerment, where new coping strategies were transferred from the GIM sessions to the participants' home and working environments.

10.4. Discussion of mixed results

10.4.1. Convergence/divergence

When looking at all the figures together in the mixed results chapter it is striking how well the narratives, the clients' comments, the case study sentences and the mandalas support the directions in the line graphs and the findings from the statistical analyses. Both strands of the study show in a convincing way how GIM supported the psychological and biological recovery from stress. Hence, there is convergence in all figures beween qualitative and quantitative results. An additional selection of results could have demonstrated divergent findings between the sparse improvement in some of the physiological scores (such as Blood Pressure) and the qualitative data, but I did not think that I could find any any themes that linked these scores easily to the qualitative material, and it was not a common tendency.

10.4.2. Effect sizes and 14 main themes

The main themes and the effect sizes were arranged in a new way that brought forward a sense of the essence of the whole study in one figure (9.1.). Although the two sides of the figure are not directly connected they inform and illustrate each other in a balanced way.

As already discussed in relation to the figure the convergence of themes and effects sizes drew the attention to the fact that the work with psychological themes like "Ways of being", "Renegotiation" and "The inner child" might illustrate the large effect sizes in the psychological measures. On the other hand the small effect sizes in the main part of the physiological measures could be illustrated by the less frequent work with purely body-related themes. The direct causal connection can not be established because the body-related themes and the themes that touched the psychological dimensions were connected and the one grew out of the other.

10.4.3. New themes

The 14 main themes and the significant results from the first analysis (GIM/TAU) were converged in figure 9.2. . Seven additional conclusive sentences of the gains of the therapies were developed from both strands of the study:

1. Decrease of bodily stress symptoms
2. Increased energy and well-being
3. Enhanced coping with inner and outer conflicts
4. Overcoming traumatic work experiences
5. Improved mood
6. New relational competencies
7. Hope for future work

The resulting themes from another mixed methods GIM study, where the themes came out of a Grounded Theory analysis of interviews with six women recovering from breast cancer, were (Bonde, 2004):

1. New perspectives on past, present and future
2. Enhanced coping
3. Improved mood and quality of life
4. Enhanced hope
5. Improved understanding of self
6. (New) love of music

These categories are very much in accordance with the resulting states of the participants in the present study. However, it seems like the focus on work stress was more present in the themes of this study, whereas there was no special reference to cancer in Bonde's study themes. I think that this can be explained by the way work stress was in focus in many GIM journeys in the present study, while the foci in the cancer study journeys were more open because the participants were in recovery.

In another study of GIM with five patients with depression who were interviewed after each of their eight sessions a phenomenological coding process resulted in three main themes (Lin et al, 2010):

1. Pushing aside a barrier
2. Gaining new insight
3. Moving forward.

Meaningful moments were coded as Releasing mind-body rigidity, Awareness and inspiration, Acceptance and inner transformation.

It is interesting that there is a focus on the moving body in these results. A common trend seemed to be a pushing and a moving forward, and meaningful moments were also connected to the release of mind-body rigidity. This corresponds well to the way of thinking in the present study that immobilization seems to freeze or fixate the body, and the music has the ability to bring movements like pushing and moving forward. In the present study

movements took place in many sessions, but the movements were not categorized as a single theme.

Extractions of meaning units in a phenomenological study of transcripts from GIM with healthy musicians included the following themes (Trondalen, 2011):

Nurturing, Music as self- awareness, Self agency, Process of moving along, Integration.

A tuned body: Connection of inner and outer muscles, A living and thinking body, Balance between physical and mental health, Unity of senses, Balance.

Empowerment: Creative health resources, Self-efficacy, Competency, Mastery, Meaning and coherence

Trondalen suggested that GIM afforded what the clients needed in the context as a contrast to mindfulness training, where a fixed procedure is carried out. The themes that were found in the (purely qualitative) study all resonate clearly with the experiences of the participants in the present study.

The comparison of the results of several qualitative/mixed methods studies with the results of the present study supports the findings of GIM as a therapeutic method for change of disturbed mood and body rigidity, evaluation of past experiences, increased coping and mastery, a sense of moving, hope and empowerment for the future. My study was the only one where a change in relational competencies were found compared to the above mentioned studies. The change in interpersonal relationships was not observed in the quantitative data because I did not include a scale that related to it. Körlin and Wrangsjö (1995, 2002) did, using the Inventory of interpersonal problems, and they found increased relational competencies after a various number of GIM sessions with healthy and mental health patients (Table 2.4.).

10.4.4. Convergence of narratives and comments with questionnaire scores

When converging the short narratives and the the participants' comments with the graphs (9.1. and 9.2.) I think that the richness of the narratives and comments are very illustrative and even create a poetic atmosphere around the line graphs. The improve in mood is accompanied by the manyfold descriptions of how the participants experienced the mood changes both immediately after a session or as a whole. The narratives tell 19 short stories of transformation that provide the decrease of the mean scores of Perceived Stress and the high effect sizes of Immediate Stress with an atmosphere of human accomplishment and real life experience. I find that the convergence of results in these two cases really show the potential of a mixed methods study, where the convergence of information from both strands provide a nourishing and complete sense of both understanding and meaning.

A semi-qualitative analysis of the single cortisol curves for each participant was performed, but no clear pattern was found. In the multiple case analysis (qualitative analysis chapter) is shown four examples of individual cortisol patterns. When looking at their relation to the therapy courses and the other quantitative data, the development of cortisol patterns was meaningful.

10.4.5. Convergence of graphs and sentences

The concluding sentences from the four case studies were separated and grouped in the themes used for the mixed results presentation in figure 9.3.-9.6. I think that they support the

quantitative data in a very good way and provide informing illustrations of the processes that lead to the development of the psychological and physiological measures in the whole group. When looking at how the graphs converged with the case study sentences, there can be seen a tendency to provide the sentences with more universality than they originally were meant to have. Because the sentences are no longer connected with the context of the case and because they are formulated in a general way "GIM provided inner experiences of movement that resolved the initial freeze state", they can be understood as generalized statements about GIM. This was not the intention, but might have happened as a result of the tendency to melt together the significance of two strands when they are presented together.

10.4.6. Convergence of text, graphs and mandalas

In a number of cases the texts and tables were converged with the mandalas that illustrated the theme. The sentences about renegotiation and the Testosterone graphs were illustrated by a mandala of renegotation (figure 9.4). It is my impression that the mandalas added a third dimension to the other kinds of information, providing a closeness to the emotional atmosphere of the work and giving a sense of how it was experienced to be there for the participants. In the illustration of body sentences and symptoms graph the series of four mandalas in a quick way illustrated the transformation from being centered in the head (mental figures) to being centered in the body and able to act. In the illustration of job return three different mandalas added the atmosphere of hope and positive future work vision to the odds ratios of job return and the increase of Work Readiness. Even though the mandalas were not directly a part of the results they were thoroughly chosen to illustrate specific processes related to the other kinds of data. In a similar way music examples from the journeys of specific themes (for instance Pachelbel's *Canon in D* in the renegotiation section 9.1.6. would have illustrated the atmosphere of the processes and added a poetic quality to the convergence.

10.5. Discussion of validity, generalizability and replicability

10.5.1. Trustworthiness in the qualitative part of the study

Credibility, dependability, confirmability and transferability have been identified as four dimensions of trustworthiness in a qualitative inquiry (Smeijsters, 1997), (7.3.1.).

A high degree of credibility as a sort of internal validity was obtained. The choice of cases for the multiple case analysis was informed by a principle of diversity and was also based on the 14 main themes, allowing many different perspectives on work stress to be included. The relevance of focusing the analysis on the themes embodiment and coping compared to the reality of the participants (as determined in their comments to therapy) showed that especially coping was very relevant for the participants, whereas embodiment was verbalized explicitly only in a few cases. This might be because it can be very difficult to describe embodiment as it is an intrinsic part of one's being in the world, compared to for instance abscense of pain or stress symptoms. Some of the participants described how they got a new perspective on their symptoms and connected them more to psychological processes. I consider the attempt to describe embodiment as valuable for the research and the clinical perspectives.

Credibility was also obtained by investigation of connections and relationships rather than causality between the body and the music, between coping strategies and music, between

the therapeutic processes and the life changes and between the transcripts and the quantitative data. Credibility of the results of the multiple case study was supported by member checking. Three of the four participants responded that they fully agreed in the conclusions of the analyses of their therapies.

Dependability or interreliability was assured through the procedure of the hermeneutic circle by repeatedly going back and forth between data and interpretation. The horizontal themes analysis represented a multifacetted analysis where all aspects that could be found in the very rich material were disclosed and synthesized.

Confirmability was accounted for by the description of the analysis process as it was presented in both the qualitative methods and the results sections. The definitions of the short narratives could be tracked back by looking at the single descriptions of each session, and the analysis of the cases could be followed by looking at the contextualization (or appendix). As can be seen in the researcher's reflections the results not only supported the preconceived ideas of the researcher but allowed new understandings to surface. The understanding of the social trauma and the way the music influenced the nervous system changed my thinking, and the exact analysis of embodiment and coping processes also broadened my pre-understanding of how GIM would support the recovery from stress.

The transferability of the findings was made possible by the crystallization of the analyses into main themes, short sentences of the case analysis and also by the conclusive seven themes that were found by looking at the mixed results.

10.5.2. Validity and generalizability connceted to the quantitative part of the study

10.5.2.1. Extraneous variables

As stated in the methods section historical events or changes in the labour market may have a potential influence on the results. In the period of the study, the financial crisis starting in 2009 resulted in a increasing degree of unemployment, and it might have influenced on the general atmosphere of job stress because a sick leave could possibly influence on cut down decisions, and a change of job could not so easily be carried out. Another change that happened in Denmark during the past five years was that persons on sick leave were asked in a much higher degree than before to take part-time sick leaves to withhold their connection with their working place and network. This probably meant that the number of persons on full-time sick leave was decreasing. These factors might have influenced on the high rates of job return compared to the earlier studies.

10.5.2.2. Generalizability/external validity

The study included persons with many different educations, jobs and backgrounds, and the age distribution was normal compared to similar studies in stress management. The population was both self-referred and clinician referred, so one could guess that persons with many resources as well as ones with few resources for self-help behaviour were included. Several factors influenced negatively on the generalizability of the study: there was a majority of women compared to men and the socio-economic and educational profiles were not representative of the Danish working force, as none of the participants had unskilled labour. However, three of the participants came from the group of workers that was known to be most affected by work stress: low payed women in the public social service sector.

The results of the study can be compared to studies in work stress from other countries, when considering differences in context and regulations of the labour market that might exist even between Scandinavian countries.

10.5.2.3. Replicability

The methods of the quantitative part of the study have been presented in detail, and to my conviction it would be possible to replicate. GIM is a therapy method that is not strictly manualized, but it has a specific music repertoire, a structure and a philosophy that is formalized on an international level, and the modifications presented would be easy to replicate for other professionals.

10.5.2.4. Internal validity

A general condition of the quantitative part of the study was that all processes were carried out by the same person. A separation between therapist and researcher might have added to the validity of the study. However, the statistical analyses were reviewed by several supervisors, and the results were discussed and interpreted in cooperation with supervisors and the group of PhD colleagues and peers at research seminars and conferences. The qualitative results of the multiple case study were member checked, and the spontaneous comments from the participants also added to the triangulation of the results. The mixed methods and the convergence of results from the quantitative and qualitative parts of the study also served as a triangulation adding to the validity of the study.

The question was raised in the quantitative methods chapter (5.10.1.) whether the intake interview had any therapeutic value for the control group as seen in the development of the mean graphs of Well-being, Anxiety and Depression. When looking at the mean line graphs of the screening questionnaires that were filled in before the interview compared to the line graphs of the other questionnaires that were filled in/collected a few days after the interview, it can be seen that the lines developed in a positive direction during the waiting condition not only in these three variables but both in these and in the variables that were measured after the intake interview. I believe that this indicates that no special effect of the intake interview could be determined. A possible negative effect of waiting can also be refused.

The mean values shown in the line graphs did not indicate a similar positive development in the follow-up phase after the completement of the therapies in Group 2. I speculate if the expectation of getting help and the inclusion in the study in itself might have had a benefitting effect. This corresponds with the theory that stress has to do with apprasial of the ability and resources for coping with the situation (2.1.5). There is also the possibility that other treatment or the effect of self-help activities can have had an influence on the positive development in the waiting period. The effect of time (“time heals”) or the Hawthorne effect (effect of being in a study and getting attention) does not seem to be able to explain the difference between pre and post TAU development in Group 2. The possible effect of expectation/participation in the control group might have been shared by the treatment group and as such it can be regarded as a common factor for both groups. However, when looking at all the mean graphs it can be seen that the early intervention group withheld the effects of treatment during follow-up better than did the late intervention group.

10.6. Discussion of stress measurement and experiences from the study

10.6.1. Discussion of measurement methods

As stated in the literature review, the definition of stress has been developing and is still not defined precisely neither in the international diagnostic manuals nor in the research. Although a large body of studies claim to study stress-related outcomes, the exact definition of stress has not been agreed upon, and the presenting symptoms are varying between individuals. Carrying out research in this situation is a challenge even with a well-designed study. The lack of validated questionnaires for the measurement of stress also speaks a clear language. In this study several questionnaires were put together and the many variables caused statistical limitations (multiple testing). Perceived Stress as a primary variable did prove to be significant but not between groups, and compared to the highly significant mood-related scales including Sleep Quality and Physical Symptoms a more precise measure of stress incorporating all the biopsychosocial dimensions of stress would have been valuable. It should include a measure of the quality of interpersonal relationships that were found to be important factors in job stress. NFA has developed extensive questionnaires for the evaluation of psychological working environment and stress that cover all these dimensions, but they are fitted to persons still in work.

A questionnaire that I overlooked in my design process is a self-report scale of physical stress reactions ”Stress Inventory-6” with 72 items (Smith & Siebert, 1984). In their discussion of stress symptoms they identified four orders of symptoms. Complex Stress Arousal Pattern, Indirect Stress Symptom Pattern, Simple Stress Arousal Pattern, and Gastric Distress. According to the discussion of acute versus chronic stress (2.1.8.) an interesting finding was that the two first factors dealt with delayed stress reactions in contrast to the Simple Stress Arousal Pattern that was characterized by ”fight and flight” symptoms of muscle tension and cardio-respiratory problems. The Complex Stress Arousal Pattern and Indirect Stress Symptom pattern were characterized by diffuse autonomic arousal, self-directed attention, and striated muscle tension manifest in public or goal-directed activity. The stress symptoms were mediated by neuroticism, lowered self-esteem or by an increased awareness of socially undesirable symptoms and indirect stress symptoms as fatigue and lack of energy, headaches, backaches, and skin difficulties. Different treatment regimes for the different factors were speculated of, for instance relaxation and stretching for Simple Stress, and psychotherapy for the first two factors:

> Psychotherapeutic approaches directed toward improving self-esteem and social skills may be more appropriate for Factor I reactions. Factor II reactions suggest no simple form of intervention. Since this factor includes reactions that are indirect and possibly delayed, the emphasis of stress management should perhaps be less on immediate symptom relief and more on identifying and treating hidden environmental or behavioral variables that may contribute to delayed stress symptoms (Smith & Siebert, 1984, p. 226).

This supports the finding in this study that a succesful treatment of chronic stress can not be simply directed towards the symptoms but has to address “hidden variables” as does GIM. The measurement of chronic stress also has to be able to measure the complexity of delayed stress reactions, such as fatigue and diffuse symptomatology.

The different symptoms in acute stress and sustained or prolonged arousal are congruent with the findings of Henry (2.1.11.) and the phases of stress, as was also described by Selye in his General Adaptation Syndrome (2.1.3). A critique of the scale could be that the the social

or behavioural factors of stress (for instance withdrawal or self-medication) do not seem to be included in the Stress Inventory-6.

In order to measure the coping dimension of stress a discussion of three alternative scales will be mentioned. In the Willert study another measure of coping strategies was used besides PSS: the Brief COPE questionnaire with the dimensions Emotional support, Instrumental support, Active coping, Planning and Positive reframing. Positive reframing as the only dimension did change significantly between groups after three months of intervention (Willert, 2010). This scale measures the strategies of coping more than the feeling of being in control, so it can not be interchanged with the PSS.

A group of Norwegian researchers recently tested the ability to predict work return of two different coping scales (the CODE scale and the generalized self-efficacy scale (GSE) (Odeen et al., 2009). The instruments were tested in one group of rehabilitation patients (n= 135) and one group of disability pensioners (n=85), who participated in return to work interventions in randomized controlled trials. None of the instruments could predict return to work at any point of measurement. Caution to interprete the results of these scale according to their underlying theories were advised.

10.6.2. Experiences with conducting the study

The recruitment of participants required great effort, and the strategy was changed several times. The most effective recruitment strategy was personal presentation of the project to an audience or recommendations from doctors or lay persons who knew the therapist/the trial. This might be explained by a natural need of trust in the therapist and the unknown therapy method.

I tried to recruit participants that did not have a very high symptom load, so that I would be able to work with a homogeneous group with an expected positive outcome of six sessions of GIM. When carrying out the visitation meetings, however, I very quickly developed a therapeutic connection to people, and I might have included a few persons that should not have been included. I recommend for a future study that the visitation and the therapy are done by two different persons, if possible. The therapeutic effect of the first conversation about their stress-related problems also in more than one case was admitted by the participants. They were happy that they finally felt that somebody understood them and seemed to have a plan for how to work and get better.

Collection of questionnaires and saliva samples succeeded when there was a personal encounter with the therapist, but was less complete in the post-therapy and mid-point times where the participants had to send in their results and samples by post. In a future study in the stress population it can be recommended to establish personal encounters for all the data collection times. A meeting after the conclusion of therapy would also give the opportunity to carry out a small evaluation interview that would have been valuable as a formalized data source.

The complexity of collecting all the different kinds of variables worked well, except for a strategy of checking up with the missing post-therapy questionnaires not posted by the participants.

Including music listening at home in the study was considered a way to strengthen the effect of the therapeutic intervention and to help the participants to be able to use music to cope with stress. I find that the participants' use of music was so varying and individual that I

would not be able to say if there was any additional effect of the CDs for home use on the improvement of health for the participants in general. If I had asked the participants to complete a systematic diary of the music listening I would have been able to include it in the statistical analysis or as a measure of compliance. Instead I now take a more interpretative look at the spontaneous comments from the participants.

I often got reports from the participants on the difficulties and anxieties connected to the social administration of their sick leave cases. After the conclusion of the therapies four of the participants asked for written statements of their improvement and assessment of their special limitations and needs when returning to the labour market. The assessments were sent to the social advisors.

10.7. Limitations of the study

10.7.1. Limitations of the quantitative study

An obvious limitation of the quantitative study is the small sample size, which in the power calculation was estimated to 70 subjects but concluded with 20 as described in the report of recruitment (5.2). In the power calculation the effect of therapy was estimated to medium. However, even with the relatively small sample size significant results have been generated and this indicates a remarkable effect of GIM on the chronically stressed.

Limitations regarding the design were the high number of variables that were included to be able to measure a biopsychosocial effects of stress. The statistical analysis would have had more strenght with a reduced number of variables. Another limitation of the design was the uncontrolled follow-up measurements between groups. However, the design opened the way to the incorporation of both a between groups analysis and an early versus late intervention analysis, and gave a large amount of information about the effects of the intervention.

Because of the small sample subgroup analyses according to gender age, seasonal differences, life style (smoking, exercise etc.), medication could not be carried out.

The compliance regarded collection of saliva at home was not optimal, and researcher collection of saliva might have been preferred. The time of the day for saliva collection for the LC-MSMS was not exactly the same, adding to the error variance as all three hormones had diurnal variation.

10.7.2. Limitations of the qualitative study

The qualitative study presents both an overview over the whole material and an in depth analysis of four cases. The special focus in the research question has been investigated by interpretative work done by the researcher. The hermeneutic phenomenological method has been appropriate for this work. A study of the client perspective including for instance interviews would have been valuable and could have served as a source of triangulation. However, the spontaneous comments evaluating the therapies that were cited in the horizontal part of the qualitative results have provided some degree of clients' perspectives on the results, and the use of mixed methods has also served as a triangulation.

10.8. Perspectives of the study

10.8.1. Implications for clinical practice

The study is promising for the use of short-term individual GIM therapy for persons on sick leave with stress.

Several implications for working with GIM and the population on long-term sick leave with stress that extend the usual GIM method can be extracted from the study:

1. Importance of early intervention
2. Inclusion of music pieces with "grounding" and "containing" properties as an extension of the traditional GIM repertoire to regulate the depth and intensity of the work
3. Working with both life stress and work stress
4. Providing possibilitites for both relaxation and activation imagery for the enhancement of flexibility in the autonomous nervous system.

GIM has not been modified in all sessions or cases in the study. Modifications that have been applied are :

1. Prolonged relaxation phase up to 15 minutes before the start of the music journey, sometimes with quiet background music.
2. Extra focus on body sensations, "felt sense" and body imagery to support a (re)connection with the (numbed) body
3. Renegotiations in the music journeys of specific traumatic situations with inspiration from Somatic Experiencing (Levine, 1997 and 2010)
4. Shorter music journeys (3-20 minutes)
5. Use of music with a low degree of dynamics or tuning the volume of the music to avoid sudden peaks (triggering the sensitized nervous system)
6. Interventions focusing on supporting resources, and development of resources (such as work pleasure symbols)

The full range of 1.5-2 hours including all phases of GIM seemed to fit with the population. The need for a longer treatment period might be indicated for persons having been on sick leave more than a year, or having additional psychosocial problems or diagnoses.

GIM represents a huge potential, but also a challenge because it can call forward a very intensive work. The regulation of the

Knowledge of common practice in the administration of sick leave and job return as well as a knowledge of work psychology and management is valuable.

10.8.1.1. Preventive work

The present study was focused on the treatment of chronic stress, but the results could also have implications for the use of music for the prevention of stress. As the results show, GIM might be a fruitful method to cope with stress before it gets so damaging that it leads to a

sick leave. Indivdual sessions or group sessions could also be established as part of the care for the employees that has been implemented in many companies, or it could be part of the programme of competency courses that are offered to persons on sick leave in many communities.

At the 2010 ”Day of the science” in Denmark, I presented my study at the hospital where I have made my data collection. I developed a 6 minutes' version of “music guided stress management” (my definition) with a short relaxation, a focus on a stressful situation or feeling in the body, the instruction to let the music suggest new ways of dealing with the situation or symptom, and a short piece of music. The instructions were recorded on a mp3 player, and the visitors at the stand could sit in an armchair and do the exercise. Several adults and a child tried it, and was happy about their experience. I have further developed the concept on my present workplace with patients suffering from PNES (Psychogene Non-Epileptical Seizures). Short music journeys without the specific focus on stress (“Korta Musikresor”) have earlier been described by the GIM trainer Margaretha Wärje (2010).

The study indicates that music listening and music therapy have a great potential for the prevention of chronic stress in general.

10.8.2. Future research

As this study is the first one addressing music therapy and chronic stress there is a lot to be done in future research. The present study can be regarded as a pilot study, and it would be interesting to support the findings with a study including a larger sample size.

In a larger study with a similar population the following improvements in design and procedures are suggested:

- A mixed methods study is recommended, allowing the researcher(s) to perform an analysis of both qualitative and quantitative data.
- The screening method could be done with the Perceived Stress scale with a defined cutoff or with the Smith Stress Inventory.
- The exclusion criteria could be further defined according to work injury, heart attacks, comorbidity with psychiatric diagnoses etc..
- An extra meeting after the conclusion of therapy for data collection and measurement could be combined with an evaluation and a short interview with each participant.
- Fewer variables in the quantitative part of the study could be considered, as well as a thorough evaluation of which physical measures should be applied. I would recommend the inclusion of Perceived Stress, POMS (including anxiety, depression and fatigue sub-scales), a scale measuring interpersonal relationships and a validated scale measuring physical symptoms. Physiological measurements could include salivary hormones analysed with LC-MSMS as the methods seemed to be more sensitive than RIA, and the data collection can be controlled by the researcher.
- Data about absenteeism from external sources such as the DREAM database could be involved.
- Interviews with participants, individually or in focus groups to study the benefits of the method from the participants' point of view could be performed.

- A qualitative analysis could be used to study the interviews and get more information about the participants' perspective of the treatment.

In the recruitment phase many different recruitment stratgies were applied. It seemed difficult to recruit people from the workers' associations, and a more direct description of the method might be important. A multi-facetted strategy including a larger geographic area (maybe a multi-site study), a combination of a long time frame, visibility on the internet and in the medias, cooperation with doctors, occupational health clinics and instructors from competency courses, an informative leaflet and direct meetings with groups of persons on sick leave are recommended.

In the study a nine months' sick leave limitation excluded several participants with long-term sick leave and stress. Since the results of this study are promising, and since the pilot group who had much longer sick leaves also seemed to be able to benefit, GIM may be able to help even those who are close to a total drop out of the labour market. It would be interesting to find out if this group of people can benefit from GIM. It would also be interesting to find out about the effectivity of group GIM with chronic stress patients, as the benefit of support in a group setting might be important.

GIM can be seen as a therapy very much focused at the emotional aspects of coping. Just as other stress management studies have been including several dimensions of the sick leave situation, it would be interesting to study how GIM therapy as part of an interdisciplinary network-based strategy would be able to support the recovery of the participants, provide a thorough job return and prevent early pension and misdirected case work.

10.8.3. A vision of GIM and work eustress

The study of GIM, work-related stress and the body has opened the way for a lot of new questions. Inspired by the promising results of GIM, the process of embodiment could be taken a step further towards a positive vision:

If we suppose that we do not only want to become free or cured from stress, but we need to find a way of being fully alive, to express ourselves in life in a way that is both meaningful and filled with enthusiasm in a living, flexible and breathing body. Then how would it be if we not only demanded to be able to balance stress and find homeostasis, but also demanded to possess that feeling of joy, sensuousness and aliveness in the whole body that we can see in small children? Homeodynamics instead of homeostasis express that we are dynamic living beings who mature, grow, live and die (Rose, 1998, p. 17; Rider, 1999). How would it be if we not just operated with the management of work stress, but also went for work satisfaction – for meaningfulness in work, for cooperation, visions, engagement, for the feeling of really doing a difference and for a feeling of realization, not on behalf of others but in attunement with shared goals?

I believe that the present study has provided an evidence for GIM as a treatment for chronic stress but also for the abilities of going further than just looking at the bodyself as sick or well. As Helen Bonny suggested GIM goes to the core and gets it to the surface. GIM seems to be able to help people to trust their intuitive knowledge, find the inspiration and power to create a working life (and a life) where they feel they are making a difference. The feeling of not just being struggling to earn one's living but to work together with others in teams with mutual sharing and support, to be a manager who has positive visisons and listens to the employees and supports their development instead of just creating new structures,

workplaces where it is possible to shine and use one's qualities without being mobbed, and working lives where one can enjoy being part of a greater development towards the best of the global community and the ecological balance.

In fact, when working with GIM all these aspects of work stress seem to be made topical, and it seems important to understand how the power of the music can touch the core beliefs and dreams of a person and his/her experience of being part of the world and even the universe. In a split of a second an imagery is created that can stay for years or for the lifetime as a guiding metaphor.

10.9. Conclusion

The study in Guided Imagery and Music in work-related stress has been a long and exciting journey. Some of the aspects that made it so special will be outlined in the conclusion.

First of all the use of GIM with the chronically stressed has been quite successful. Even though the participants had very different issues and ways of working in the sessions, the overall impression has been that they all benefitted very much from music therapy. The positive outcome compared to other studies with larger samples and whole teams of therapists or a range of interventions might be explained by the way GIM has the ability to embrace the whole person and work with all aspects at the same time.

All participants seem to benefit from the way GIM provided a musical holding space where they could reconnect to their body and emotions and experience subtle self-regulatory processes as well as work through their often worrying symptoms of biological stress and disturbed mood states. Secondly the whole group also benefitted from the positive experiences of surrendering to the music and to beautiful inner scenarios in imagination, helping them to relax and let go, which can be very difficult to do without support when in a chronic stress state. And third, almost all of the participants used the therapy to work with traumatic experiences related to the social part of working life. As they renegotiated the diffcicult relationships they felt they got a new sense of control, which also increased their self-esteem and opened to a new hope for the future. Coping in the music journeys seemed to transfer to real life for a great deal of the participants.

I believe that the benefit and the large effect sizes in this study had to do with the special combination of GIM, body focus, specific knowledge about stress and the inclusion of ideas from trauma therapy. This combination served to work in a precise and effective way in the short range of six sessions. A replication of the study might involve extra training of the therapists.

The other very special aspect of this study is the combination of the quantitative and the qualitative parts. Doing a mixed methods study has almost been like doing two PhDs, and the transition from one part of the study to the other sometimes has been like a journey to another country or way of being. When I produced the mixed results chapter a new sense of lightness occurred. It was funny, poetical, creative and energizing. I belive that the process engaged both hemispheres of the brain equally. I got a feeling of being complete and totally nourished. The richness of the full study came into flowering in a way neither of the two strands could have done alone. Even though it has been an exhausting piece of work, I think that this final “researcher's high” has proven the value of mixed methods studies to me, and hopefully it will equally inspire readers of the dissertation.

A pioneer study in GIM for stress-related chronic stress has proven to show large effects sizes and significant effects in mood-related measures despite a very small sample. Return to work rate has been similar to or better than other studies of stress management. Six sessions of GIM is a low-cost treatment compared to months of sick leave benefit, and it is my hope that many patients suffering from chronic stress will be able to benefit from GIM in the future. Further research is suggested to support the findings of the study.

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11. SUMMARY (ENGLISH)

11.1. Introduction

The aims of this study were to investigate the effect of a modification of Guided Imagery and Music (GIM) on chronic work-related stress in adults on long-term sick leave, to examine if GIM would be able to support the job return and to study the therapeutic processes of embodiment and coping in the music journeys. A mixed methods design combining quantitative and qualitative methods was applied for the research.

Stress-related sick leave is an increasing problem in modern work life. An estimate of 29% of the total sick leaves from work has been related to psychosocial working conditions (Nielsen et al., 2006). In a report from the Economic Council of the Labour Movement (2007) it was stated that if the sick leave has a duration of more than a year only one out of five returns to work on the usual terms, and the rest pass on to social benefits, early retirement or different sorts of reduced work activities.

Previous controlled trials investigating the rehabilitation of the chronically stressed on sick leave have shown a non-significant effect on job return, however, descriptive statistics indicated high percentages of job returns in intervention groups (Netterstrøm et al., 2005; Perski & Grossi, 2004). An American meta-analysis of 48 randomized studies in stress interventions with people still in work showed that cognitive-behavioural therapy interventions were the most effective, but that relaxation programmes did have a relatively high efficacy compared to organisation interventions (van der Klink et al., 2001).

The literature review revealed studies concerning the effectiveness of music therapy for stress management. In a meta-analysis of 41 randomized controlled studies of music and stress management in non-medical populations significant changes were observed in self-reported measures such as anxiety, relaxation, tension and mood, Immunoglobulin A and heart rate/pulse, but not for the concentrations of the stress hormone cortisol in blood/saliva (Dileo & Bradt, 2007). Self-reported measures generally resulted in larger effect sizes than physiological measures.

Several active music therapy studies on workplaces have been performed, using recreational drumming, improvisation or discussion of songs. All studies showed significant decrease in burnout compared to controls (Bittman et al, 2003 and 2004; Cheek et al., 2003).

The receptive music therapy method GIM has in 14 previous quantitative studies in both clinical and non-clinical populations showed significantly reduced distress, disturbed mood, anxiety and depression, blood pressure in hypertensions, and increased quality of life, interpersonal relationships and sense of coherence (McKinney, 2002). In one study serum cortisol was significantly changed as a result of six biweekly GIM sessions (McKinney et al., 1997).

The conceptual framework of the present study was the biopsychosocial model of health (Engel, 1977; Zachariae, 1997), providing a theory of self-regulatory health processes that can embrace the complex symptomalogy of chronic stress. Chronic stress is not defined in the diagnostic manuals, but according to literature prolonged stress states are associated with the risk of various disases such as cardiovascular diseases, depression and cancer. The definition

of chronic stress used in the study is based on Selye's adaptation theory (Selye, 1974) combined with the assumption that fight and flight reactions are uncompleted, ”Chronic stress can be defined as a process where we are exposed to changes, threats and demands from the surroundings that exceed our abilities for adaptation, and where we have not been able to get away or fight the concerned threat” (Zachariae, 2003, p.15, my translation). The appraisal of internal and external threats to the homeostasis and self-regulation processes was also taken into account (Lazarus & Folkman, 1984).

The present study is the first one to investigate GIM and work-related stress, and in order to explore the therapeutic processes in stress treament with GIM a hermeneutic phenomenological inquiry into the participants' experiences of the music journeys were applied, using the transcripts (therapist's notes) as data material.The analysis focused on the way body imagery and coping processes were developing. The study of embodiment and coping was inspired by body phenomenology (van Manen, 1997), somatic psychology, body-oriented trauma theory (Levine, 2010) and physiology of the autonomous nervous system and sensory pathways as well as coping theories related to GIM (Goldberg, 2002).

11.2. Research questions

The above mentioned perspectives were included in the overall mixed methods research question:

1. How can GIM help the recovery of chronically stressed on long-term sick leave?

In order to operationalize this question the investigation adresses the following subquestions beginning with three questions related to the quantitative part of the study:

2. How do six modified GIM-sessions and standard care affect psychological and biological stress symptoms compared to standard care alone?

3.How does early intervention (GIM) affect psychological and biological stress symptoms compared to late intervention?

4. How does early GIM compared to late GIM affect job return?

The first research question generated the hypothesis that adults on sick leave with chronic stress receiving six modified sessions of GIM when compared to standard care would report: decreased perceived stress, mood disturbance, physical stress symptoms, depression and anxiety and increased well-being, sleep quality and work readiness. Furthermore the stress-related hormones cortisol and melatonin would decrease, and testosterone would increase. The diurnal curves of cortisol would change so that reactivity would decrease and recovery would increase. It was also hypothesized that blood pressure and pulse would decrease.

All the same hypotheses were generated related to the group of chronically stressed receiving early intervention (GIM) compared to those receiving late intervention, stated in the second question.

A hypothesis regarding the whole group of adults on sick leave receiving GIM was that the mean immediate stress state would decrease after each single GIM session compared to before the session, and that the mean states of immediate stress would be lower in the last GIM session compared to the first session.

The third research question generated the hypotheses that adults on sick leave with work-related chronic stress receiving early intervention would experience a decrease in sick leave.

The question related to the qualitative part of the study was developed after the performance of a pilot study with three women suffering from work stress:

5. How are experiences of the bodyself in relation to music during GIM sessions related to processes of change with respect to the experiences of coping with stress and work, and how are these processes reflected in the participants' reports of their lived lives?

The bodyself was defined as the unification of body, mind and spirit.

11.3. Methodology

The applied mixed methods design was defined as a Convergent Parallel Design (QUAN + QUAL) characterized by simultanous data collection and analysis of both kinds of data in separate sections followed by a merging of the two sets of data in an overall interpretation (Creswell & Clark, 2011). The quantitative part of the design was fixed, and the qualitative part had a flexible design.

11.3.1. Quantitative study

In order to test the hypothesises of the quantitative part of the study a randomized controlled trial was designed including two conditions: six modified GIM sessions and standard care in a period of nine weeks versus standard care alone. After nine weeks the group receiving standard care also received six GIM sessions. The two groups could now be compared according to early intervention versus late intervention.

Standard care was defined as all kinds of treatment established by workplace, communality or self- initiative, for instance visits at the general practitioner, psychotherapy, communal stress courses, medication for depression or insomnia, coaching etc.

The Guided Imagery and Music was carried out in accordance with the principles described in Bonny (2002) and Brusica and Grocke (2002). GIM can be described as a receptive music therapy method using a combination of verbal discussion with the purpose of defining a focus for the music journey, guided relaxation, 30-45 minutes of music listening in an altered state of consciousness accompanied by spontaneous imagery production that are reported to the therapist, a drawing of the experience and a final verbal discussion of the experience. The music used for the journeys was carefully selected classical music. The intervention was modified to fit the chronically stressed population by providing the opportunity of a prolonged relaxation phase, shorter music journeys, inclusion of calm and supportive music pieces from more genres (meditation music, film music) and the inclusion of ”guided renegotiations” of difficult work situations inspired by Levine (1997, 2010). Two CDs including 23 pieces of music were given to the participants at the onset of treatment for home listening. The same music pieces were frequently used in the sessions.

The inclusion criteria were defined to allocate a homogenous sample with stress as the primary diagnosis. Adults with a maximum of nine months of stress-related continuous part-time or full-time sick leave from all kinds of professions (included musicians/music teachers) were accepted in the study. Stress-related physical illnesses such as fibromyalgia, chronic fatigue syndrome, whiplash, complex psychosomatic conditions and mental illnesses such as

schizophrenia, mania, bipolarity, psychosis, major depression, PTSD, Complex PTSD or personality disorder of borderline type were not accepted in the study. Depression and/or anxiety (non-clinical, milder degree), hypertension, burnout, milder heart problems/attacks were accepted in the study. Breast feeding was not accepted (because it would significantly affect the production of hormones).

A battery of questionnaires was handed out to the participants at baseline and were also filled out at mid-points and after all GIM and TAU phases of the study. Six months after the conclusion of therapy an extra follow-up on work situation was administered by e-mail. The questionnaires used in the study were: Perceived Stress Scale-10 (Cohen, Kamarck & Mermelstein,1983), POMS-37 (McNair et al.,1971; Shacham,1981), Karolinska Sleep Questionnaire (Åkerstedt et al., 2002) revised by the National Research Center for the Working Environment in Copenhagen and Physical Symptoms (from Løkken Stress Center, Denmark, 2007). An additional question of readiness for work was posed with a Likert's scale with 5 items ranging from ”not at all” to ”very much ready”. WHO Major Depression Inventory (Jensen et al., 2003), Generalized Anxiety Disorder-7 (Spitzer et al., 2006) , WHO Well-being Index (Bech et al, 2003) and the Primary Care PTSD Screen from the National Centre for PTSD (Prins et al., 1999) were used for screening and later included in post-tests (except for the PTSD screen).

The physiological measures of stress were collected at baseline, pre-therapy, post-therapy and follow-up. Three saliva samples for the analysis of diurnal variation of cortisol were collected by the participants at home at wake-up, after 30 minutes and in the evening (8 p.m.). The samples were analysed by a Radio Immuno Assay at the National Research Center of the Working Environment (NFA) in Copenhagen. Samples of 1 ml saliva for the analysis of testosterone, melatonin and also cortisol were collected in plastic tubes at pre, post and follow-up in the therapy room and immediately stored in a research refrigerator by the researcher. The samples were analysed after two years on a newly validated Liquid Chromatography tandem Mass Spectrometer at the NFA. Blood pressure and pulse were measured in the therapy office after 20 minutes of sitting rest.

A Visual Analogue Scale of Immediate Stress State with eight items was developed by me for the assessment of stress before and after the single sessions.

Work and sick leave data were collected by self-report from the participants, and additional treatment of the data was monitored in a form developed by the researcher.

11.3.2. Statistical procedures

Statistical analysis was based on the Intention To Treat principle. All the participants fulfilled all aspects of participation and no violence of the protocol was observed.

Following a control of the normal distribution of data, linear mixed effect models were applied for being able to analyse the repeated measures and tolerate missing data. The investigation of treatment effect was performed by generalized estimating equations (GEE) (Liang and Zeger,1986), and additional analyses of effect sizes (Cohen's d) werecarried out. For the analysis of hormones between groups a basic linear model was used, and regarding the dichotomous variables of job return odds ratios were calculated instead of effect sizes.

Internal validity of the two non-validated scales (Physical Symptoms and Immediate Stress State) was calculated (Cronbach's alpha).

11.3.3. Sample

The sample were 20 participants (n=20) aged 32-57 with a mean age of 44.5 from different professions with a majority of public health, teaching and service professions. A majority of the sample were women (16). Thirty-six persons were assessed as positively eligible for inclusion but 15 did not meet inclusion criteria of lenght of sick leave (longer than nine months), and one did not have time for treatment. One participant dropped out after one session with the reason that she preferred joining a phobia course.

The two groups were similar regarding age, education, part-time/full-time sick leave at inclusion, weeks of sick leave before inclusion, gender, type of profession, civil status. None of the participants were actively engaged in music or had music professions. Only the participants in the intervention group had previously been using music or relaxation CDs as a tool for stress reduction. The distribution of additional treatment was equal between groups in the whole period of participation.

11.3.4. Qualitative study

A hermeneutic phenomenological analysis inspired by van Manen (7.2.1.) and Gadamer (7.2.) was applied. In order to get an overview of the whole material a horizontal analysis of all the session transcripts were carried out (105 journeys from 19 participants, nine sessions were verbal sessions). Short sentences describing the central content of the sessions were formulated and a short narrative of each therapy course was formulated.

After that the identification of main themes were carried out guided by a hermeneutic process of going back and forth between the raw session transcripts, the session sentences and the themes.

An additional analysis of the categories of music used in the whole study was carried out looking at levels of change in dynamic and intensity.

After that a vertical analysis was carried as a multiple case study in four cases chosen by a principle of diversity of gender, age, profession, working style, issues and main themes from the horizontal analysis. Each of the case studies included a contextualization, an analysis of body imagery, coping processes and life changes outside therapy, an analysis of special use of music and a comparison between the therapy course and the individual quantitative data. The multiple case study was completed by a short case comparison.

Spontaneous comments from the participants during the therapies, from the final session evaluations or written comments on questionnaires were quoted and analysed. The comments were separated in a section about the therapy and a section about the home use of music.

11.4. Results

11.4.1. Results of the quantitative analysis

Significant changes between GIM and TAU after nine weeks were found in the psychological variables Mood, Sleep Quality, Anxiety, Well-being and Physical Symptoms with effect sizes in the high range (0.73-1.37). The analysis of stress-related hormones in saliva indicated a significant decrease of Cortisol (analysed with LC-MSMS) ($p=0.049$) with an almost medium effect size (0.43), and a decrease of Melatonin and an increase of Testosterone (small effect sizes). The analysis of diurnal cortisol (Reactivity and Recovery)

showed no significant effects, and the directions of improvement were contrasting between groups and phases in the study.

Pulse and Cortisol Awakening Response had large effect sizes between groups. Very small effect sizes were seen for blood pressure, but an ad hoc analysis of a subgroup of hypertensions (n=6) showed a significant decrease of blood pressure.

The analysis of the effect of early intervention versus late intervention showed significant effects in Perceived Stress, Mood, Depression and Anxiety with large effect sizes (0.80-1.11). Job return did not significantly improve in the early intervention group compared to late intervention, but the odds ratio of being on any kind of sick leave at 6 months' follow-up was 4.08. In the whole group of subjects 83% of the participants were no longer at sick leave six months after the end of therapy.

The results regarding Immediate Stress State showed that both sessions and the whole therapy course predicted highly significantly lower Stress States. The scale showed an internal validity of 0.90.

11.4.2. Results of the qualitative analysis

The identification of 14 main themes in the transcripts revealed that the therapies related equally to work stress and life stress. The participants got access to resources by engaging in experiences of their body, experiences of colours and energy, nature sceneries, contact with supportive ancestors, healing the inner child and creativity. They worked with inner and outer conflicts in the journeys and found new coping strategies, new ways of being, increased contact with their bodies, reduced pain experience, enhanced creativity and hope through the music journeys. The renegotiation of traumatic situations or relations appeared to deal almost exclusively with problematic relations to managers, colleagues and family members. This led to a new understanding of job stress related to the third part of the work stress model Demand-Control-Support (Karasek, 1979); that chronic work stress might be primarily related to incidents happening within job relationships (bullying, bad management, humiliation, power struggles) at work.

In the case studies bodily experiences and emotions were found to be closely connected to the processes of coping. Body imagery was primarily connected to the interoceptive sensory channel (gut feeling), and proprioceptive imagery was connected to movement imagery. In one case the music stimulated pain relief processes and self regulatory processes in the body, resulting in permanent recovery from pain and awareness of psychological patterns connected to the pain. Traumatic work episodes were identified as a part of the chronic stress and were renegotiated in music therapy leading to new social competencies as for instance adequate expressions of personal borders and anger. The music was experienced as a supportive space for self-regulative body processes, emotional expression, reconnection to self-esteem and competency, processes of existential life issues, contact with spiritual resources and creativity. Future imagination of work was used for the creation of a direction related to the return to work.

A result generated from the convergence of qualitative and quantitative results were the following statements: GIM decreased bodily stress symptoms, increased energy and well-being, enhanced coping with inner and outer conflicts, helped to overcome traumatic work experiences, provided new relational competencies, improved mood and gave access to hope for the future work life.

11.5. Discussion

The significant improvement in psychological mood-related measures between GIM and controls were congruent with other clinical studies of work stress interventions where single significant changes in for instance depression or anxiety could be found. However, the effect sizes were larger indicating that GIM has a potential to change mood and provide emotional coping more effectively compared to other interventions. Several previous GIM trials with other populations have shown similar significant improvements in mood using the POMS questionnaire.

The primary variable Perceived Stress decreased significantly in the early intervention group compared to late intervention, and the mean PSS score in the intervention group decreased to a level under the cutoff for risk of long-term sick leaves identified by Larsen and Kellenberger (2008). In other studies of work-related stress using PSS the results were non-significant except for a recent Danish study of cognitive group therapy. In this study PSS scores did not decrease under the Larsen and Kellenberger cutoff (Willert, 2010). In the present study the change of coping ability in the early intervention group sheds light on the importance of early intervention in stress-related sick leaves.

A significant change of cortisol (LC) between GIM and TAU was identified, and a tendency towards significance was also found in Cortisol Awakening Response ($p<0.1$).

All significant results were at the 5% significance level, but they have to be interpreted with caution because of the problem of multiple testing.

The findings related to job return were congruent with other studies in stress intervention with persons on long-term sick leave, where no significant changes in absenteeism were found. However, the percentage of job return (16 out of 19 were no longer at sick leave at follow-up) found in the present study seemed to be stronger than the other studies, indicating a motivating effect of GIM.

Generalizability of the study might take into consideration the prevalence of women in the sample and the abscence of unskilled workers. The comparison with studies from other countries might also be compromised by differences in labour market conditions and politics.

Internal validity was appraised as acceptable even though it was the same person that carried out both therapy and research. Triangulation between quantitative and qualitative results provided a support to the findings of both strands.

Further research with a larger sample and a smaller number of variables are suggested.

The qualitative analysis provided a deeper understanding of the connection between music, imagery and the processes of rehabilitation and coping connected to work-related stress. The analysis of body imagery supported the hypothesis that embodiment was an important part of the recovery from stress. The therapeutic narratives have told stories of conquest of personal space, the right to choose one's own direction, the need for care and acknowledgement and the integration of head-body split. The analysis of body imagery and the sensory modalities revealed that interoceptive imagery was connected to strong emotions in the stomach and proprioceptive imagery was connected to experiences of movement. Imagery connected to the exceroceptive sense happened to be important for experiences of the skin as the limit of the body. An example was the imagery of a thick crocodile skin with scales that helped the participant to feel protected and grounded when experiencing negative comments from her colleagues.

Pain relief processes were discussed to benefit from the ability to focus on the place of the pain and get information about the origin of the pain or find out what was needed to do. This was found to be contrasting to the use of music as a mean of analgesia and distraction from pain.

Childhood trauma and the dysregulation of the stress response was discussed in relation to the frequent work with the inner child in the study. Possibilities to create new pathways and relational experiences in the intense GIM triad providing an improved stress response was discussed.

The relation between social trauma and chronic stress was obvious in the study, and lack of support and acknowledgement was discussed as a predictor of withdrawal and shame. It was discussed whether music-asssisted renegotiation helped to neutralize the human component of the trauma and helped to process related to bodily senses and emotions without retraumatizing. On the other hand some participants used the music as a human companion to get the needed support.

Coping in the form of defensive maneouvres was identified in many cases, and the new strategies were transferred to real life.GIM provided emotional coping and often the empowerment experienced in GIM led to problem-oriented coping at the working places (Lazarus, 1999).

11.6. Conclusion

The study indicated that GIM had the potential to significantly improve mood, anxiety, sleep quality and cortisol compared to standard care, and early intervention compared to late GIM showed better coping ability and a faster job return in persons on long-term sick leave with work-related stress. GIM was found to be effective because of the multidimensional style of working and the special combination of GIM and body-oriented trauma therapy. The mixed methods design was found to be challenging, creative and rich and the convergence of the two strands of the study provided a broad understanding of the studied phenomena.

12. RESUME (DANSK)

Stress-relaterede sygemeldinger er et væsentligt problem, og langtidssygemeldte risikerer udstødelse fra arbejdsmarkedet. Dette studie har undersøgt muligheden for at reducere stress symptomer og hjælpe med tilbagevenden til arbejdsmarkedet for langtidssygemeldte voksne med arbejdsrelateret stress ved hjælp af musikterapimetoden Guided Imagery and Music. Begrebet stress er blevet undersøgt inden for rammen af en biopsykosocial model for sundhed og forskning.

12.1.1. Metode

I et mixed methods design er en randomiseret eksperimentiel effektundersøgelse blevet kombineret med en hermeneutisk fænomenologisk analyse af temaer og terapiforløb. Behandlingen bestod af seks modificerede GIM sessioner og standardbehandling, mens ventelistekontrolgruppe kun fik standardbehandling (lægebesøg, private tilbud mv.). Modifikationen af GIM bestod i at give mulighed for kortere musiklytningperioder, bruge mindre udfordrende musik og arbejde med inspiration fra traumebehandlingsmetoden Somatic Experiencing (Levine, 1997). Effekten af GIM blev målt med spørgeskemaer, blodtryks-målinger og analyse af kortisol, melatonin og testosteron i spyt. Analysen af effekten af GIM i forhold til standard behandling blev suppleret af en analyse af tidlig versus sen intervention, idet deltagerne i kontrolgruppen fik behandling efter ventetiden. Den statistiske analyse blev udført ved hjælp af den statistiske pakke R med en lineær model kaldet Generalized Equation Estimation. Effektstørrelser blev beregnet udfra gruppeestimater (Cohen's d).

12.1.2. Resultater

Tyve personer fra forskellige professioner med en gennemsnitlig alder på 44,5 år og et overtal af kvinder (16 ud af 20) blev randomiseret i to grupper. En person droppede ud (5%). I den kvantitative undersøgelse blev der fundet en signifikant effekt af GIM sammenlignet med standard behandling efter ni uger på følgende psykologiske variable: stemningsleje, generaliseret angst, velvære, selvrapporteret søvnkvalitet og oplevelse af fysiske stresssymptomer, med effektstørrelsen på mellem 0.73 og 1.37. Analysen af stress-relaterede hormoner i spyt antydede en signifikant formindskning af kortisolkoncentrationer mellem grupperne, samt ikke-signifikante mindre formindskelser af melatonin og forøgelser af testosteron. Kontrolgruppen fik GIM behandling efter ventetiden, og en analyse af tidlig versus sen behandling kunne også udføres. En signifikant effekt af tidlig behandling viste sig i coping (Perceived stress), depression, angst og stemningsleje med store effektstørrelser på mellem 0.80 og 1.11. Tilbagevenden til arbejde forbedredes ikke signifikant som følge af tidlig intervention, men oddsene for at være sygemeldt seks måneder efter terapiophør var 4.08. I hele gruppen var 83% af deltagerne ikke længere sygemeldt seks måneer efter terapiophør. Resulterne indikerer, at tidlig intervention har en betydning for hvor meget man kommer sig efter arbejdsrelateret stress.

Den hermeneutiske fænomenologiske analyse af terapinoter (transcripts), spillelister og deltagertegninger (mandalaer) fokuserede på temaerne kropslighed (embodiment) og mestring. I alle terapierne blev der fundet 14 tværgående hovedtemaer, som beskrev, hvordan GIM på en blid måde hjalp med at sanse kroppen og give slip på smerte og anspændthed, hvordan nye mestringsstrategier og handlemåder fremkom, og hvordan GIM gav en musisk ramme for genforhandlingen af traumatiske episoder på arbejde. Temaerne beskrev også,

hvordan nye sociale kompetencer blev udviklet, og hvordan håb for fremtidens arbejdsglæde og meningsfuldhed blev skabt. Arbejdsstress var blandet sammen med stresstemaer fra privatlivet. I et multipelt case studie i fire cases blev forskellige aspekter af embodiment og mestring identificeret. Sansemodaliteterne interoceptiv (indre fornemmelse af maven) og proprioceptiv (indre oplevelse af bevægelse) var mest udtalt. Alle fire deltagere havde udbytte af den måde musik gav "holding", af at få kontakt med indre resourcer, af muligheden for at finde nye måder at mestre vanskelige følelser og billeddannelse (også kaldet "defensive manøvrer") og af genforhandling af stressende oplevelser, hvor erindringen om en situation blev omdigtet så en ny følelse af kontrol kunne genfindes. Mestringsoplevelserne forplantede sig til deltagernes ydre tilværelse. Musikken blev oplevet som et støttende rum for selvregulative kropslige processer, følelsesmæssige udtryk, genforbindelse til selvværd og kompetancer, eksistentielle livsområder og kontakt med kreativitet.

En analyse af musikken identificerede to nye musikkategorier udover de almene GIM-kategorier "supportive" og "evocative": "grounding music" og "containing music". Syv ud af 19 deltagere lyttede til disse kategorier i mere end halvdelen af rejserne.

Et resultat genereret fra sammenstillingen af de kvalitative og kvantitative resultater var at GIM: begrænsede kropslige stress symptomer, øgede energi og velvære, skabte øget mestring af indre og ydre konflikter, hjalp med at komme over traumatiske arbejdsoplevelser, gav nye relationelle kompetencer, øgede stemningslejet og åbnede for håb for det fremtidige arbejdsliv.

12.1.3. Konklusion

Resultaterne af dette studie set i relation til tidligere studier i stress interventioner med langtidssygemeldte tyder på at Guided Music and Imagery er en værdifuld og effektiv korttidsbehandling som kan udgøre et alternativ til eksisterende behandlingspraksisser ved arbejdsrelateret stress. Flere studier med større deltagerantal kan anbefales.

List of abbreviations

ACTH Adrenocorticotropin

ANCOVA Analysis of covariance

ANOVA Analysis of variance

ANS Autonome Nervous System

ATPM Autogenic training phrases plus music

BMGIM Bonny Method of Guided Imagery and Music

BPM Beats Per Minute

CAIRSS Caul Australian Institutional Repository Support Service

CAR Cortisol Awakening Response

CATS Cognitive Activation Theory of Stress

CBT Cognitive Behavioural therapy

CI Confidence Interval

CRH Cortico Releasing Hormone

DASS Depression, Anxiety and Stress scale

DREAM Danish Rational Economic Agents Model

DSM Diagnostic and Statistical Manual of Mental Disorders

EMG Electromyography

EORTC European Organisation for Research and Treatment of Cancer

ES Effect Size

GAD Generalized Anxiety Disorder

GAF Global Assessment of Functioning

GAS General Adaptation Syndrome

GEE Generalized Equation Estimation

GI Guided Imagery

GIM Guided Imagery and Music

GSE Generalized self-efficacy scale

HADS The Hospital Anxiety and Depression Scale

HPA Hypothalamo-Pituitary-Adrenocortical

IgA Immunoglobulin A

ICD The International Classification of Diseases

LC Liquid Chromatography

LC-MSMS Liquid Chromatography with double Mass Spectrometer

MADRS Montgomery-Åberg Depression Rating Scale

MARS Midler mod arbejdsrelateret Stress

MBI Maslach Burnout Inventory

MBSQ Melamed-Shirom Burnout Questionnaire

MDI Major Depression Inventory

MI Music and Imagery

NFA National Research Center for the Working Environment

OT Other Treatment

PhD Doctor of Philosophy

POMS Profile of Moods States

POMS-SF Profile of Moods States Short Form

PTSD Posttraumatic Stress Disorder

PSS Percieved Stress Scale

QUAL Qualitative

QUAN Quantitative

QLQ Qality of Life Questionnaire

RCT Randomized Controlled Trial

REM Rapid Eye Movement

RIA Radio Immuno Assay

RILM Répertoire International de Littérature Musicale

RMM Recreational Music Making

RR Relative Risks

SAM Sympathetic Adrenal Medullary

SD Standard Deviation

SE Standard Error

SFO Danish for ”Skolefritidsordning” (afternoon institution for school children)

SMBQ Shilom-Melamed Burnout Questionnaire

SOC Sence of Coherence

SSRI Selective Serotonine Reuptake Inhibitor

STAI State and Trait Anxiety Inventory

TAU Treatment As Usual

TMD Total Mood Disturbance

VAS Visual Analogue Scale

WHO World Health Organisation

WHOQOL World Health Organization Quality of Life

13. REFERENCES

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