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## **Music Therapy Assessment and Development of Parental Competences in Families Where Children Have Experienced Emotional Neglect**

*An Investigation of the Reliability and Validity of the Tool, Assessment of Parenting Competencies (APC)*

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# **Music Therapy Assessment and Development of Parental Competences in Families Where Children Have Experienced Emotional Neglect**

**An Investigation of the Reliability and Validity of the Tool,  
Assessment of Parenting Competencies (APC)**

Stine Lindahl Jacobsen

**Thesis submitted for the degree of Doctor of Philosophy**

**Supervisors:  
Professor Tony Wigram,  
Professor Cathy McKinney and Associate Professor Ulla Holck**

**Doctoral Programme in Music Therapy  
Department of Communication and Psychology  
The Faculty of Humanities  
Aalborg University  
Denmark  
2012**

## **Declaration**

I confirm that this thesis and the research it presents has not previously, in part or in its entirety, been submitted for examination at an academic institution of higher education in Denmark or abroad.

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Date

Stine Lindahl Jacobsen

## Abstract

In trying to aid difficulties within social services of assessing families at risk, the thesis sat out to strengthen, further develop, and test a music therapy assessment tool, Assessment of Parenting Competencies (APC). The study also aimed to examine the effect of music therapy on parenting competencies and parent-child interaction measured by scores from APC and by the Parenting Stress Index and Parent-Child Relationship-Inventory.

The study had a multiple strategy sequential design. The fixed design was a between and within groups design to test the APCs reliability and validity in a clinical group of 18 parents with neglected children and a nonclinical group of 34 parents with non-neglected children. The study also included an experimental design with a randomized controlled trial only applied to the clinical group. In the experimental design there were two conditions: a music therapy treatment condition ( $n = 9$ ) and a control condition ( $n = 9$ ) consisting of treatment as usual. The data consisted of APC data analysed by means of video recordings and participant responses to standardized questionnaires on parenting competencies. A small embedded flexible design was conducted on the basis of poor preliminary results of concurrent validity for the analysis of one aspect, turn-taking, in the APC. It had a multiple case study strategy specifically with interplay of turns between parent and child, as the case under study involved comparing clinical and nonclinical groups and looking for differences in patterns of interaction. Data for this portion of the study consisted of interaction microanalysis including a graphic notation of the interplay of turns, which enabled both descriptions and analyses of differences between clinical and nonclinical families' communication in music therapy.

The study developed five APC scores, an Autonomy Score, Turn Analysis Score, Negative Response Type, Positive Response Type, and a total score, Parent-Child Interaction in Music. Results from the flexible design helped develop an additional analysis of turn-giving that yielded concurrent validity in distinguishing between the clinical and nonclinical groups. Interrater reliability for APC scores ranged from .73 to .89; Test-retest reliability ranged from .70 to .89. Internal consistency had an alpha level of .93 where correlations between APC scores ranged from .57 to .91. Results showed that APC had a high level of reliability and was administered and scored in a consistent and stable manner. Furthermore, results of validity testing suggested that the APC measured what it attempted to measure, as it could distinguish between clinical and nonclinical groups, and it mildly correlated with similar variables from the standardized questionnaires on parenting competencies.

Results of the outcome study indicated that families in the music therapy treatment condition significantly improved their equality of autonomy relationship, effective communication, parental response type, and a total score of the Parent-Child Interaction in Music as measured by APC. Music therapy did have significant effect on the how stressful parents perceived their children and particular how stressful the children's mood was to the parents as measured by the PSI. Furthermore results showed that parents in the music therapy treatment condition reported significantly improved communication skills as measured by PCRI.

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There are so many people who helped me in this PhD study. First and foremost, I would like to thank my supervisor, Tony Wigram, who has been with me from the very beginning. I felt we shared the same passion for assessment and for achieving high standards of reliability and validity. Wigram taught me so many fine aspects of the issue building on his own impressive clinical experience. These were aspects that I still deeply value, including how best to use music in assessment and how best to take care of the client. I continue to admire Wigram for everything he was, and I am forever grateful for his support, guidance, and trust in me. When Wigram was no longer able to be my supervisor, I was, of course, very sad. Fortunately, it was after the data collection had ended, and I felt fairly confident about finishing the study. Looking back, it seems as if I turned my deep sorrow into a strong wish to do well and finish what we started together. I was lucky to gain two strong women as supervisors instead, and I feel that my study has benefitted immensely from having multiple perspectives and multiple areas of expertise to help me on my journey. I know Tony would agree with me.

Niels Hannibal was in a brief transitional phase my supervisor, and I thank him for his expertise on conducting case studies and his warm support in a difficult time.

Cathy McKinney was assigned as my main supervisor in perfect timing, as I had to start analysing all data using complicated statistics. Prior to this study I did not have much experience in the subject and would not have been able to do the statistics myself without the warm, caring support and excellent teaching from McKinney. Her patience in me developing quantitative skills is remarkable and admirable. I never felt, that I asked stupid questions, even though retrospectively I know I did. McKinney also helped me immensely in writing in my second language and in APA style. She was highly valued in every aspect of doing the study. I also feel very fortunate to have had Ulla Holck as my supervisor, partly because she is one of the few experts on turn-giving and turn-taking within music therapy. Holck also has an eminent skill of structuring literature and maintaining a clear overview, even with immense amount of pages and threads to be woven together. It seems she and I have the same need for clear structure, and I have really learned a lot from her kind and respectful guidance. She made me reflect a great deal about relevant clinical and theoretical issues, and was a highly valued support to me.

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# Dedication

To Tony.

Thank you for all your support, guidance, and trust in me.

I am forever grateful.

“Break out of prison. Find your own music, create, explore, enjoy! “

Tony Wigram (2004)

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# Chapter One

## 1. Introduction

The introduction contextualizes the focus of the research study presenting both a problem formulation and a description of the personal motivation for the main purpose of the study. Furthermore, the researcher's set of belief systems and the rationale for the overall methodological stance of the study will be presented. To narrow the focus of the study a few definitions of concepts and their specific uses in the current thesis are stated. Lastly, an overview of the thesis will be presented to help guide the reader.

The introduction will be the starting point for the long journey through the thesis. To help the reader find his way and not get lost, there will be an introduction before every chapter or subsection. This is the first part of a bridge that was built brick by brick over a river of challenges, despair, and relief for the last 4 years. The foundation for the bridge is very important if you want a robust and stable road to walk on – if you want the bridge to hold all the way across the deep and unpredictable river. You would want to know who built this bridge. What kind of a craftsman is she, why is she building this bridge, what is underneath it, and what kind of a bridge is it?



## **1.1 Context for the Research Study**

In Denmark social services are notified when it is suspected that parents neglect their children. The task for social services is then to evaluate parental capacity in order to help the family in the best possible way. The task includes aspects such as

- examining the quality of parent-child interaction
- examining the parents' resources and potentials and trying to strengthen these
- examining the parents' weaknesses and inappropriate interaction patterns and trying to diminish them.

These tasks are very time-consuming. It is very complex to examine parental competences, because there are many factors to consider. To observe the family without influencing the interaction between parent and child is difficult. To make parents feel secure enough to react in their normal way, when being observed is difficult. To get a nuanced picture in a short period of time is very difficult, and time is an important factor considering the special needs of neglected children.

## **1.2 Problem Formulation**

Music therapists around the globe argue that music therapy can contribute much in assessing many different client populations. When it comes to evaluating interaction and quality of relationship, it seems that music therapy has some experience in research studies and certainly at clinical practice. Lately, there has been much focus on assessing children with special needs (Baxter et al., 2007; Schumacher & Calvet-Kruppa, 2007; Oldfield, 2006a; Wigram, 2007). These assessment models all incorporate a level of structure and rigor with scales and to some extent specific activities in the assessment session. However, music therapy assessment tends to rely more on subjective interpretation than on the reliability and validity that often underpins standardized assessment in psychological assessment. Music therapy assessment varies much both within and between different models of treatment and clinical populations. Very few general and standardized models of assessment are taught and used by a majority of music therapists in clinical practice (Wigram, 2000). This in itself formulates a problem in music therapy research and clinical practise. If music therapy assessment is as valuable, as we argue, why is it so difficult for us to provide the necessary levels of reliability and validity to match the assessment tools and tests of other professions like psychology and physiotherapy? If music therapy assessment should contribute to evaluation of parental capacity and parent-child relationship, a high level of reliability and validity certainly seems relevant, especially when the outcome might influence the decision of whether a child should be taken into custody or not.

Therefore, it suddenly becomes relevant to know how well-functioning families would react in music therapy assessment. What can one expect from a parent and child who have a good enough relationship, in the sense

that there is no concern for the child in this family, compared to the family who apparently do not have a good enough relationship or interaction? Is it possible to establish a norm or at least an understanding of a normal way of acting? If so, this would contribute immensely to the reliability and validity of an assessment tool.

In music therapy assessment we often look at the client's relationship with the music or the music therapist. Very rarely do we assess two participants' relationship with each other. We might look at group dynamics and individual social competences in relation to this, but the distinct quality of a parent-child relationship is not a well known feature in music therapy assessment. Only in the last decade has the use of music therapy with families in different settings and client populations increased. There have been a few publications mostly about clinical practice. Research publications, however, are lacking within this new, developing field. For music therapy assessment to be more relevant, it also seems necessary to know more about the possible outcome of music therapy treatment with families. The problems addressed in this thesis, therefore, revolve around assessing parent-child interaction, trying to provide a high level of reliability and validity, and also looking at possible treatment outcome of music therapy for families at risk.

### **1.3 Clinical Setting and Personal Motivation**

After 4 months at a family care centre in Aalborg, I investigated in my master thesis how I could assess parenting competencies in music therapy. As part of the master's thesis I developed a tool, Assessment of Parenting Competences (APC; Jacobsen & Wigram, 2007). For two years I have been working fulltime at the same family care centre. The centre has many different tasks, settings, and employees. They help families that for different reasons are on the edge of having their children taken in to custody. The centre is a fairly new institution, and part of the social service system in Aalborg municipality. The centre started in 2003 and has undergone many structural and referral changes since then. Families are referred to the centre by the social authorities, and some families are referred against their will. Compared to other Nordic countries, this particular centre is not much different in its procedures or services. Similar centres in most parts of both Denmark and Norway have similar tasks and treatment programs (B. F. Sørensen, personal communication, 25 September, 2009).

The family care centre is, however, further described as an alternative to bringing children into custody, and can be characterized as a centre for families with severe problems. The main goal is to help parents become good enough parents to be able to keep their children. This includes guidance and social support done at home and at the centre, tests and investigations on parental capacity, conversations with a psychologist, and Parent Management Training (a behavioural psychotherapeutic treatment designed to help parents set limits, reward, and control their children). The staffs at the centre include specially trained pedagogues, psychotherapists, social workers, a psychologist, and a housekeeper. The focus of treatment is the whole

family or the parents alone, looking at the parent resources, capacity, and inner mental psyche trying to help the whole family. However, in special circumstances of severe trauma, some of the children also get individual therapy. Each family has an individual treatment plan depending on their specific needs, which is evaluated during the assessment period. I was lucky to be a part of the development phase of the centre, and I used music therapy for several different purposes in my clinical work. I worked with children individually and in groups, with parents individually and in groups, and with families individually and in groups. Music therapy assessment and treatment were offered to the families alongside and in cooperation with other treatment and other professions at the centre. In particular music therapy assessment contributed within a multidisciplinary team setting to the difficult task of evaluating parent capacity. In my experience, families are very frustrated and anxious when they get to the centre. They have difficulty reacting in their normal way. Some might try to “put on a show,” and some might only show their weaknesses due to fear of losing their children. In spite of the circumstances, music therapy seems to make the families relax and sometimes have fun together. Meanwhile, it is possible for the music therapist to observe, encounter, and assess the parent capacity in the family, especially the parent-child interaction.

Being a mother of two young children myself, my motivation for this study also revolves around a desire to give these families a fair chance to be themselves, so that they can get the best possible help. It can be very sad to witness an emotionally neglected child trying to survive in the world and even sadder to see the mother struggling in vain to make it better. Sometimes the best solution is to take the child away from the family, and sometimes it is not. Regardless, it is crucial for the parents to understand this decision. Their understanding will evidently make it easier for the family to either separate or stay together.

Working in a multidisciplinary team evaluating parental capacity, I have found that I can explain abstract concepts like autonomy and clear communication to the parents by showing the parents clips from their own music therapy sessions. Giving combined feedback to the parent from a music therapist, a psychologist, and a pedagogue has a powerful influence on the parent's understanding of his or her parental capacity. This has been motivating for me in my clinical work and triggered my need to investigate further how music therapy assessment can be a more established part of the family care centre and in family therapy treatment.

#### **1.4 The Purpose of the Thesis**

The thesis sets out to strengthen, further develop, and test a music therapy assessment tool, the APC (Jacobsen & Wigram, 2007). This investigation includes a clinical population of families at risk who have emotionally neglected children and a nonclinical sample of well-functioning families in looking for norms and striving for a high level of reliability and validity. The study is carried out with deep respect for families at risk and the critical situation they are placed in, as they are evaluated on parenting competencies and on their parent-child interaction.

To further test the APC, the study looks at the test's ability to reassess and detect possible change over time in parenting competencies for any clinical families – families receiving music therapy treatment as well as families receiving treatment as usual. In testing the assessment tool, the study also aims to look for outcome by means of a randomized controlled trial with a control and treatment group. Both in testing the assessment tool and in measuring possible outcome two standardized questionnaires on parenting competencies and parental stress are used in the study: the Parenting Stress Index (PSI; Abidin, 1995) and Parent-Child Relationship-Inventory (PCRI; Gerard, 2005).

### **1.5 Client Population and Terminology**

At the family care centre there are other types of children than those who have experienced emotional neglect. There are children with development issues such as learning difficulties or Attention Deficit/Hyperactivity Disorder (ADHD) issues only, but most children have been emotionally neglected by their parents to some degree. For some of the children, who both have developmental issues and have experienced emotional neglect, it can be difficult to pinpoint the main area to address. The investigation of APC is done with a specific client population: families with emotionally neglected children at the age of 5-12. This is done mainly because within the context I have been working, it is in these situations that the parents' capacity is questioned. It is when the child is not thriving emotionally that the question arises whether this has something to do with the parents of the child or the parent-child interaction (Wright, 2005). Children who have experienced physical neglect or abuse are not a part of this research study, even though the APC would be relevant for this population, also. However, the additional ethical considerations and complex interaction patterns are not within the scope of this thesis.

#### **1.5.1 Defining Emotional Neglect**

Emotional child neglect is difficult to define, and the literature has many different ways to deal with the issue. Horwath's (2005) study on perception of child neglect by social workers suggested that there is a diverse range of individual assumptions of parenting and the needs of children. Many different terms like psychological maltreatment and emotional abuse are used in the literature. This varied terminology complicates the already difficult task of providing evidence of neglect even further. Defining emotional neglect also is related both to parental behaviour and to child characteristics. One child might be emotionally stronger and react differently to the same type of parenting than other, more fragile children. Or one type of parenting style might help the fragile child more than another less, attentive parenting style would to the same child.

Professor in social studies Iwaniec (1995) made a useful distinction between emotional abuse and emotional neglect where the latter is non-deliberate or unintentional, and the former is deliberate or intentional parental

behaviour. This study uses Iwaniec's (1995) definition of emotional neglect, because it is clear and considers all aspects of the term. Below is her definition of emotional neglect;

Hostile or indifferent parental behaviour which damages a child's self esteem, degrades a sense of achievement, diminishes a sense of belonging, prevents healthy and vigorous development, and takes away child's well-being. (p. 14)

Whether or not this behaviour is intended can be difficult to determine, but it is of great importance in assessing and treating the family. It is impossible to guarantee that children who are emotionally abused will not participate in the study (children who are deliberately treated with hostility or indifference by their parents), mostly because the families are referred to the care centre partly for an investigation of this.

### 1.5.2 Defining Parenting Competencies

Parenting competencies are very complex and consist of environmental factors as well as personality traits that interrelate (Killen, 2005; Taylor & Daniel, 2005). They depend on the individual needs of the child that can be divided in three larger areas: physical, psychological and social needs (Iwaniec, 1995). This study revolves around the emotional needs of the child, which leaves out the physical area but still contains aspects of both psychological and social needs. In particular this study looks at autonomy-relationship, interplay with turns between parent and child, and response type of the parent in relation to the child. These aspects are chosen due to connection between the developmental psychology, social care literature, research on parenting and music therapy assessment literature and research.

### **1.6 Design and Methodology**

Testing the reliability and validity of a music therapy assessment tool using clinical and nonclinical samples and looking at possible outcome over time with treatment and control groups, the study mainly uses a fixed design with quantitative data and statistical analysis. However, because one preliminary quantitative analysis of parent-child interaction in the APC showed unexpected poor concurrent validity, a secondary embedded flexible design with descriptive interaction analysis is conducted. This includes going into depth and examining differences between clinical and nonclinical families in music therapy assessment trying to adjust the following continuing quantitative analysis. The researcher thus combines multiple research strategies by having an embedded flexible and qualitative phase nested into an overall pragmatic sequential design with the fixed and quantitative design as the main feature (Mertens, 2005; Robson, 2011).

The epistemological and ontological rationale behind this study rests on pragmatism. Bonde (2011) debated the war of exclusion/inclusion of different paradigms in using multiple strategy designs and pointed out that

pragmatism and eclecticism could be alternatives to the paradigm war. Pragmatism has its focus on the empirical and practical consequences of research ideas. It approaches research method, and concept selection according to need, and embraces unforeseen factors. Robson (2011) further described the pragmatic view: “There is a more complex two-way relationship between research methods and paradigms, where paradigms are evaluated in terms of how well they square with the demands of research practice” (p.162). Robson (2011) also pointed out that fixed designs all have some level of qualitative judgements despite their aim for objective analysis, and that qualitative methods often include some level of descriptive statistical analysis. Quantitative and qualitative methods have many similarities. Instead of overemphasizing the differences, he suggested that researchers might move beyond making a forced choice between a post-positivistic and a constructivist approach. This researcher therefore epistemologically builds her questions on research pragmatism, which will be further elaborated in Chapter Three.

In the following section, the researcher’s own view of the world is presented, describing the bridge builder and the bridge that the reader is about to cross. How do the river and the surroundings look to the building craftsman, and what kind of bridge does she wish to build?

## **1.7 Personal Belief System**

In the following, the researcher presents her understanding of music, humanity, clinical orientation, and research, as this relates to choice of methodology and analysis. Moreover, these presumptions serve as basis for later observation and analysis of human interaction.

### 1.7.1 Music and Humanity

Individual musical improvisation can be seen as a mirror of the individual personality. Interactions between several participants in a musical improvisation can be seen as analogies or mirrors of the participants' relational interaction patterns (Smeijsters, 2003). Music can serve as the subject of communication and as a relational medium where interaction patterns and relationships become overt and clear through the individual musical utterances and actions. (Bruscia, 1987; Pavlicevic, 1997a; Wigram, Bonde, & Pedersen, 2002) Concept of dynamic form can provide a framework for understanding parents' musical interactions with their children, because dynamic forms of emotions exist as abstract functional units in the mental mind and are expressed through different qualities in human actions (Pavlicevic, 1997a). These can be expressed in music therapy through the qualities of improvisation. The qualities of the improvisation can indicate the quality of the relationship between the two participants and their ability to create an intimate and inter-subjective relationship with another person. Pavlicevic (1997a) referred to the relationship between therapist and client, and she also pointed out that all music cannot be described as dynamic forms of inner feelings. Parents and children interacting in a musical improvisation understood as dynamic forms enable an understanding of

their general relationship and interpersonal skills. According to Pavlicevic (1997a), a clinical improvisation is an interpersonal event (p. 120-121, 129). The view of musical improvisations and musical interactions being analogies of interpersonal interactions is in line with the concept of communicative musicality as described by Malloch and Trevarthen (2009). Communicative musicality is described as a human capacity that supports verbal and non-verbal communication. It is connected to early parent-infant patterns of interaction and the concepts of vitality forms and affect attunement (Stern, 2010a).

The study distinguishes between communicative musicality and formal musical training, although they might be connected and overlap. Trained musical skills regardless whether self-taught or by receiving teaching refer to being able to sing in key, follow notes and traditions of specific music genres. Communicative musicality refers to the capacity to communicate nonverbally through the medium of music.

Humans are complex compound creatures consisting of four dimensions: biological, psychological, sociological, and spiritual. Existential psychologist Van Deurzen (1999) has inspired me in this view. The social dimension is more relevant to this study, since the study attempts to investigate the quality of interaction between parent and child. Therefore, the social dimension will be described further.

As described by Van Deurzen (1999), man is dependent on other people, as he defines himself through other people and sees himself in the light of relationships with other people. People only get a sense of their own existence through various relations and interactions. The relation to parents or other important caregivers are crucial in the early exploration of the outside world, as it affects the form of human relations throughout life. This is applicable in relation to the current focus of parenting competencies. This understanding has similarities with Pedersen's (1998) referral to the concept of cyclic dynamic understanding, where links between past and present relationship patterns are significant. Understanding the present can be achieved through examination of the past, and changing the patterns of relationship is sought through investigation and processing of contemporary incidents. Regarding developmental psychology, Stern's theory affect attunement is relevant to this study. This will be elaborated further in the literature review on good parenting.

### 1.7.2 Music and Family

As this study invited parents to participate in music therapy together with their children, it is relevant to offer some attention on the social psychology of music in everyday family life. How families perceive music and use music (or not) is very individual. In my own childhood and still to this day, playing music and singing together with my family is a familiar and happy form of being together. Many families have specific traditions especially at holidays, but this does not necessarily include the use of music, even though music has a long history of being part of rituals, ceremonies, games, and bringing people together (Bonde, 2007). Some families might have traditions of singing lullabies, and some might read stories instead when tucking in children. One also could argue that the new revolution of iPods and other electronic portable devices

creates a tendency for music to be more an individual and personal experience than something you share with others. The overall point is that families have different relationships towards music – each family might have different ways of doing music together. Nevertheless the individual family culture will most likely influence the family's reaction to and perception of music therapy. The study does not consider the individual music culture of the family as a form of formal musical training. One can appreciate and listen to music without formal musical training.

### 1.7.3 Clinical Orientation

My understanding of clinical treatment is composed by several different therapeutic and theoretical directions. My orientation is therefore eclectic where both a practical and theoretical integration of the different theories are important. Through my training I have a psychodynamic understanding of how music, client, and therapist are parts of therapy. I use terms such as resistance, defence, transference, and counter transference in understanding what happens in therapy, but this does not have to play an active part in therapy. Using these concepts in understanding processes in therapy enables me to reflect upon appropriate interventions for the family and to reflect upon my own role and attitude towards the family. While these psychodynamic concepts influence therapy, they are not my main focus in working with families at risk. I have an experiential-oriented approach and believe that people learn through felt experiences, and this is also a very important part of therapy. Without having concrete experiences with emotional and relational aspects to refer to, new knowledge whether implicit or explicit, is very difficult especially for clients with poor reflective skills. Conscious insight is, however, often necessary before permanent changes can take place. I therefore have a humanistic and existential view on treatment.

### 1.7.4 Research and Science

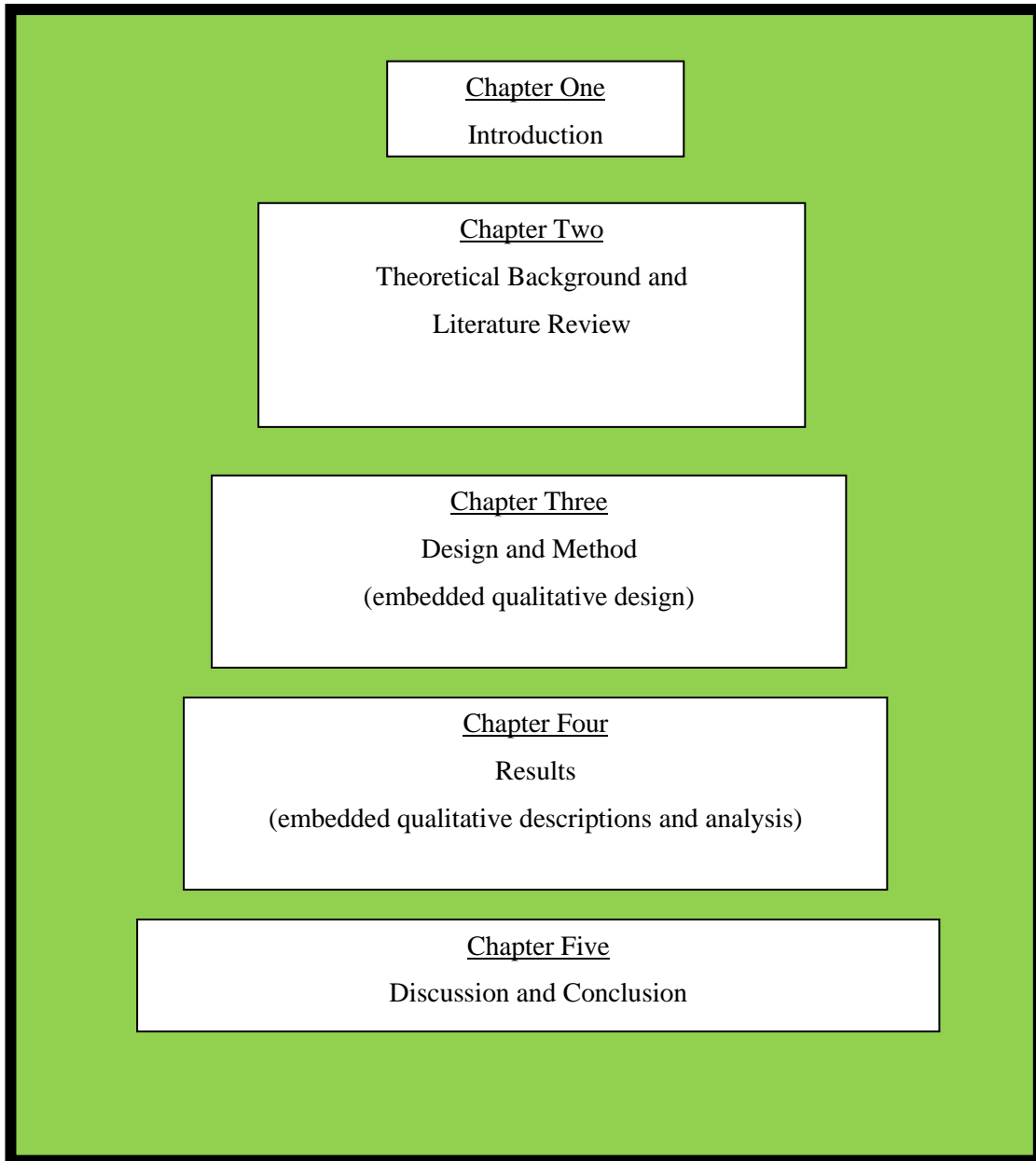
Epistemologically, I believe several truths or several constructs of the world can be known. Every aspect of life can be understood according to several meaningful theories, and the world should also be viewed from multiple perspectives. Objectivity as a starting point is impossible. I am not looking for the ultimate truth in exploring the world, but I attempt to provide the most meaningful, respectful, and reliable picture/construct of the world through systematic and thorough investigation.

I believe that man can recognize multiple truths and thus understand the world from different perspectives, allowing several different answers. I will endeavour to consider more answers and try not to produce narrow and limited answers just to stay within a particular paradigm with a corresponding preferred choice of method. Ontologically, I think that there are several truths, as human beings and the world are complex and composed of many different dimensions and related truths. It will always depend on the individual perspective, context, and corresponding overall frame of understanding. I therefore have a realistic and



pragmatic understanding that acknowledges parts and concepts of multiple paradigms including critical realism and constructivism, and I have both a relativistic and reductionist approach to science and research.

### 1.8 Overview of Thesis



# Chapter Two

## 2. Literature Review

A theoretical background provides a basis for describing hypotheses and research questions for the current study. The theory and research presented also guide the following phase of development and choice of appropriate methods and analysis for testing the hypotheses and answering the research questions.

Throughout the sections, research studies relevant to the current topic will be presented alongside the theories.

More explicitly, the chapter serves to provide a general understanding of parents and their neglected children between the ages of 5-12. Developmental psychology theories about emotionally neglected children, early parent-child interaction, attachment, and good parenting are included, as they are essential for the current research study on assessing parenting competencies and parent-child interaction.

To understand the aetiology of the neglecting parent and the neglected child within a social context, relevant sociological literature also is presented. This study revolves around parental capacity and to assess this, focus on the needs of the emotionally neglected child is essential. Basic physical needs like food, sleep, hygiene, clothing etc. are not of main interest in assessing parental competences in the immediate interaction with the child. The study does not underestimate the importance of physical needs in the child's healthy and happy development, and acknowledges this as an essential factor in the overall assessment of the family.

As the current research study also investigates music therapy treatment with parents and their neglected children, descriptions of family therapy and music therapy with families contribute to the understanding of the development and choice of treatment in the study.

Coming closer to the method of the study, a general description of music therapy assessment is presented as the study seeks to test out an assessment model. This includes a presentation of how assessment of parenting competencies is being conducted in the area of social work and in psychologists' clinical assessment.

The context of the study is assessment of parents who are at risk of losing their emotionally neglected children, and this influences the literature review as it specifies the severity of the problems described.

The literature review contains some diversity in different authors' choice of terms for child neglect (maltreatment, abuse, neglect) depending on their individual background and setting. The review will be true to the author's use of terms, as this also contributes to the understanding and interpretation of their theories.

Chapter Two is trying to show you the scenery of building the bridge. What does the riverside look like? What kind of a river is underneath the bridge? Where is it emanating from? The theoretical background shows you all the different sources of the river and its course. At some places the river is deep and filled with life, clear to anyone who takes a good look. At other places the river is shallow with few details. Lastly, some places in the river are still unknown and unexplored.

## **2.1 Understanding Emotionally Neglected Children**

Parenting competencies depend on the individual needs of the child. In trying to understand neglecting parents, who are the main foci for this study, one has to understand how the parent is neglecting a child. Which emotional needs in the child did the neglecting parent not meet, and what are the consequences of this for the parent-child interaction? Even more interesting, how does emotional neglect influence later parenting? As will be elaborated upon in Section 2.1.1.3, neglecting parents were often neglected themselves in their own childhood. Understanding the neglected child in many cases provides a description and understanding of the childhood of the neglecting parent.

### **2.1.1 Basic Emotional Needs**

In developmental psychology focus is often on what the child needs from the parent in the early infancy. The parents must contain the child, they must attune themselves to the child, and the parents have to be “good enough” in order for the child to have a healthy development (Stern, 1995, 2010a; Winnicott, 1971). Helping professionals adopt a common approach to deciding a child's need, The Department of Health (UK) has identified seven dimensions in the domain of child developmental needs. The dimensions are Health, Education, Identity, Family and Social Relationship, Social Presentation, Emotional and Behavioural development and Self-care Skills. All children must progress along all these if they are to achieve long-term wellbeing in adulthood (Ward, 2000). All children need to feel confident about themselves and their abilities in order to develop a strong identity and independence. They need to feel accepted by their family and the wider society in order to develop good social skills. Furthermore, children need to feel safe and loved in order to develop growing abilities to adapt to change, to respond appropriately to stress, to demonstrate self-control, and to develop their ability to empathize with others. These aspects of emotional development also depend on the quality of the early attachment together with the individual temperament of the child (Ward, 2000). This is how children need to feel, but in order for them to learn and develop cognitive, social, and emotional skills they also need stimulation, guidance, consistent and clear boundaries, support, and encouragement (Iwaniec, 1995).

These emotional needs are relevant in considering emotional neglect (see definition Section 1.5.1). What happens when these basic emotional needs of the child are not met by the parent? In what ways does it affect the child's development, and what are their chances of getting back on the right track? As neglect primarily is a term used within social service and a psychosocial context, the following is mainly based on the work of Killén (2005) and Iwaniec (1995). Killén is especially well-known and often used within social work regimes in Denmark, as she has provided a comprehensive understanding of neglected children. In her descriptions of emotionally neglected children she is not always specific about the age of the child. However, she stated that the neglected children often have a low mental age. Her descriptions tend to build on

preschoolers and older children up until they reach adolescence which again will differ individually depending on mental stage of the child.

### **2.1.2 Characteristics of Emotionally Neglected Children**

Neglected children often get the impression very early on that they are not good enough, that they are unwanted, that they are to blame for everything that goes wrong in the family, and that nobody has any interest in them. They only feel they are worth something when they meet their parents' expectations or needs. They develop a negative and distorted self-image together with very low self-esteem (Killén, 2005).

Children differ in how difficult they are to bring up. Many research studies have focused on linking the child's level of vulnerability and different types of child temperament with the parental behaviour. Iwaniec (1995) presented these studies and concluded the following: When a parent gets exhausted in socialising with the child, because it is difficult to feed, sleeps poorly, has poor adaptive skills, or is excessively independence, it can lead to a vicious circle where the parent expects problems and creates aversive interaction, and the child gets more demanding and attention-seeking (Iwaniec, 1995). The severity of problems involved in a possible child custody case, might indicate that early profound needs in neglected children originate from poor conditions during pregnancy or weak genetic material. In the same manner one can speculate that in cases of possible child custody, a parent might get exhausted quite early on because of immaturity, lack of knowledge, or the parent's own set of unmet emotional need throughout life. Regardless as Iwaniec stated, difficult temperament in children does not excuse or constitute permission for parents to emotionally neglect or abuse their children, but it becomes clear that emotionally neglected children often have more complex and more profound needs either from birth or as a result of being neglected for a longer period of time.

Killén (2005) also pointed out that all children are born with certain qualities, and they will therefore be more or less vulnerable to child neglect. She further stated that we all understand children differently, because they evoke different reactions in every person. Neglected children have some inner reactions in common, even though child neglect varies in strength and form. They all experience worry, anxiety, disappointment, grief, and aggression. Neglected children all contain contradictory emotions, where the longing for love and attention together with regular rejection both draw them towards and push them away from parents and the entire outside world (Killén, 2005).

### 2.1.2.1 Autonomy and Patterns of Attachment Behaviour

According to Killén (2005), neglect often leads to problems of dependence in preschoolers and older children, and this is either in form of overt dependence or defensive, controlled independence. The overt dependence is characterized as anxious and clinging behaviour, ongoing attempts to get physical contact, attention-seeking behaviour, a wish to own and control others, and ongoing attempts to please and be accepted by their parents. The defence-controlled independence is characterized as a passive and apathy-like state of mind or independence with an emotional withdrawal from parents and the outside world, and where the child seems cold and indifferent towards other people (Killén, 2005).

An autonomy relationship between parent and child is central for the current study, as it is one of the main features in the applied assessment model APC. Therefore, a more detailed description of autonomy aspects in attachment behaviour theories is presented here. Looking at developmental psychology, Bowlby (1980) believed that the quality of attachment was dependent on the quality of care. He pointed out that attachment and dependence are two separate phenomena, even though they often are confused. A child is dependent from birth but not yet attached. Attachment can go on forever when first established and dependence often ceases. Attachment is a valuable quality in life, while dependence has no indication of emotional link to preferred individuals (Bowlby, 1980). The current study acknowledges this distinction between attachment and levels of dependence and independence. The focus on autonomy relationship is not a quest for the quality of attachment between parent and child. Attachment is hard to measure because it comes down to how the child feels about the parent (and vice versa). Theories of attachment behaviour, however, use dependency and independency aspects to describe how the child acts towards its parent.

There are many comparisons between specific patterns of attachment behaviour described by Ainsworth, Blehar, Waters, & Wall (1978), and the descriptions of autonomy in the neglected child. Ainsworth's study of infants and mothers in "The Strange Situation," infants placed in different settings with and without their mother, showed three different patterns of attachment behaviour with specific characteristics of autonomy.

- A) Insecure/rejecting attachment behaviour. These children showed only few overt signs of sadness, when their mothers left the room, and ignored her when she came back especially when she came back the second time. Many in this group were friendlier towards the stranger in the room. They were tense and inhibited in their play. These children do not trust that they will get care or help from anyone. They expect to be rejected. They try to avoid demanding anything so they will not be rejected. They are constantly alert to the surroundings and to their parents in particular. This type of behaviour is often the result of rejecting, angry, and insensitive parenting.
- B) Secure attachment behaviour. In this group the children were content and active in their play and sought contact with their mother when she came back. Some were sad when the mother was gone,

but they were easily calmed and rejoined their play when she came back. These children trust that their parents are there for them and that they will help them in difficult situations. They are independent in their exploration of the world and competent in engaging with it. Securely attached children also tend to be more cooperative and willing to do what their parents ask of them. This type of behaviour is due to sensitive and loving parenting.

- C) Insecure/ambivalent attachment behaviour. The children in this group were sad when their mothers left and very hard to calm when the mother came back. They were contact-seeking but also aggressive and ambivalent. They shifted between anger and attention seeking and their play was inhibited. They were angry when the mother tried to get them to play and often passive in situations where other children played. Children in this group are uncertain whether their parents will take care of them and help them, even if they ask for it. They often develop separation anxiety and clinging, dependent tendencies. They generally explore the world with much anxiety. The type of behaviour is mainly promoted by inconsistent and less responsive parenting (Ainsworth et al., 1978, pp. 310-322).
- D) Insecure/disorganized attachment behaviour. Later a fourth pattern was described by Main and Solomon (1984). Here the children have not developed coherent strategies in the strains of being left by the mother. They show a spectrum of different behaviour when they are reunited with their mothers including fear of the mother, confusion, stagnation, and stereotyped behaviour. Main and Solomon suggested that this type of behaviour is evident in cases of extremely unpredictable parenting and child neglect and abuse.

#### 2.1.2.2 Coping Strategies

In further comparison with the described patterns of attachment behaviour, Gray & Kempe (1976) described two types of coping strategies that neglected children use; the excessively adjusted, and the hyperactive and destructive. These descriptions are commonly known and referred to in literature on neglected children. Preschoolers and older children can have one or both strategies, switch between them according to the situation, or switch from one to the other over larger periods of time.

The excessively adjusted child tries to meet the demands and expectations of adults and is sensitive to any signals on how they should behave. The child tries to hide feelings of being let down and seeks to please the parents as much as possible (Killén, 2005). They know their parents are unpredictable, and they will do anything to prevent anger, aggression, humiliation, and threats from the parents. Control is gained by extreme attention and effort to read the parent. The children use diversion of any kind and often have good verbal abilities. Overall their skills do not seem age appropriate. Instead they seem like little adults struggling to survive.

Killén (2005) divided these children in 3 subcategories; a) active and doing well, b) caregivers, c) passive and withdrawn (pp.118-120). Securely attached children (type B) and the excessively adjusted children have some characteristics in common. They both try to meet demands and one could argue that the neglected child tries to appear to be happy and securely attached. However, the excessiveness of the child's wish to adjust is the key in recognizing the neglected child.

The hyperactive and destructive child is much more provocative and aggressive, and seems to be in an agitated state of mind. This child gains control over its surroundings by driving adults and parents mad with their rude behaviour. Almost anything can trigger their aggression. They can misinterpret a simple look, ascribe others of aggression, and then attack back in defence (Killén, 2005).

Some neglected children use dissociation and denial as coping strategies in trying to forget horrible incidents or traumas. They develop trance-like conditions with no contact to the world, and this seems to happen when they experience something that reminds them of the trauma. The children often have no recollection of this state of mind and might deny having done things you actually have seen them do. Other neglected children develop multiple personalities or have many imaginary friends (Killén, 2005).

#### 2.1.2.3 Inhibited Play

If neglected children are depressed, this according to Killén (2005) often will be evident in their play. Many neglected children do not play much or play in a stereotyped way. Traumatic experiences can make play less spontaneous, more destructive, more immature, less motivated, and more compulsive. The children are caught in an inescapable theme, and their way of playing lacks life and free improvisation.

Neglected children who are able to cope better with being neglected can, as an exception, develop special creative abilities where they can express themselves freely through creative mediums. These aspects of spontaneity and improvisation are relevant in a music therapy setting, and they are important in order to fully understand and analyse the interaction between parent and child.

#### 2.1.2.4 Other Characteristics

Many neglected children show varying degrees of developmental delays in neurological, cognitive, and psychomotor aspects, often because of malnutrition, induced brain injuries, poor attachment, and deprivation. They often lack endurance and the ability to concentrate. They are too busy coping and defending themselves, and this obviously affects their development and learning skills even further. Some neglected children have so many inborn resources that they focus on their skills and abilities, do really well in school, attend sports or do creative hobbies to escape from the negative and frustrating situation at home (Killén, 2005).

In an attempt to idealize the parent, many neglected children often take the responsibility for the neglecting and abusing behaviour of the parent. They become the carrier of guilt, and there are no limits in their efforts to stay loyal towards the parent (Killén, 2005). According to Hildyard and Wolfe (2002) research showed that neglected children are more likely to have anxious and insecure attachments to their caregivers. Many neglected children suffer from disorganized attachment behaviour. Hildyard and Wolfe also pointed out that neglected children often have severe cognitive problems, problems of social withdrawal, internalizing problems, and more emotional problems than physically abused children. Neglected children often fail to reach important milestones and are then challenged further by normal development tasks (p. 688). Based on neurological research, Killén (2010) stated that neglect and lack of stimuli can weaken the early development of a child's neural pathways. Parts of the brain that revolves around anxiety and fear reactions can be overdeveloped. Destructive life situations influence how the genetic material is developed. The earlier the child's brain is affected, the greater negative impact it has on the child's emotional, social and cognitive development (Killén, 2010).

### **2.1.3 Summary**

The world of the emotionally neglected child is a sad and anxious place filled with unmet needs and unsafe feelings. These children try to survive by developing coping strategies including specific behavioural features containing aspects of autonomy. A neglected child can be very dependent or excessively independent both to the parent and the surrounding world. Literature presented suggests that this is connected with attachment behaviour, but that autonomy aspects are separated from attachment. An emotionally neglected child most often shows some type of unsecure attachment behaviour, but it might not be due to the strategy of excessively adjusting to their surroundings. Or the child might be securely attached in spite of being neglected, for instance in cases of over-involved parents who have difficulties in letting go of control, or parents who are going through a temporary life crisis. Attachment is not an easy phenomenon to measure, but autonomy aspects of a relationship seem to be more accessible for assessing parent-child interaction. Building on these descriptions of the neglected child, it seems relevant to look at the autonomy relationship between parent and child in order to identify the level of possible dependency or independency in the child.



## **2.2 Understanding Parents of Emotionally Neglected Children**

Understanding the aetiology of neglectful parents may help understand and interpret results of an assessment of parenting competencies and parent-child interaction. Parents of neglected children are described in many different types of literature. In a social context, focus is on understanding the act of neglect in close relation to the neglected child, as it is experienced in everyday life and to offer treatment to prevent neglect.

Psychology literature focus on the psyche of neglectful parents, and its impact on the child's psyche and also describes good enough parenting in developmental psychology. All seem to speak of the same phenomenon but have slightly different terminologies. All refer to the same important factors, which will be presented in the following section. Research on characteristics and different types of neglectful parents will also be presented towards the end of this section.

### **2.2.1 Aetiology of Neglectful Parents**

Psychologist Finn Westh (2006) described the causes of inadequate parenting as different dilemmas being related to three systems: micro (the person), meso (the family), and macro system (society). In the micro system the individual parent's vision of parenting style is out of tune because of his or her own disposure of time, role conflicts, personal limits in self esteem, and perception of the child's development and need for care, stimulation and regulation. The parent cannot live his or her vision of preferred parenting style because of his or her situation, choices and limitations. These are described as dilemmas and can occur both consciously and unconsciously. The more the parent realizes these dilemmas, the better chance he or she has to improve the situation and attune the parenting style. Dilemmas in the meso system consist of family-related problems that cause the parenting style to be out of tune. This often concerns how the parents spend their time and effort together, and how they deal with economy, mobility, structure, and jargon and who does what, how, and when in raising their children. In the macro system, socio-cultural related problems and dilemmas cause inadequate parenting including economy, accommodation, education, employment, and social status together with ethnic, religious, and political issues (Westh, 2006).

The aetiology of neglectful parents is multilayered, and it is difficult to pinpoint one particular reason in each case of emotional neglect of a child. Many factors influence the matter both in clinical and nonclinical settings. However, the intensity, combination, interrelation, and accumulation of factors seem to turn the scale. Scannapieco (2005) identified four different types of theoretical perspectives including psychological models, sociological models, social learning theory, and aetiological models in child maltreatment. Ontogeny development explores the childhood of abusive and neglecting parents in an effort to understand how they grew to be neglecting and abusive (Scannapieco, 2005, p. 26).

### 2.2.1.1 Child's Feedback

Every child is different and one type of parenting might be neglectful to one child and not to another child as referred to earlier. Iwaniec (1995) pointed out that children's temperamental characteristics help shape parental behaviour. Active babies get more attention than passive babies, and irritable babies arouse more frustration in parents than non-irritable babies, regardless of possible physical states such as colic. A vicious circle of negative and self fulfilling expectations from both parent and child can emerge and be very difficult to stop (Iwaniec, 1995). With this in mind, assessing the parent should always include interaction with the child. It is not enough for instance to assess how and how much the mother smiles to her child, but it is also necessary to assess how she does so in response to the cues from the child. Responsiveness is an important part of parenting competencies, but it is likely to be influenced by the clarity and consistency of the signals provided by the child.

### 2.2.1.2 Immaturity in Neglectful Parents

Neglectful parenting can, according to Iwaniec (1995), arise from lack of knowledge of the needs of children together with lack of guidance and support systems, which can help parents to have a more positive and less stressful experience of parenting (Iwaniec, 1995). Parents with mental retardation or developmental delay can be characterized as having extreme lack of knowledge. They tend to be rigid and concrete in their way of thinking, and have difficulties in multitasking and understanding coherence. This can of course also lead to neglect (Killén, 2005).

Different environmental stressors affect every parent and his or her potentially immature behaviour, but some parents have a more chronic type of immaturity that is much more difficult to treat or change. Killén (2005) made a differentiation between two types of immaturity, primary and secondary, that both depend on how early trauma or emotional deprivation has occurred in the parent. They are on the opposite ends of a continuum and both features can be present simultaneously.

Primary immaturity characterizes a parent who has never been more mature, and who might not have got enough care from his or her own parents. This could also be described as a deficit type of problem in the parent's personality.

Secondary immaturity characterizes a parent who has been more mature earlier in life, but who has experienced too many straining incidents/traumas or environmental stressors that has led to immature behaviour. This could also refer to a conflict type of problem in the psyche or personality. Neglectful parents with secondary immaturity seem to have better ability to structure their lives and they have better prognosis of "recovering" than neglectful parents with primary immaturity (Killén, 2005).

Neglectful parents have often had difficult childhoods, where they themselves have been neglected. This influences the development of personality, as it may cease to develop or take a wrong turn. The earlier they experienced neglect the more severe the impact is on their personality and general attachment behaviour.

They often mistrust the world and themselves because they have not received the emotional care they needed to be able to empathically give care and warmth to a child. They may have experienced a trauma that is not integrated, and they may try to protect themselves by means of disassociation and denial (Killén, 2005). In a summary of different research concerning childhood of neglectful parents, Killen listed the following common features: early experience of rejection; lack of experienced care, tenderness, and empathy; and overcritical and demanding parents making incomprehensible and unfulfilled expectations (Killén, 2005, p. 127).

#### 2.2.1.3 Child Attachment Behaviour and Parental State of Mind

In her master's thesis on nonspecific factors in music therapy process music therapist Brink-Jensen (2010) referred to Main (2000) and her report on a strong statistical correlation between categories of attachment behaviour in children in the Strange Situation (Ainsworth et al., 1978; see Section 2.1.2.1) and the categories from Mains assessment tool, Adult Attachment Interview. These categories are not descriptions of response types but descriptions of states of mind of how adults think and feel about attachment. Nevertheless, it seems interesting to shortly present these categories here, as Main believed the findings of correlations to “imply, of course, that differing states of mind with respect to attachment predict differing patterns of care-giving” (Main, 2000, p. 1092).

Child (B) Avoidant = Parent Dismissive: The adult seemed incoherent in the interview. The adult rejected attachment-related experiences and relations. There seemed to be a limited degree of self reflection.

Child (A) Secure = Parent Secure-autonomous: The adult seemed coherent in the interview conversation. The person was flexible and cooperative, appreciated attachment, and seemed objective in descriptions of relations. The adult integrated the past with the present and further drew in the expectations of tomorrow.

Child (C) Resistant-Ambivalent = Parent Preoccupied: The adult seemed incoherent in the interview and was very focused on telling about former attachment relations and experiences. There seemed to be a fear of being dependent on others. Past problems dominated the presence and the persons' defence system contained anxiety, anger, and passivity (Main, 2000).

Child Disorganized (D) = Parent Unresolved/disorganized: Unresolved traumas constantly influenced the state of mind. The adult showed lack of control and sense of reality. The person lacked emotional balance and seemed rigid. Their state of mind can suddenly change without warning (Main, 2000).

#### 2.2.1.4 Representations of Past Subjective Experiences of Interaction

Sociologist McMahon (2001) stated that the parent's feelings from a past relationship can be transferred to the child. This prevents the parents from being able to respond appropriately to the needs of their child but instead to recreate their own past experience in the present. McMahon further stated that this can create a major source of mismatch between parent and infant (McMahon, 2001). This seems to have similarities with

Stern's (1995) theories of the mothers schemas-of-being-with and representations-of being-with a particular person. These theories concern how the parent's subjective experience of former and early interaction influences ways of relating with the child in the present. Stern acknowledged the mother's representation of her own mother, as a great influence on how she will act as mother to her infant in the present. He offered an overview for understanding the maternal and paternal representation with four psychopathological or clinical models: The Distortion Model, The Dominant Model, The Narrative Coherence Model and Ontogenetic Model.

The Distortion Model refers to how much the representation has been distorted from reality. How do the mother's fantasies about her baby match her actual baby? Stern (1995) questioned whether an "actual baby" can be used as a meaningful reference. He further stated that these fantasies not necessarily are negative as parents often have quite positive distortions about their baby (e.g. the most beautiful and fascinating baby in the world). This according to Stern is an important part of the maternal love.

The Dominant Model refers to when a baby is represented by her mother as taking part in ongoing, conflict-filled, and problematic themes in the mother's life to an extent that it leaves no room to properly view the baby. Sterns (1995) offered many examples of the dominant representations (replacement baby, baby as marital glue, baby as companion), but he also questioned how this is related to predictions of clinical theories and referred to his own theory of the motherhood constellation including specific themes that arise when women become mothers.

In the view of The Narrative Model it is the constructed story more than the historical truth that influences current psychological life. How the mother thinks about and describes her own mother in the present influences her own maternal behaviour more than what actually happened in the past or whether it was good or bad. It depends on the mother's ability to create a mental mind of her own mother including organizing capacity, emotional perspective, and insight. Thus Stern (1995) pinpointed narrative aspect of experienced representation of mothers' own childhoods where over-involved, incoherent, and imbalanced stories or representations might result in insecure attachment regardless of the parent's feelings from past relationships.

The Ontogenetic Model deals with representations that are out of phase in the mother's mind including representation that for different reasons might be unfinished, got stuck, be too far ahead, or be in a representational vacuum where the future is unimaginable. Often this happens in cases of premature babies or babies with significant developmental lag or pervasive handicaps. Stern concluded that besides providing an overview of possible representations in parents these models also may function as guidelines for a search of relevant clinical information and anchor clinical goals (Stern, 1995).

### 2.2.1.5 Mental Health Problems and Drug Abuse in Neglectful Parents

Neglectful parents can have different degrees of mental health problems. Situation-based problems have a better prognosis than more chronic and severe problems. It is, however, difficult to distinguish between these because mental health issues can be quite varied. The mental issues can include anxiety and/or depressive states, compulsive states, uncontrolled and inadequate aggression, suicidal behaviour and/or paranoid traits, and post traumatic stress disorder.

The degree of maturity seems to strongly determine how crucial a mental health problem can be in relation to neglectful parenting. How the parents solve their mental health problem is also an important factor in neglect. For instance if parents project aggression or negativity onto their children, this strongly affects the child and can be very neglectful towards the child (Killén, 2005).

How parents with severe mental health problems like psychosis perceive their children is also crucial to potential neglectful parenting. How the parents' perception of the world is passed on to the child together with the degree of unpredictability in their behaviour also determines potentially neglectful parenting.

Drug abuse and addiction also can affect the degree of neglectful parenting. These parents often expect their children to take care of them, and they lack the ability to understand the needs of their children. The roles are switched – the child becomes the caregiver, and the parent deprives the child of all the attention and care it should have been receiving (Killén, 2005).

### **2.2.2 Research and Types of Neglectful Parents**

In the following relevant research studies on different types of parents are presented. They are particularly relevant for the current study and its focus on autonomy and different categories of parental response types.

#### 2.2.2.1 Immaturity in Parents

Polansky, Chalmers, Bottenweiser, & Williams (1981) did a study on characteristics in neglectful parents with 46 neglectful parents and a nonclinical sample of 79 parents. It consisted of semi-structured interviews, observation and interaction in homes, multiple questionnaires, and information from other professionals around the families. The results described two distinct types of parents: the apathetic-futility parent and the impulse-ridden parent. They were both regarded as a type of infantilism in parents, and parents might have both types of characteristics. The behaviour of the apathetic parents was characterized as extremely passive toward their own life situation. These parents seemed cold with few emotional responses to their children and had difficulties in reading their children's signals and basic needs. They could be clingy, superficial and seemed to feel very alone. They tended to express anger passive-aggressively and through hostile compliance. They seemed verbally inaccessible and had difficulties in solving problems because of no internal dialogue.

According to Polansky, impulse-controlled parents were characterized as restless and uneasy without much patience. They could also be aggressive and defiant and have difficulties in seeing coherence between action

and consequence. This resulted in projections, where guilt and responsibility was projected onto others. These parents consciously or unconsciously manipulated their children in order to get their own needs and dreams fulfilled. The parents seemed to express their feelings in an intense and short manner (Polansky et al., 1981).

#### 2.2.2.2 Leadership in Neglect Families

A study on family functioning with 103 neglectful and 102 non-neglectful low-income families showed significant differences between the groups in the parent-child relationship (Polansky, Gaudin, Kilpatrick, & Shilton, 1996). The study used standardized tests (The Child Well-Being Scale, The Maternal Characteristics Scale) and ratings of videotaped family functioning using Family Evaluation Measure together with videotaped interviews using Georgia Family Q-sort, the Family Competence and Family Style Scales. The ratings of observed and videotaped family interactions indicated that neglect families were less organized, more chaotic, less verbally expressive, and showed less positive and more negative affect than comparison families.

Neglectful families were described as demonstrating less shared leadership, less closeness and less clear internal family boundaries; poorer negotiating skills, and less willingness to assume responsibility. The results suggested that how power and leadership are exercised and how well-organized the family is, appears to be related to the quality of parenting.

The study divided the neglectful families into two groups: chaotic/leaderless and dominance/autocratic in leadership. The chaotic group seemed more indistinct in internal boundaries, less good at problem solving, conflicted, and less expressive of thoughts and feelings. The dominance group were described as more isolated, disengaged, heavily conflicted, inconsistently empathic, and expressive of a wide variety of feelings, but apparently with little expression of warmth and affection (Polansky et al., 1996).

#### 2.2.2.3 Patterns of Interaction

Crittenden's study (1981) on patterns of interaction of parent and infants showed qualitative differences between four groups of patterns of interaction. Crittenden videotaped 38 mothers and infants of different types and their interaction. One minute of their behaviour and interaction were coded according to a predetermined coding device. Mothers were characterized as abusing, neglecting, inept, or sensitive, and infants were characterized as difficult, passive, or cooperative. The dynamics of interaction between infant and parent became clearer with the infants' pattern included.

The study suggested that sensitive mothers were more likely to have infants who enjoyed the interaction and reinforced the mothers. Sensitive mothers modified their behaviour in order to maintain or regain the infant's interest. The mothers were not perfect in their interaction, but they tended to react flexibly to feedback from the infants when they were insensitive.

Inept mothers also responded consciously to feedback, but they seemed to try hard to control or direct the interaction. They interfered and struggled overtly to enforce cooperation and maintain control. They seemed to genuinely enjoy the infants' play and usually modified their behaviour appropriately. Infants of inept mothers often needed to persevere in giving negative feedback or to accept their mother's control. Inept mothers tended to be more rigid and less sensitive than sensitive mothers.

Neglecting mothers offered little stimulation and rarely seemed to respond to the signals of the infant. The infants were socially powerless and showed depressed levels of activity, which resulted in even less responsiveness from the mother, and the dyad became mutual passive. Abusive mothers really tried to create a successful interaction, but with no relation to the infant itself. The infants were frustrated, because they were startled, interrupted, or asked to do a task too difficult for their developmental stage. Abusive mothers did not modify their behaviour in spite of the infant's fussing and resisting feedback. Some abusive mothers seemed to be intentionally irritating and enjoying their infant's displeasure.

Crittenden (1981) stressed that insensitive stimulation seemed better than no stimulation and pointed out that the infants of neglecting mothers had no other choice than be passive, because the mothers were too distant and unresponsive (pp. 209-210).

### **2.2.3 Summary**

In this section on understanding parents of emotionally neglected children, the aetiology and characteristics of the parents have been presented. In evaluating and assessing parenting competencies it is essential to understand these parents, their emotions, their behaviour, and their background. Different types of parental response have been presented including being passive, dominant, and sensitive as this might help clarify how or if the parent meets the child's emotional needs.

In case of emotionally neglected children, it is essential for assessing parenting competencies to understand and acknowledge the multilayered problems, struggles, and inner conflicts in a neglectful parent. The parents may not consciously be neglectful, and they may not know any other way. Their problems may be situation based with a fairly good chance of improving for the better, or the problems may be more severe emanating from their own childhood. Often within the context of possible child custody cases, the parents unfortunately have poor chances of improving neglectful behaviour toward their children. This leads to the question: when is parenting non-neglectful and good enough? What are we expecting from parents for them to meet the emotional need of their children? What is a healthy parent-child interaction like and what does a healthy parental response consist of? This is the focus for the next section on good parenting and family therapy.

## **2.3 Good Parenting and Family Therapy**

A theoretical understanding of good parenting seems to be highly relevant in assessing and training parenting competencies. As mentioned before good parenting fundamentally concerns meeting the individual needs of the child including physical, psychological and social needs. This study concerns emotional neglect and a theoretical understanding of how parents particularly meet the emotional needs of the child. Developmental psychology involves many different theories of good parenting in relation to the emotional/social need of the child. In this study theories of Winnicott (1971) and Stern (1985, 1995, 2000, 2010a) are chosen above others because they have music and play as important features and are commonly used in music therapy literature and research. Music therapists especially elaborated on affect attunement in music therapy, because it is described as a nonverbal communication with parameters such as rhythm, pitch, and dynamics. Trondalen and Skårderud (2007) explored affect attunement within the frame of a musical improvisation and argued that interactive experiences in musical interplay may be seen as a nonverbal analogy to real life, where sharing is part of intersubjective behaviour. This is in line with the concept of communicative musicality described by Holck (2008). Conversation analysis and descriptions of nonverbal healthy communication between mothers and infants are also included in the section to build a theory and an understanding of interplay of turns between parent and child as a part of parent-child interaction in music therapy.

### **2.3.1 Good Enough Mother**

Winnicott (1971) built his theory on object-relations theory and especially the work of Melanie Klein. His theories revolve around how a “good enough” mother must be able to give enough ego support to the child and attune her ego to the ego of the child. A good enough mother consists of three maternal functions in early childhood: holding, handling and object-presentation.

Holding refers to the mother’s intense identification with her infant and fulfilling its needs. The mother protects the non-integrated parts of the infant and child thus creating the potential space where the child later can react subjectively to the world. She protects her child from violent experiences and too much stimuli, takes care of its special uniqueness and sensitivity, and gives the infant a temporary illusion that the world always is kind and trustworthy (Hart & Schwartz, 2008, p. 51-52).

Handling is the physical supporting of the child and refers to how the mother takes up her child, puts it to sleep, holds its head etc. This is important for the child’s development of bodily awareness connecting mind and body.

More important for this study, Winnicott talked according to Hart and Schwartz (2008) of object presentation where the mother supports her child’s creative initiatives, allowing the child to explore the creative possibilities in their interaction. The mother waits for her child to take initiative, gradually lets the child have more control and fulfils less and less of its needs. The mother thus helps the child to develop a healthy sense



of independence. Trusting her own good judgment, and not letting herself be thrown off by possible rejection of the object by her child is also an important part of good enough object presentation (Hart & Schwartz, 2008).

Winnicott (1971) talked of mirroring as an important part of an infant's healthy development. When the infant looks at its mother, it sees itself because the look on the mother's face is related to the infant, as the mother looks at the infant. But this relatedness to the infant depends on the mother's capacity and should not be taken for granted (p.112). These descriptions have some similarities with Stern's (1985, 2000) affect attunement.

### **2.3.2 Daniel Stern and Affect Attunement**

In his theory of how the self develops in infants, Stern (1985, 2000) described what the infant needs from its parent for a good intersubjective self to develop. More precisely he described processes needed for a healthy self to develop including the parents' affective attunement to the infant. Stern described how caregivers imitate the infant and vary the repetition of the imitation in order to keep the infant interested and maintain its attention. The repetition over a specific theme is particularly appealing to the infant, because it tends to organize the world by looking for invariants. It organizes both the known and the unknown part of theme and this is ideal for the infant to learn how to identify interpersonal invariants. The infant learns about complex behaviour and recognizes which parts to regard more than others. Thus infants are taught to identify the invariant features in interpersonal behaviour (Stern, 1985, p. 118). Affect attunement is what happens when the parent lets the infant know that its feelings are recognized and that the parents feel the same way, and that they share emotions nonverbally.

These complex intersubjective exchanges of emotions consist of following three steps:

- 1) Parent reads the infant's emotional state (correctly) on the basis of their nonverbal communication,
- 2) The parent imitates and varies the response of the infant,
- 3) The infant reads the corresponding response as something related to itself

Stern also called this a musical process, and many music therapists have incorporated this into music therapy theory as an understanding of and a part of clinical practice including Holck (2008) who referred to the concept of communicative musicality as a human capacity. Stern (2010a) argued that Wigram's (2004) concepts of matching in music therapy can be characterized as affect attunement and that it "is at the base of so much of the relationship and the transmission and communication between therapist and child." He then further linked it with parent-infant interaction and the different types of affect attunement, and described it as a vital technique in emotional communication (Stern, 2010a, p. 94). "Music is fabulous at [affect attunement]" and Stern believed this type of intersubjective contact to be the single most necessary aspect of any successful therapy, because it is a type of contact that two people can expand on (Stern 2010a, p. 98). In

his book, *Forms of Vitality*, Stern (2010b) called this “moments of meetings” where the relationship changes and moves into a deeper level of intersubjectivity. The variation of the theme in affect attunement is in fact important in order to match the emotional quality of infant’s state of mind correctly. To correspond correctly with the child, the parent uses different affect attunement mechanisms or forms of vitality including movement, force, space, intention/directionality, and time (Stern, 2010b).

Stern argued that this process often happens unconsciously and automatically, but he also described the consequence of no or poor affect attunement. The infant who never shares emotions and only experiences its emotions alone is isolated from the interpersonal world. Stern (1985, 2000) described different types of attunement and their consequences:

Selective attunement is when the parent stirs the infants’ mental experience in a particular direction according to the parents’ wishes, fears, prohibition, and fantasies. The parents often choose unconsciously what to attune to in the child and the child learns what can be shared with others. Too selective attunement can result in a development of a false self in the infant, for instance if the parent only attunes to positive emotions in the child and not to the negative emotions (p. 258).

Misattunement is somewhat difficult to identify and describe. It is when the parent almost attunes to the child but because of wanting to change the behaviour and the inner experience of the child, the parent does not succeed. This is a very common process, but when it is used selectively or too excessively it can result in the infant losing its own emotions. This can lead to needs for lies, secrets, and detours in later childhood (pp. 262-265).

Authentic and inauthentic attunement is a continuum and has to do with how clear and authentic an attunement is in relation to the context. Inauthentic attunements have similarities with misattunements but they differ in quality, as they do not have an underlining intent of stirring the child. Instead the parent fails to connect with the child and seems inconsistent in their way of relating with their child (pp. 265-269).

Overattunement is when the parent over identifies with the child wanting to be in every experience the child has. However, Stern argued that it is impossible to attune to all emotional states of the child. The child can learn that intersubjectivity can be potentially intrusive, but that it is not transparent. The parent can get close to the emotions of the child, but he or she cannot automatically guess it. A good attunement can never steal away the child’s inner state, but if the child for other reasons decides to follow the parent’s mental states, it can delay the child’s development of independency. Stern (1985) implied that there is no such thing as too much correct affect attunement, or at least that it does not have crucial consequences for the child (p. 270).

Stern (1985) also described social reference as closely related to affect attunement. Social reference is when the parent consciously controls and changes the emotional experiences of the infant. Social reference must contain attunement aspects for it to be successful, because of the nonverbal communication style of the

infant. It can be very well applied with the infant. Trying to comfort and distract the child from an unpleasant event, the parent matches the intensity of the cry of the child in the volume of her voice but at the same time has a soothing voice and a calm body. It can also be used very inappropriately for instance in always sighing and showing very depressed behaviour, whenever the infant falls down or drops toys involuntarily, which can lead to a very passive and careful toddler afraid to explore the world (pp. 273-274).

In relation to the current study with parents and their children playing nonverbally together in music therapy, these theories suggest that affect attunement is one way to describe their communication and parental response. These different types of attunement might also help assess parenting competencies and types of parental response. Within the presented developmental psychology literature, aspects of autonomy and a child's healthy independency facilitated by the parent also are evident. This further underpins the relevance of the autonomy relationship between parent and child in the assessment of parent-child interaction.

### **2.3.3 Nonverbal Communication and Interplay with Turns between Parent and Child**

Interplay with turns seems to be an important part of human interaction both verbally and nonverbally, and the assessment protocol of APC used in this study also includes an exercise where parent and child are asked to take turns in playing. As will be explained further in Chapter Three, a need for a deeper understanding of interplay with turns between parent and child emerged after the first part of analysis of data, and this called for quite a detailed theory of turn-interplay. Conversation analysis describes turn-organization in great detail, but as Holck (2004) pointed out, this is not a common perspective within music therapy research or literature. She used conversation analysis to describe and understand the concept of turn-interplay in music therapy with children with communication disorders. Holck explained how conversation analysis has developed a series of concepts useful in describing interplay in music therapy (Holck, 2004).

Conversation analysis originates in sociology and concerns the underlying social organization of interactional rules, procedures, and conventions. It is a methodological approach to the study of verbal interaction and includes analysis of ordinary conversation and other forms of talk-in-action such as debates and interviews. It examines language as social action, but includes also the prosody and nonverbal gestures that accompany the spoken words, including the organization of turns (Goodmann & Heritage, 1990; Schegloff, 2007; Wooffitt, 2005). Although the content of the conversation is considered a contextualising factor, the main focus in turn organization is the sequence, form, and structure of exchanging turns (Goodman & Heritage, 1990).

In order to understand verbal and nonverbal communication Knapp and Hall (2009) argued that the ability to send and receive nonverbal messages is an important part of communication capacity. They described this capacity and the understanding of social communication to be dependent on proper feedback from carers or parent in early and later childhood. This seems to have many similarities with Stern's theories of affect attunement (see Section 2.3.2) and with the concept of communicative musicality (Malloch & Trevarthen,

2009). “Nonverbal skills are gained by imitating and modelling ourselves after others and by adapting our responses to the coaching feedback and advice of others” (Knapp & Hall, 2009, p. 64). Knapp and Hall further suggested that without some sort of common understanding of nonverbal communication two people cannot effectively interact (p. 63).

Part of nonverbal negotiation in conversations is implicit cues indicating passing of turns and who is to speak when. The nonverbal cues can consist of facial expression, body language, and prosody. More specifically Knapp and Hall (2009) distinguished between the cues of listeners and speakers, where turn-yielding and turn-maintaining behaviour are speakers’ cues, and turn-requesting and turn-denying behaviour are listeners’ cues (pp. 424–426). While Knapp and Hall used the term turn-yielding, and this study uses the term turn-giving, as it is more commonly known in music therapy literature. The following concepts of turn-giving and turn-maintaining are applied to the current study in the flexible design and microanalysis and thus described in greater detail.

#### 2.3.3.1 Turn-Giving and Turn-Maintaining Cues

In common conversation turn-giving is when the speaker gives up his turn. This can include many different types of signal at the end of the speaker’s utterance such as;

- Kinesics markers that rise or fall with the speaker’s pitch level
- Decreased loudness
- A slowed-down tempo
- Termination of gestures accompanying the speech
- Gazing at the listener
- An extended unfilled pause

More explicit cues can consist of touching the listener, holding the eyebrow in expectation or saying something like, “Well?” These are used by the speaker, if the listener does not perceive the signals as turn-giving.

Turn-Maintaining is when the speaker does not want to pass the turn, which can result in one or more of the following behaviour:

- Increase in voice volume as turn-requesting cues are perceived from the listener
- Continuing of accompanying movement, creating a gestural equivalent to the filled pause
- Frequency and duration of silent pauses decreases
- A light touching of the other person and patting motion (as if saying, “Hold on, just a little bit longer.”)

Turn-Requesting is when the listener wants to talk and exhibits one or more of the following behaviours;

- Upraised index finger (raised hand)

- Audible inspiration of breath
- Straightening and tightening of posture
- Rapid head nods
- When interrupting the listener (becoming speaker) speaks louder than the partner, begins gesturing, and looks away to indicate the turn-shift

Turn-Denying is when the listener has received a turn-giving signal but does not want to speak. Here behaviour may consist of

- Maintaining a relaxed listening pose
- Maintaining silence
- Gaze intently at something else
- Smiling, nodding, or briefly restating the speaker's last word to indicate that the speaker should go on
- Shaking the head

Exchange of turns is a jointly negotiated and complicated process, and it can easily fail. According to Knapp and Hall, sometimes two nonverbal signals can contradict one another, turns can overlap each other, or cues can be missed. Sacks, Schegloff, and Jefferson (1974) explained different repair mechanisms in turn organization such as repairing interruption and repairing a failure of turn-transfer. Building on this, Holck (2004) stated that in evaluating the mutuality of interactions, how and if a repair of these not so uncommon mistakes occurs are important (p. 46).

Knapp and Hall (2009) stated that the greater the number of signals, the greater change of a smooth exchange of turns. They presented research suggesting that females tend to be better at turn organizing than males. Children are less likely than adults to gaze at the beginning and end of their turns. More importantly Knapp and Hall reported that decoding skills seemed to increase at the ages of 8 and 13 (p. 76). Furthermore, Wanska and Bedrosian (1985) concluded from their research that children showed more sophisticated conversational strategies with increasing age and language abilities.

Knapp and Hall (2009) also referred to the communication environment within the family and its influence on the individual ability to encode and decode nonverbal behaviour. In highly expressive families, children might be good at expressing themselves but not good at fine adjusting their decoding skills, because surrounding utterances are so clearly expressed. In inexpressive families, children might have poor expression skills but good decoding skills, because they need to read minimal or ambiguous cues from family members. This seems to have similarities with Gray and Kempe's (1976) description of coping strategies of the emotionally neglected child where the excessive adjusting child is over sensitive to any signals on how they should behave (see section 2.1.2.2).

Looking at nonverbal interplay between parents and infants, Beebe, Feldstein, Jaffe, Mays, and Alson (1985) pinpointed specific characteristics, also referred to by Holck (2004) in relation to her study on music therapy

with children with communications difficulties. The interplay here contains rhythms and temporal regularity. The parent aims to continue the dialogue with the infant and thus create a motivating tension by providing small rhythmic irregularities or variations in their turn-giving cues. Temporal regularity in the shifting of turns cannot be defined as a turn-giving cue, but it makes it easier for the child to figure out when to take the turn. Slowing-down or changing the intonation at the end of utterances like in adult conversation are strong turn-giving cues also in parent-infant interaction. However, patterns of gazing in adult conversation differ from those in parent-child interaction. The parent looks persistently at the child, regardless of who is the speaker and who is the listener (Beebe et al., 1985). Parents and children with communication disorders tend to consist solely of imitations of either parent or child. There seems to be a lack of mutual turn-interplay “where roles continually alternate between initiative and imitation” (Holck, 2004, p. 47).

A nonverbal focus in conversation analysis provides knowledge about what kind of social behaviour one can expect from nonverbal interplay between adults, between parent and infants and also to some extent between parents and children. However, as a method, conversation analysis is time consuming and requires a micro level analysis. In her study on interaction themes, Holck (2007) developed a method where some of the concepts and microanalysis from conversations analysis were applied to the transcriptions of the music therapy improvisations. This method will be further described in Section 2.5.6.3 on applied assessment models.

### **2.3.4 Summary of Good Parenting**

In assessing parental capacity, it seems essential to know what to expect from well-functioning parents as this guides the choice of focus in assessing parenting competencies and gives a sense of good parental capacity. The autonomy relationship between parent and child may clarify possible lack of mutuality or presence of an unhealthy high level of independence or dependence. Additional types of parental response have been presented including different types of affect attunement, holding, and containment as these may aid the assessment of how or if the parents meet the emotional needs of the child. Furthermore, the nonverbal turn-interplay between parent and child may clarify how effectively they interact.

### **2.3.5 Family Therapy**

This section serves to provide a small introduction to family therapy. Music therapists rarely establish the link between psychological family theories and the clinical application of music therapy. In the following the field of family therapy briefly will be introduced. Some thoughts of family therapy in social work also will be presented.

Family therapy has been developing since the 1950's. It started simultaneously around the world and different individuals contributed with their particular theory of how to understand and treat families. The many alternative theories of family therapy have well-developed rationales, strategies and proponents and

each explains the functioning of the family in a different way. Due to the fact that all theories are interpersonal models Carlson, Sperry, & Lewis (2005) described them to have the following common tenets;

- The whole is greater than the sum of its parts.
- Context is essential in understanding individual behaviour
- Circular, simultaneous, and reciprocal understanding of cause and effect
- Change to one part of the system affects all other parts
- Homeostasis or equilibrium is sought to maintain stability and sometimes prevent change
- Feedback mechanisms attempt to bring the family back into balance
- Methods used to restore equilibrium can become problematic
- Interventions focus on relationships within the entire family system.

Even though family therapy is a young discipline, Carlson et al. (2005) argued that it is time for a shift due to the major changes that have happened to the traditional nuclear family. Family therapy now has a role of co-creating new, more satisfying realities for families. Families all over the world have been experiencing an evolving environment that has changed the social context of family life, including aspects such as hierarchy between family members, new childhood conditions, career choices of parents, divorce etc. (Carlson et al., 2005). Family therapy has to adapt to these changes, as it also changes the condition for clinical practise. Carlson et al. stated that the training of family therapists predominantly prepares them for working with verbal and sophisticated clients, who can enter positive therapeutic relationships with little guidance. But previously underserved populations have now found their way into treatment, including people with little education, low levels of functioning, and multiple life problems. This heterogeneous client population has increased the number and complexity of problems addressed in family therapy, which necessitates considerations of public policy modifications and preventive strategies. For family therapy to keep its place in the managed care environment, each therapist must provide or at least consider emphasizing careful assessment, delivering treatment according to the assessment, using brief, empirically supported modalities, and accepting external reviews. Carlson et al. argued that effective family treatment consists of a solid ground across diverse theoretical approaches, broad repertoire of intervention techniques linked to theory, comprehensive assessment of the family system, and relevant intervention strategies tailored to the individual needs of the family (Carlson et al., 2005).

The field of family therapy has grown rapidly since 1950s with many approaches and treatment models still developing. The early pioneers had a focus on the family system and its structure, but the role of theory has changed since then. Theories are no longer trying to explain objective reality but instead provide multiple alternative explanations. There is no “best” or “right” approach, instead many useful approaches exist depending on the context of the family in question (Carlson et al., 2005).

Two of the family therapy traditions applied to this study are structural family therapy and solution-oriented family therapy (See Appendix A). In the solution-oriented tradition, focus is on what is possible, solutions, and competencies rather than on problems. Change is considered constant and inevitable, and meaning is negotiable. In the structural tradition, humans furthermore are considered social creatures and viewed holistically. Family structure is composed of sets of family transactions where power, boundaries, and expectation are the main features. The goal of solution-oriented family therapy is to choose meanings that will lead to change and to alter the worldview and behaviour of the family, which results in very specific goals for each family. Much in line with this, a structural tradition seeks to solve the family's presenting problem. This includes restructuring family transactions to change family structure. Furthermore, in a structural tradition the process of therapy emphasizes action over insight and uses techniques such as enactment, actualizing family transactional patterns, support, education, and guidance of the family (Carlson et al., 2005).

#### 2.3.5.1 Marte Meo Method

Marte Meo is an approach of working with families that was developed by the Dutch family therapist Maria Aarts in the late 1970s to early 1980s, and is now practised all over the world including The Netherlands, Ireland, Norway, Sweden, Denmark, Germany, France, Hungary, Switzerland, Slovenia, New Zealand, and Costa Rica. There is also contact with countries such as USA, England, South Africa, Estonia, Australia, Bulgaria, and Canada. Marte Meo is Latin and means "On one's own strength." The method is based on interaction analysis from videos of the client that are shown to the client, where the focus is nonverbal signals in body language, gesture, rhythm, and pitch in interaction with others (Aarts, 2000). The method is now used in many different types of institutions and settings, but it was originally aimed at parents and their own children. The aim is to change unfortunate patterns in everyday interaction and strengthen the quality of communication between parent and child, including helping the mother attune to her child and create intersubjective interactions.

The main thought behind using videos and interaction analysis is that change can only happen in the moment of action and not in the mind alone. Aarts believed that most families have the potential to solve their own problems and contain/establish their own developmental process (Aarts, 2000). Marte Meo is a positive approach, in which problems are viewed as opportunities for learning something new.

The videos are used

- to gather information about everyday behaviour
- to give the client insight of him- or herself both in successful interactions and interactions that need more guidance
- to gather information about the special needs of the child



- to maintain focus in working with parents
- to work with what the client can see in the video, enabling step by step processes
- to show precise observations in evaluation processes

Aarts (2000) stated that the method has limitations. She referred to families who are too damaged or who have lives so complicated that they lack the energy and ability to engage in this method. She further stated that parents who lack parental capacity and who have special needs children are especially hard to reach. Some music therapists have written about the connection between Marte Meo and music therapy, and how Marte Meo methods can help disseminate music therapy processes of musical improvisations and interactions (Holten, 2008; Isene, 2008).

### **2.3.6 Summary of Family Therapy**

The challenging and evolving environment for families requires family therapists to adjust their theoretical approaches and intervention techniques in treatment according to these new types of needs in modern families. In working with families, the therapist must choose the treatment goal and the role of the therapist carefully and welcome a pragmatic and appropriate selection of foci for treatment with a deep respect for the individual family. The Marte Meo method enables a positive approach for engaging parents in looking at parental capacity that maintains respect for the family's potential for solving their own problems. But how do music therapists select foci and treatment goals in working with families? What kind of families do they work with? What are the roles of the music and the therapist? These questions will be answered in the next section on music therapy with families.

## **2.4 Music Therapy and Families**

In this section, the study presents how music therapy literature and research describes and understands the neglected child and the possibly neglectful parent, including different parental response types within music therapy. The main focus for this section is presenting music therapy literature, research and possible theories of working with families, as the current study seeks to assess parental capacity and improve parenting competencies using music therapy. The chapter starts with describing neglected children in music therapy, then moves forward to describe neglecting parents in music therapy, and further on to neglected children and their parents together in music therapy.

### **2.4.1 Music Therapy with Neglected Children**

In Section 2.1 the study has presented literature on the emotionally neglected child within social service and developmental psychology. This subsection serves as an introduction to music therapy for families at risk by trying to understand the emotionally neglected child's needs and behaviour through a music therapy setting perspective.

Because of the way children often are referred to music therapy, there is limited literature "labelled" emotionally neglected children as this is a term used primarily in a social service context, and music therapists are not commonly employed within this area. Some music therapy literature, however, describes the general needs and characteristics of emotionally disturbed children including attachment disorders. Emotionally neglected children are not necessarily emotionally disturbed nor do they per definition have attachment disorders. This depends on their way of coping and their general level of vulnerability as referred to in Section 2.1.2. Neglected children may become emotionally disturbed or have attachment problems, when they have poor coping strategies and are very vulnerable. Because of the similarities between emotionally neglected and emotionally disturbed children, it seems relevant in this study to include characteristics of emotionally disturbed children in music therapy.

Whether the child is called disturbed or neglected depends on the context of their referral. Emotionally neglected is a term primarily used in social services and emotionally disturbed is used primarily in psychiatry. This knowledge is important both in evaluating assessment results within a music therapy setting but also in choosing an intervention style that meets the special needs of these children.

Within the frame of a day-care centre for disabled children, Irgens-Møller and Bjerg (2004) described important points for planning relational music therapy with children with attachment disorders. These points include being sensitive to the inner chaos of the child, making reasonable and appropriate demands, and strengthening the integrity of the child. They also stressed that the child needs to feel acknowledged and to exchange emotions. As did Killén (2005), Irgens-Møller and Bjerg (2004) pointed out that these children can be stereotypic and inhibited in their play.

Working with children in psychiatric setting, Oldfield (2000) described how emotionally disturbed children need clear structure but also flexibility in order for them not to feel inhibited or to feel pressured by too many demands (Oldfield, 2000). Also within a psychiatric setting, Hussey and Layman (2003) described how music therapy and its unique features can help emotionally disturbed children. According to Hussey and Layman, child therapists often experience children's reluctance to engage in direct therapeutic work. They believed that a nonverbal form of communication like music can help victimized children express early traumatic events. They further stressed;

Music is an ideal way to help these children self-regulate and soothe as it creates a middle ground between over-arousal and numbness and helps the child to experience a state of stability.... The immediate success that children experience in the music therapy setting can provide a boost to self-esteem and create a successful, nonthreatening environment in which the therapist can help the child to decrease symptoms of arousal or disinhibition. (p. 2)

Music therapy provides flexibility and a world of symbols for abused children to externalize their internal world from a safer distance. Hussey and Layman also pointed out, that creativity is required by the music therapist in order to adapt to the individualized needs of the child (Hussay & Layman, 2003).

Within social service, music therapist Kolind (2008) argued that music therapy and especially improvised songs give the emotional neglected child a chance to express preverbal parts of the inner self, because the music creates a safe frame. More so because the musical-poetic features enable the child to have more time to feel, associate, and reflect and then further on to verbalize and combine sentences (Kolind, 2008).

Layman, Hussay, and Laing (2002b) suggested that music therapy is a useful therapeutic intervention with emotionally disturbed or traumatized children for reducing anxiety; increasing emotional expression, self-esteem, self-expression; and facilitating a sense of pride. Furthermore they described music as a gift for children sensitive to deprivation, as it allows opportunities to make choices, aids transitions, provides structure, and frequently provides changes because it is inherently nonthreatening and indirect (Laymen et al., 2002b, p. 40)

#### 2.4.1 Summary

These descriptions suggest that emotionally disturbed and emotionally neglected children benefit from music therapy treatment, feel safe, and have their special needs met in music therapy especially because of the nonverbal and nonthreatening way of communicating through music. As a music therapist working clinically with this population, it seems important to provide a healthy balance between structure and flexibility. These children might have difficulties in letting go to improvise musically and they might need much guidance and support from the music therapist.

## 2.4.2 Music Therapy with Neglectful Parents

Working with families is a relatively new and developing field in music therapy, and it is implemented with different populations including patients with terminal illness, cancer, psychiatric illnesses, and individuals with developmental disabilities or disorders. Regardless of the client population, the literature mainly revolves around working with the children within the context of the family. Very few music therapists have described work with families at risk, and there seems to be a lack of literature with the opposite focus: working with the parent in relation to how he or she interacts with the child. The characteristics and needs of neglectful parents together with the application of music therapy in this population are somewhat covered in the literature. In assessing and training parenting competencies within a music therapy setting it seems important to gather knowledge of how neglectful parents or parents from at risk families react to music therapy. It will inevitably aid the understanding and interpretation of assessment results and help guide the intervention style in music therapy treatment.

Jónsdóttir (2008) worked with early intervention from a caring perspective and focused on helping parents who have children with special needs. Early intervention is aimed at families defined as at-risk or that include young children with established disabilities. Jónsdóttir was thorough in wanting to describe and understand the parents of children with special needs. In her literature review, Jónsdóttir grouped at-risk conditions as either environmental or biological and further listed the most common ones:

Environmental risk conditions	Caretakers unable to perform essential parenting functions due to disease, young age or handicap, upbringing in a shelter or a foster care environment; violent, neglecting or abusive caretakers; upbringing in an unstable home environment; legal guardian not established
Biological risk condition	Premature infants, children with life-threatening or chronic diseases; children who become injured or exposed to drugs; children born with chromosome abnormalities; neurological impairments; atypical development disorders; very low birth weight; and delay in cognition, physical/motor, speech and language, psychosocial, or self-help skills.(pp. 367-368).

Working at Coram, England's oldest children's charity, Drake (2008) also described the environmental circumstances of some of the parents where the children had no formal diagnosis. This included poverty, isolation, and living in deprived areas (Drake, 2008). She further pointed out that maternal depression and

contributing factors like mental health issues, separation, neglect, or trauma can endanger the intuitive musical engagement between mother and infant that can result in insecure attachment, difficulties in communication, interaction, emotional expression, and cognitive development in the child. Drake also pointed out how children with little feedback can trigger a vicious circle of poor child feedback, and feelings of inadequacy in the parent which in the end leads to no interaction offered by the parent. Finally Drake referred to changes in standard policies, including supporting the parent in bringing up their children. She believed it to be crucial for music therapists to adopt these changes in order to maintain high standards of specialist provision and achieving the best possible results for clients. She wondered why so few music - therapists work with joint parent-child sessions given the well-documented theory and research that underpin the importance of the musical relationship between parent and child (Drake, 2008).

Working in the field of child and family psychiatry, Oldfield (2006a) described parents who did not experience good parenting themselves, had a difficult childhood, had difficulties in bonding with or letting go of their child, had postpartum depression or other past or present health problems, were themselves victims of abuse, and had previously had difficulties raising their child (Oldfield, 2006a). Oldfield worked closely with mothers and young children with autistic spectrum disorders in music therapy. In her work as a clinician, she divided them into the following four categories:

1. Mothers, who are shy and hesitant to become involved;
2. Mothers, who try to interact with their children but are unable to listen and tend to mismatch musically. They either imitate precisely without offering new ideas or give musical responses that have no relation to the child's musical expression.
3. Mothers, who are over-involved and find it hard to let their child initiate any ideas
4. Mothers, who are very supportive towards their child and appear not to be experiencing any difficulties. These mothers are often very enthusiastic and praise their children. There is often a strong bond between mother and child, and rarely there are issues of jealousy of the intimacy between therapist and child (Oldfield, 2006b, pp. 78-79).

In connection with the second edition of *Music Therapy and the Autistic Child*, Auriel Warwick described a study she conducted with psychologist Pierrette Muller in 1986-1987. One part of the study examined mothers' perception of and attitude towards the child (Alvin & Warwick, 1991). Alvin and Warwick divided 9 children with autism and their mothers into two groups and provided 20-22 weekly sessions. Group Two mothers attended the first ten sessions, while mothers in Group One participated in the last ten sessions, which corresponds to an AB – BA design. Sessions were conducted in family homes, and all sessions were

video recorded. Data also included questionnaires before, during, and after therapy. Results showed a differentiation among mothers and three categories emerged.

Category 1: Mothers who were relaxed and could relate to their children through sounds and music.

Category 2: Mothers who had specific problems relating to their children through sounds and music.

For example, they withheld their own feelings as a defence against their children's feelings, and it was difficult for them to answer their children's challenging musical expressions. For example, when the children, chose to play loud, mothers often chose to reply by playing soft, which had the opposite effect than the mothers obviously intended to do. These women needed support and increased self-esteem before they could express themselves in the musical interaction. In time these mothers gained more confidence and became more assertive.

Category 3: Mothers who were over-intrusive and worried that their children should always be actively participating, often because they themselves were anxious. The consequence was that the children never had the time and space to respond as they needed to. (Alvin & Warwick, 1991, p. 122)

### **2.4.3 Summary and Reflection**

Music therapists working with neglectful parents make descriptions of them that seem congruent with the descriptions presented in Section 2.2 on understanding neglecting parents. The parents are fragile with low self-esteem and feelings of inadequacy due to one or more of several different biological or environmental conditions. Oldfield (2006b) provided a clinically based differentiation of four parental response types in music therapy.

Music therapists working with families seem to report more on the clinical intervention and do not have their focus on the assessment process and aetiology of the parent and how it may influence therapy. They typically address the needs of the child, regardless of whether the families are at risk or whether the child has a diagnosis. However, if music therapy is to make it as a professional and relevant treatment for this population, one must actively and overtly consider and develop a theoretical understanding of the general and individual aetiology of problematic parenting, including specifying client needs. One must incorporate relevant research results and show how music therapy can contribute to the different needs of neglectful parents. Consideration of parents' different types of responses is equally important, but they have to be connected to an understanding of why this is so. Drake (2008) seems to take these points into consideration and wondered why music therapy is not more evident in addressing the needs of neglectful parents and at risk families.

Research findings and clinical descriptions have suggested that specific types of parents are present within the music therapy setting that has a focus on the special needs child. However, music therapy research with families does not include samples of nonclinical populations. Below there is a summary including presented research within sociology from Section 2.2.2 presented in Table 1.

**Table 1**  
**Overview of Different Parent Response Types**

Author/ year	Paradigm	Purpose	N	Design	Results
<b>Alvin &amp; Warwick, 1991</b>	Music therapy	Examine mothers' perception and attitude towards child.	9 PF	AB – BA design  Video analysis Questionnaire	Three types: Mothers at ease Mothers with difficulties Over-intrusive mothers
<b>Crittenden, 1981</b>	Sociology	Identify differences in parent/child relationship and family functioning	38 NNF+NF	Survey – video records and 1 minute coded	Four types mothers: Sensitive, inept, neglecting, abusive Three types infants: Difficult, passive, co-operative.
<b>Polansky et al., 1981</b>	Sociology	Identify differences in parent/child relationship and family functioning	46NF 79NNF	semi-structured interviews, observation and interaction in homes, multiple questionnaires, and information from other professionals	Two types NF: Apathy-futility syndrome & impulse-ridden
<b>Polansky et al., 1996</b>	Sociology	Identify differences in parent/child relationship and family functioning	102 NNF 103 NF	Survey – multiple questionnaires and observation	Two types NF: Chaotic/leaderless Dominant/ autocratic
<b>Oldfield, 2006b</b>	Music therapy	x	x	Many years of experience	Four types: Hesitant and shy Supportive Mismatching Over-involved

NF: Neglect families

NNF: Non-neglected families

PF: Pathology families

#### **2.4.4 Music Therapy with Families**

In the following, a literature review will present how music therapists work with parents and children divided in two areas; music therapy with families with special needs children, and music therapy with families at risk including neglected and traumatized children. The difference between the two areas is mainly whether the focus is on the child or the parent. In music therapy for children with special needs, parents often observe the progress of their child and have valuable information about the child, although the parent sometimes plays a

more active role during the sessions. Children on the autism spectrum have certain difficulties in communicating that need to be addressed especially in cooperation with the parents. Neglected children or families at risk have other types of problems, but the focus is still on how they interact and how they relate to each other. For the benefit of the child, the focus in this population is more on how the parents can improve their parenting. However, it seems to be a double-sided issue, because some developmental delays in children can be connected with parental neglect or absence. These cases seem particularly difficult, because the child has severe problems and they have with parents with poor parenting skills. These children appear within both areas depending on how they were referred to music therapy.

Both areas contain aspects of parenting competencies, and both areas report clinically or theoretically on the approach, aim, role of music, and type of intervention. Mothers and father are not equally represented in the literature, and part of this is due to the fact that many of these families are single-parent families and children tend to stay with their mothers. The section also includes relevant research findings both of outcome and effect and of process descriptions of music therapy with families.

#### **2.4.5 Music Therapy and Families with Special Needs Children**

Music therapy literature contains some clinical descriptions and to some degree theories on music therapy with families and children with special needs. The children of this group have many different diagnoses and problems that range from autism, physical handicaps, and developmental delays to cancer and life threatening diseases. Several case stories of working with families with special needs children have been published. They have common features of positive experiences and beneficial outcomes for both children and parents (Alvin, 1981; Flower, 2008; Horvat & O'Neill, 2008; Oldfield, 1993, 1999, 2006a; Oldfield & Nudds, 2002). To a lesser degree there have been research publications on working with families with special needs children.

##### **2.4.5.1 Individual and Group Approach and Aims**

Reasons for parents taking an active role in music therapy with their special needs child may vary from parents providing emotional or physical support to parents having difficulties in relating to their special needs child (Horvat & O'Neill, 2008). Oldfield (2006a) described her focus as developing interactive patterns that can be transmitted to the child and the mother, more than a focus mainly on the therapist-child relationship (Oldfield, 2006a). Oldfield called her positive approach 'Interactive Music Therapy' due to the focus on establishing basic interaction with the child and further stressed that the key motivation for the child is to view the music therapy sessions as a positive event. When trust is built, difficult emotions can be explored, but the overall experience must be positive. In contrast to other professions, music therapy focuses more on what the child can do as opposed to what it cannot, and this further motivates the parents of the child (Flower, 2008; Loth, 2008; Oldfield, 2006a).



Depending on the special needs of the child, the parent can have a more observing role being supportive and enjoying the child's newly gained freedom and interaction with the music therapist (Flower, 2008).

In working with groups of mothers and young children, music therapy is described as allowing the parents to interact with their children in more positive and spontaneous ways than usual. Insight and recognition of this often only happens through discussion and looking at video. The recognition from other parents with similar difficulties can then raise their hopes and confidence and can bring them out of isolation (Bull, 2008; Oldfield, 2006a). Sharing and mutual acceptance of having a special needs child is also viewed as an important factor in the parent gaining confidence. By giving support and helping others, the parents increase their own sense of confidence and renew their resources (Bull, 2008; Loth, 2008). Parents in groups have reported that they developed communication and social skills, learned to wait for their turn and to take initiative, and improved their listening skills and self-expression (Loth, 2008).

#### 2.4.5.2 The Role of Music

Oldfield (2006a) found music capable of recreating a warm, simple interaction between parent and child. Playing simple instruments enables the parent to rediscover the fun and spontaneity of being a child and brings them closer to the child. The structured and nonverbal features of musical activities and improvisations can reassure families, who have been entangled in verbal conflict and control issues that these can be addressed. Ultimately, Oldfield stressed that a predominantly negative relationship has a chance of starting over with a more positive result as families rediscover their ability to have fun together in music making. Parents often find their difficult and uncooperative toddler being able to concentrate and listen in music therapy sessions, and might start to see them in a more positive light.

#### 2.4.5.3 Intervention

It can be difficult to interact with a child with a diagnosis on the autism spectrum, but music therapy enables positive interaction between parent and child. Imitation, call and response, and echo clapping can teach parents how to interact with their child and be tolerated even by defensive parents (Benenzon, 1976). The parent can take part in discussions of progress of the child where the focus might be on making the child more independent. In cases when parents lack parenting competencies, the therapist only address this by gradually modelling more effective patterns of interaction and only providing verbal support and encouragement. When the parent has picked up on the model of more effective patterns of interaction and has gained more confidence, the issue of parenting skills can be addressed verbally (Oldfield, 2006b). Generally music therapists seem to build strong working alliances with parents and to offer much support and encouragement (Bull, 2008; Horvat & O'Neill, 2008; Oldfield, 2006b). With some parents, a talk about roles, aim, and approach after each session can also be very beneficial (Horvat & O'Neill, 2008; Oldfield, 2008)

#### 2.4.5.4 Research Publications

In a study of music therapy with pre-school children with autism spectrum disorder and their parents, Oldfield (2006b) looked for changes in the children over time and whether there were similarities in the changes across the children. She also was interested in how parents benefitted from being in the music therapy sessions, changes in patterns of interaction between parent and child, and similarities and differences across parents. Ten children and their participating parents received 16-26 weekly sessions and the session where video-recorded. The parents were interviewed and completed Parenting Stress Index both before and after the sessions. There was no control group. The video analysis consisted of 222 video recordings analysed in random order using a five-second sampling system, counting and timing predefined behaviour types scored by a research assistant. There were not enough resources to test for interrater reliability, but an informal procedure indicated that interrater reliability was present. Interpreting all the data and comparing the subjects showed generally positive results. Some positive changes for each of the ten dyads included increased engagement and amount of time playing instruments. Of the ten parents, eight showed some significant changes in their behaviour in music therapy sessions including engagement with their children. The interviews and questionnaires indicated that 9 out of 10 parents were positive about music therapy treatment. Two of the parents' levels of stress were considerably reduced posttreatment (Oldfield, 2006b).

According to Müller and Warwick (1993), their study showed that there was an increase in the level of the child's participation in musical activities including turn-taking. Similarly, there was a decrease in stereotypical behaviour of the child in music therapy. In relation to the development between mother and child, there was significant decrease in the mothers' demanding behaviour, which was crucial for an equally significant decrease in the child's evasive behaviour. The qualitative interviews with mothers before, during and after sessions reflected a better ability to realistically look at their child's abilities. The mothers were also more aware of the positive and active sides of their child. Interviews during treatment showed that this trend could be seen, whether mothers were group one or group two. This suggests that mothers have experienced a change in the child outside the music therapy setting. The most interesting result was that mothers more easily could read the emotional state of the child due to music therapy (Müller & Warwick, 1993).

Larsen (2011) reported a study of music therapy counselling for parents and caregivers of children with severe development delay. The phenomenological and hermeneutic study investigated the experience of two caregivers accompanying two children in music therapy. The method consisted of interviews with the caregivers and music therapist and of member-checking the music therapist's utterances. The results stressed the importance of observational counselling and noted that it might be valuable for the music therapist to affirm the caregiver both verbally and nonverbally. Larsen suggested that musical counselling, when caregivers reflected on personal reactions to the music in music therapy, was beneficial. Through musical

counselling a deeper understanding of the child was possible. It was considered crucial that the music therapist assessed the caregiver's ability to translate observational or musical experiences.

#### **2.4.6 Music Therapy with Families at Risk**

Music therapists have reported working with families and children with no obvious pathological condition but who might have experienced neglect, violence, traumas, etc. Music therapy with families living in poverty and isolation and families at risk in general also appear in the literature to a limited degree. The main goal seems to be to improve the quality of the communication within the family (Decuir, 1991). There are a few case stories documenting working with families at risk. The stories all revolve around developing a better relationship between parent/caregiver and child (Davies, 2008; Hasler, 2008; Howden, 2008; Salkeld, 2008). There have been a few research publications within this area which will be presented in Section 2.4.6.4.

##### 2.4.6.1 Individual and Group Approach and Aims

Particular difficulties within relationships can be addressed directly by having parent and child together in music therapy (Howden, 2008). Music therapists working with parent and child within this area focus on fun and enjoyment in the effort to enable positive and meaningful interactions that are often rare for these families. Music therapy can be a relief for the parents, because more than other professions within social work, it focuses on positives in the child (Davies, 2008; Howden, 2008; Layman et al., 2002a). Parents seem to connect with music therapy before being willing to connect with other types of intervention, because the child enjoys music-making and because of the nonthreatening environment (Abad & Williams, 2007; Drake, 2008; Miller, 1994). Parents often need support in rediscovering positive ways of interaction (Davies, 2008). Some music therapists focus upon interactive music-making including activity-songs, sharing instruments, movement, and dance in an informal setting with multiple families with young children. Many parents attend these sessions for the child to have fun, but music-making is also valuable for building attachment relationship and developing social interaction skills in both parent and child. The aim is still to extend the repertory of parenting skills through interactive play (Abad & Williams, 2007; Drake, 2008; Mackenzie & Hamlett, 2005).

Parenting skills can be nurtured and subtly developed through these activities including mother-baby play and communication, boundary setting, and managing difficult behaviours and emotional states of the child. In cases where child and parent are seriously struggling to relate to one another or when any type of developmental delays appears, it may be necessary to have a more targeted and individualized support (Drake, 2008).

#### 2.4.6.2 The Role of Music

Music is effective in bringing parent and child together, because it facilitates play and the communicative functions of play. Music is a legal medium for the parent to use and it allows the parent to get in touch with the child. Through musical play, child and parent can try on different characters and behaviours towards each other (Abad & Williams, 2007; Howden, 2008).

In cases of neglect, mental health issues in parents, social isolation etc., where the important intuitive musical engagement between mother and infant have failed, music therapy can provide a setting where parent and child can recreate the vital process of attuning to each other. The shared experience of timing, rhythm, pulse, melody, and pitch that should have occurred in the early natural bonding process is possible through a music therapy setting with parent and child, and they can start developing a responsive relationship (Davies, 2008; Drake, 2008; Salkeld, 2008). Musical expression and containment can help parent and child move forward within their relationship by coming to terms with difficult emotions either shared or not (Howden, 2008).

Music enables spontaneity within structure and improvisation and musical games are considered subtle and safe enough for the families to express themselves and share deeper feelings both consciously and subconsciously without verbal discussion. The relaxed, nonthreatening, and soothing atmosphere created by music allows ideas and feelings to be communicated more freely (Davies, 2008; Decuir, 1991; Hasler, 2008; Hibbon, 1992; Howden, 2008; McDonnell, 1984; Miller, 1994). Individual expression in solo improvisations gives the child or parent a chance to feel heard and appreciated, and shared playing encourages cooperation and connection (Hasler, 2008; Miller, 1994).

#### 2.4.6.3 Intervention

The main point of intervention with families at risk is to support and facilitate the newly gained relationship between parent and child (Salkeld, 2008). In some cases therapists encourage the attunement with the child without explanation but through flexibility, patience, modelling, and observation. Parents need much support in order to be confident enough to participate and interact with the child (Davies, 2008; Drake, 2008). It is considered inappropriate to overtly criticize parents with very low self-esteem in front of the child. Instead, the therapist models appropriate behaviour for the parent to copy. Music therapists model specific parenting strategies including praise and positive reinforcement, nonverbal communication through eye-contact, smiling and physical attention, and set boundaries for the child (Abad & Williams, 2007; Davies, 2008; Howden, 2008; Salkeld, 2008).

Some music therapists also target the interaction between parents and children by introducing songs or directing improvisation with specific tasks and foci including intimacy, emotional exploration, and empathy. The directed improvisations can address issues like control, turn-taking, and parental support. A more directed approach can evoke difficult emotions and resistance in both parent and child, but this is viewed as

necessary in some cases and the reaction of the family can be very informative to the therapist (Hibbon, 1992; Miller, 1994). In addition Miller (1994) has listed specific valuable music therapy intervention that he stated can be effective in enhancing family communication skills and addressing the imbalance of power within the family including conducting, guiding (children), echoing, soloing, playing duet, and playing of mood themes to name a few.

#### 2.4.6.4 Research Publications

Trolldalen (1997a) explored how joint musical action can help to strengthen the interaction between mother and child in a music therapy group with pairs of parents and children. She was particularly interested in how recognition is reflected in music, and how recognition can illuminate processes between parent and child. When parents were observed to have parental skills deficits, they were given verbal encouragement to try new things, by use of behaviourally specific verbal suggestions followed by descriptive praise for attempted change. Specific parenting strategies that were modelled included the use of praise, modelling and positive reinforcement to shape children's social, behavioural and motor skills, improving parental nonverbal communication. This was done through eye contact, smiling, touch and physical affection; the use of simple instructions and limit setting; and the use of co-facilitated play. The sample group consisted of 5 women with 5 children aged 2-4 at a special care centre for disadvantaged pregnant women and single mothers with children in various age groups. The weekly sessions lasted 30-60minutes over a period of 3 months, and all sessions were video-recorded. A qualitative video analysis with detailed transcriptions served as the main method.

On the basis of the results, Trolldalen (1997a) concluded that joint musical action may contribute to the strengthening of mother-child interaction, in the sense that it creates opportunities for meaningful intersubjective meetings. This means that two individuals meet through affective empathy, joint attention, and mutual confirmation. Trolldalen argued that recognition is a core element of Stern's concept of intersubjectivity, specifically developed through affective attunement. Recognition consists of confirmation, listening, acceptance, understanding and tolerance, and implies a genuine attempt to understand the child. Trolldalen believed that recognition is evident through mutual awareness, eye contact, initiative, the structure of the interaction including a particularly clear dialogue between mother and child, emotional sharing, imitation and acting together through objects and symbols. Trolldalen added that the musical interaction has therapeutic potential because it consists of actions at a nonverbal level. She stressed that appreciative musical acts between mother and child can be seen as an analogy to real life and lead to the strengthening and development of mother-child interactions (Trolldalen, 1997b).

Abad, Berthelsen, Bradley, Nicholson, and Williams (2008) studied several aspects of the *Sing & Grow* program, a short-term early childhood parenting intervention programme structured around music-based play

activities. It is based on the principles and approaches of attachment theory, interaction theory and behavioural parent training. It is a 10-week group music therapy program for children aged 0-5. Each session typically contains following elements, each addressing one or more developmental skills: greeting and farewell songs acknowledging each child individually by name to encourage social responsiveness; action and movement songs to provide practice of fine and gross motor skills; instrumental play to provide further motor skills practice. It also focused on following simple instructions (e.g., 'start', 'stop', 'louder', 'quietly'), turn-taking and sharing; and quiet music to encourage physical touch, closeness, and bonding between parent and child.

The sample of the study consisted of 37 Sing & Grow group programs with a total of 358 parent and children. The music therapy sessions were conducted by 17 trained clinicians working with marginalized parents in different geographical areas of Australia. Data were collected from participating parents in the first two and last two sessions of the program. Questionnaire data were collected at the ends of the first and last sessions.

Parental responsiveness, irritable parenting, parenting self-esteem, play and incidental teaching activities and parental mental health were assessed using subscales and excerpts from different highly valid psychometric tools including the Child Rearing Questionnaire, Parental Perceptions and Behaviors Scale, Early Childhood Longitudinal Study. Results of the study showed that 79.8 percent of parents who completed treatment reported being very satisfied with the intervention. 85 percent were very satisfied with the music therapy staff, 97.2 percent of parents reported that they would like to attend another Sing & Grow program, and 98.0 percent indicated that they would recommend the program to other parents. Most parents (58.2%) reported increased understanding of child development and 73.4 percent reported learning new ways of playing with their child. Music activities were used by 81.2 percent of parents to amuse their child and by 49.5 percent to manage difficult behaviour. Statistically significant improvements over time were found for parental irritability, activities with the child, parental mental health, child communication skills, and child social play skills. In addition, the study strongly suggested that music-based parenting programs have potential advantages in providing a nonthreatening and enjoyable context for the delivery of a therapeutic intervention, and that it is acceptable to the types of parents who fail to attend traditional parenting interventions. The Sing & Grow program provided evidence of potential benefits in terms of parenting behaviours and child developmental skills (Abad et al., 2008).

#### **2.4.7 Summary**

In this section of describing music therapy with families, different aspects of client needs, clinical approaches, and possible effects of treatment have been presented. Music therapy with families has focus on either special needs children in the context of their families or focus on the parent-child relationship where there is no obvious pathological problem. Regardless of this focus, music therapy with families uses common

clinical approaches such as providing a positive experience of interacting for the parent and child and providing the possibility of trying on new ways of relating to each other. Both child and parent are vulnerable and need much guidance and modelling. Due to the nonverbal focus the music therapy setting seems nonthreatening for families and enables creativity and ongoing motivation, and a musical interaction can recover parts of a lost, healthy, early interaction between parent and infant. Both case stories and research findings have found that music therapy with families has positive results regardless of focus. Parents gain new insight into their own capacity, read their children's emotional states more easily, and seem to have a more positive view of their children. Parents and children learn new, healthier ways of interacting, and some parents use music consciously in raising their children. One question emerges building on these positive findings: Is it possible to reliably and valid assess these aspects of parenting competencies and parent-child interaction with a music therapy assessment model?

## **2.5 Assessment of Parenting Competencies and Music Therapy Assessment**

Parenting competencies consist of many different personality traits that interrelate, and they can be measured in many different ways. The fields of sociology and psychology have a long tradition of evaluating parenting competences by means of interviews, personality tests, questionnaires, and observation. These two fields also have a long tradition for producing standardized psychometric tools with high levels of validity and reliability.

Music therapy has developed several assessment tools that contribute to assessment and diagnosis in clinical populations such as children with autism and psychiatric diagnoses with specific emphasis on communication and interpersonal skills. However, little music therapy research has focused on standardizing assessment tools or assessing parenting competencies. This section includes a general overview of specific and relevant music therapy assessment tools available, and literature on assessing parenting competencies.

### **2.5.1 Social Work Assessment of Parenting Competencies**

The fundamental purpose of assessing parental capacity is to shield the child from inept parenting including neglect, abuse, abandonment, and school truancy. Interventions include removing the children from their caretakers or offering the family treatment to improve the situation. However, in situations like adoption, divorce, and child custody, assessment of parenting competences is also needed.

According to Wolf and Peregoy (2003), parenting assessment is linked to the historical background of child welfare, as the laws regarding child welfare were enacted around the year 1500. Laws have changed a lot since then. Countries all over the world setting higher and higher standards for parenting, necessitating tools for assessing child welfare or parental capacity (Wolf & Peregoy, 2003). Today there are three frameworks from which to assess parents and their children: legal, social work, and medical paradigms. Steinhauer (1991) listed five components that need to be considered in evaluating parent-child relationships: quality of attachment, ability of parents to perceive and respond to the needs of the child, ability of parents to transmit the values of society, quality of parent-child relationship, and continuity of relationship. Many questionnaires are available to predict and assess parenting capability, but assessors are cautious in interpreting the results. Only qualified professionals should conduct the tests, and one test should never be used alone for assessing parenting competencies (Wolf & Peregoy, 2003).

There are advantages to assessing parents besides ensuring the welfare of the child. These include therapeutic benefits of the assessment process, such as being a springboard for further intervention techniques, increased insight in parents, revealing strengths as well as weaknesses, empowering the parents, and increasing perhaps much needed self-esteem (Wolf & Peregoy, 2003).

The challenges of assessing parents are the inevitable reduced but still present subjective evaluation, and the negative influence on parents' sense of their own ability. In the worst case scenario, assessment may stop the



parents from seeking help. Whatever the results of parenting assessment are, it may negatively affect the welfare of the child, as it is extremely vulnerable to changes in both parents and the environment. Some ethical considerations of parenting assessment include that one should not hold the subjective evaluation as forever current, since it is only a snapshot in time. Moreover, scoring systems oversimplify the assessment process and cannot stand alone in an evaluation. Regardless of professionalism, assessors can never 100% predict parental capacity. The voice of parents and child should be part of the evaluation, and one must always be open toward potential change within the parent and their family (Wolf & Peregoy, 2003).

### **2.5.2 Clinical Assessment of Parenting Competencies**

There is a distinction between psychological testing and psychological assessment. Testing is relatively straightforward with particular scales and scores, and a description can be applied on the basis of data from a normative group. Assessment contains multiple test methods including evaluation of the context and history of clients together with observation of their behaviour. Clinical assessment often contains interviews, and Gould (2005) stressed, that assessment has to have the right amount of structure in order to both gather as much information as possible and still consider the salience of the responses in relation to the life history of the client (Gould, 2005). Others within the same field speak of ethical issues such as confirmatory biases in evaluation (Flens, 2005).

In the field of clinical family therapy, there seems to be a new tendency towards assessing the whole family and not only either child or parent. Deacon and Piercy (2001) stated that this is due to the fact that behavioural checklists, rating scales for specific symptoms, individual interviews, personality inventories, and projective tests are still commonly used for clinical evaluations, and they do not translate well to work with the family. There has been some progress in developing new questionnaires with norms that concern the individual family member's perception of various family dynamics, but these tools are still difficult to translate into a clinical assessment, and they are not used as much as intended. The information gathered from these tests do not necessarily point to specific treatment plans and do not capture the culture of the family (Deacon & Piercy, 2001, p. 357).

Basic family assessment strategies are the clinical interview, family genogram, observational assessment, structured interaction tasks, coding systems, clinician rating scales, and self-report techniques. Family evaluators should gather information through multiple strategies and multiple sources (Heffer, Lane & Snyder, 2003).

In clinical assessment the process is as important as the product. Besides gathering important information, the assessment process is used to support and validate families, welcome them in the helping system, give them feedback, validate their concerns, and engender hope (Deacon & Piercy, 2001).

Qualitative assessment at its best supports a more participatory process and encourages collaboration in contrast to a more quantitative assessment tool. Deacon and Piercy (2001) further argued that qualitative

assessment empowers the family, increases the family's commitment; supports family communication and understanding; and provides a holistic, contextualized, rich sense of the family. Qualitative assessment is a useful supplement to quantitative standardized assessment tests as it activates self reflection, complements therapy processes, and can be chosen to fit the theoretical orientation of the therapist.

In relation to this, Deacon and Piercy (2001) described art therapies as having a particular advantage in gathering information. Art therapies activities both serve as an assessment technique for the therapist, and can be a therapeutic experience for clients. Clients are usually less anxious when they express themselves through art. Using their right brain, clients tend to be more expressive and less defensive. Activity shifts the focus from problem to product (in the clients), and this allows the family to both enjoy the process, and to connect positively to each other. However, some clients may fear that these activities reveal too much. For others the activities may provoke anxiety or appear plain odd. According to Deacon and Piercy, therapists must consider clients' comfort levels in assessing through art activities. Many family members may fear being verbally too direct, and thereby hurting other family members' feelings. But when asking for metaphors, families often tend to be less defensive and more able to express themselves in symbolic ways. Furthermore, art activities can include family members of various ages and abilities and encourage a more egalitarian and less intrusive role for the therapist (Deacon & Piercy, 2001).

Play therapy assessment of families also is described as being both rich in information gathering and a good therapeutic experience for the family (Ariel, 1992; Farnfield, 2001; Hoshino, 2008). Lately, within art therapy assessment, there has been a focus on including nonclinical samples in assessment research studies (Arteche, Banderia, MacEwan, Nelson, Peters & Roberts, 2010; Deaver, 2009; Kim, Kang, & Kim 2008; Mattson & Veldorale-Brogan, 2010). Art therapy assessments are faced with the challenge of measuring a process where abstract concepts are linked to empirical indicants. Interpretation of art is considered highly subjective, and it seems difficult to maintain objectivity. Much research is small in scale, and lacks scientific rigor, and too little research admits to its own flaws (Betts, 2005, 2006). To achieve credibility, art-based assessment should establish validity and reliability through standardization. Including a nonclinical sample is one approach to meeting these criteria (Brooke, 2004). Recently, art therapy assessment research has strived towards scientific rigour by including computer software but still without a nonclinical sample (Hass-Cohen & Findlay, 2009; Kim, Kang, & Kim, 2009; Kim, Betts, Kim, & Kang, 2009; Mattson, 2009).

### **2.5.3 Music Therapy and Assessment**

In the following section, general tendencies in music therapy assessment models and microanalysis are presented alongside descriptions of relevant models. Furthermore relevant research studies on music therapy assessment of improvisation and interaction are presented.

Music therapy theory has developed through empirical practice. According to Wigram (2000) this might be why music therapists have paid less attention to the development of assessment tools with emphasis on rigor and standardization (p. 13). Wigram (2002) provided a useful and clear overview of the complex variety in

music therapy assessment that shows the different purposes and functions together with type of data and the origin of the data (see Table 2).

**Table 2**  
**Overview of Music Therapy Assessment Variety**

	<b>Purposes</b>	<b>Function</b>
A	Diagnostic assessment	To obtain evidence to support a diagnostic hypothesis
B	General assessment of client	To identify the general needs of the client from a holistic perspective and recommend relevant intervention
C	Assessment of music therapy intervention	To obtain evidence supporting the value of music therapy as an intervention
D	Assessment prior to treatment	To determine in the first two-three sessions a therapeutic intervention relevant to the client.
E	Assessment of effectiveness of treatment	To evaluate over time the effectiveness of music therapy
	<b>Type of data</b>	<b>Origin</b>
1	Musical data	Musical events Musical characteristics
2	Musical behavioural data	Clients behaviour without musical descriptors – how is the instruments played
3	Behavioural data	Characteristics of general behaviour in music therapy
4	Comparative data	Comparison of clients behaviour in music therapy with behaviour outside music therapy

(Wigram, Bonde & Pedersen, 2002, p. 247. The columns of numbers and letters are added by the current researcher)

According to Wigram and Wosch (2007), the variety in music therapy microanalysis and assessment models consist of different analysis methods, dependent measures, and documentation styles together with different areas of purposes and data collection types. The distinction between type of purpose (A, B, C, D) and type of data (1, 2, 3, 4, 5) in Table 2 is used in Table 3 to create an overview of concrete assessment tools and microanalysis methods in music therapy in alphabetic order by author. Table 3 is greatly inspired by Wigram and Wosch (2007), and how they presented their findings of similarities and differences of 20 assessment and microanalysis methods. They presented many tables more detailed than Table 3. The combination of Table 2 and Table 3 is made by the current researcher. Furthermore, Table 3 only includes assessment models and relevant microanalyses of improvisation and interaction from this review. Other assessment models than the ones described in Wigram and Wosch are added.

**Table 3**  
**Overview of Music Therapy Assessment Models**

<b>Author + Year</b>	<b>Name</b>	<b>Purpose</b>	<b>Main focus</b>	<b>Population</b>	<b>Dependent measure</b>	<b>Analysis Method</b>	<b>Data</b>	<b>Construction &amp; Common use</b>
Baxter et al., 2007	IMTAP	All	Rating frequency of specified tasks and events in 10 skill domains	Paediatrics Adolescents	10 skill domains All musical parameters	Video analysis Audio analysis	1+2+3	Clinical based and use
Bruscia, 1987	IAP	All	All types and aspects of clinical improvisation	Any improvisation	6 profiles each with 5 gradients all musical parameters	Video analysis Audio analysis	1+2+3	Clinical based Clinical and research use
Coleman & King, 2000	SEMTAP	C	Determine relevance of MT to special education children	Special Education	Depends on individual child	Audio analysis Video analysis	All	Clinical based and use
De Backer & Wigram, 2007		A+B	Clinical improvisation	Patients with psychosis	Melody patterns Rhythmical patterns Phrases Choice of instrument Verbal material of client	Notated music	1	Research based
Di Franco, 1999		B+D+E	Evaluate and test effectiveness of treatment in order to establish goals	Children with autism	Sound anamnesis Sound-musical profiles Body movement	Vocal analysis Musical analysis Behavioural analysis	All	Clinical based
Erkkilä, 2007	MTTB	B+C	Detailed improvisation descriptions	Any improvisation	Note density, note duration, articulation, mean pitch, SD of pitch, mean velocity, and dynamics-, register-, tonal-, dissonance-, pulse- related features.	Audio analysis Computer analysis	1	Research based
Hald, 2012	ICCMU	C+E	Interpersonal communication competences in daily life and musical improvisation	Acquired brain injury	10 interpersonal communication subgroups and a derived version of the Improvisation Assessment Profile – Autonomy	Client, staff, relatives and music therapist questionnaires Video analysis of assessment exercises	All	Research based Clinical used. (Standardized to some degree, with acceptable Interrater reliability)
Hintz, 2000		B	Analysis of musical skills and related behaviour	Geriatric patients	Expressive and receptive musical skills, behavioural/psychosocial, motor and cognitive/memory	Musical analysis Improvisation analysis Behavioural analysis	1+2+3	Clinical based and used

						skills						
Inselmann, 2006		C+E		Emotional experience and interaction in improvisations	Psychiatric patients	Mood and emotion through a rating scale		Audio analysis Interpretation of emotion analysis	All		Clinical based and used	
Lee, (2000)		C		Analysing improvisation	Patients with HIV	All musical parameters analysed by 3 different scorers		Musical analysis	1		Research based	
Layman, Hussay, & Laing 2002b	Beech Brook Music Therapy Assessment for Severely Emotionally Disturbed Children.	B + D		Measure children's level of function via their way of improvising, listening and performing.	Severely emotionally disturbed children	4 domains; behavioral/social functioning, emotional responsiveness language/communication abilities, and music skills (21 skills)		Rating scales for 21 skill area, continuum ranging from defensive/withdrawn to disruptive/intrusive	1+2		Research based Clinical used (standardized to some degree with high level of interrater reliability)	
Loewry, 2000		B+C		Music psychotherapy assessment	All	Musical and verbal behaviour in relation to 13 areas of enquiry through rating scales		Audio analysis Video analysis Descriptive analysis	1+2+3		Research based and clinical use	
Daverson et al. 2007	MATLAS	All		Diagnostic descriptive statement of behavioural response level	Patients in low awareness states	14 behavioural response categories (3 summed categories).		Varied musical stimuli in controlled setting is presented and the patients response to this is analysed (requires training)	1+2		Research based (Standardized to some degree, correlation with SMART & WHIM) Clinical based & used	
Meadows, 2000 & Bruscia, 2000	GIMR	B+C+D+E		Assess the imager's potentials for engaging in GIM	GIM travellers	Total score of responsiveness including 6 subscales; relaxation, imagery, music, guide, and verbal		Five point likert scale for 28 items/questions rated by the GIM-therapist	3		Research based (Standardized to some degree, correlation with questionnaires and high level of interrater reliability)	
Murphy & Scalenghe, 2000		C+D+E		Justify the use of music therapy as a treatment intervention	Managed care environment	Motor, communication, cognitive, auditory and social skills Musical parameters		Behavioural analysis Musical analysis	1+2+3		Clinical based and use	
Nordoff & Robbins, 1977		B		Response, relationship and musical communicativeness	Learning disables and autistic children	Scale ratings; 13 categories of response, Child-therapist Relationship Musical Response Scale		Audio analysis Video analysis	1		Clinical based	

Oldfield, 2006a	MTDA	A	To assist diagnosis through improvisation analysis	Children with pervasive developmental disorders	14 scoring categories rating scales of musical and behavioural features	Video analysis Musical analysis Behavioural analysis	1+2+3	Research based (Standardized to some degree)
Pavlicevic, 1991, 2007	MIR	C+D	Musical interaction	Chronic schizophrenia	Dynamic form All musical parameters, timing, phrasing, intensity, interpersonal exchanges	Audio analysis Analysis of improvisation of client/therapist	1	Research based, interrater reliability
Scholtz et al., 2007	MIMT	C+E	Process of interaction	Children with developmental disabilities	Vocal and musical sounds of client; Movement behaviour of client, gaze, eye +gesture	Video analysis Behavioural analysis Musical analysis	1+2+3	Clinically based and use. Educational use
Schumacher & Calvet, 1999 2007	AQR	A+B+D	Quality of relationship	Children with autism	Physical contact Eye contact and affect 7 specific musical parameters	Video analysis Music analysis Voice analysis	1+2+3	Clinical based and use
Steen-Møller, 1994		C	Levels of contact	Pervasive developmental disorders	Musical behaviour in relation to 5 levels of contact	Improvisation analysis Musical analysis Behavioural analysis	1+2+3	Clinical based and use
Wigram, 2000, 2007	EBA	A+B	Event-based analysis of improvisation	Children with autism	Autonomy and variability in relation to Rhythmic ground, melody, harmony, phrasing, volume, texture and timbre.	Video analysis Musical analysis	1+4	Clinical based and use.
Storm, 2012	VOIAS	A + E	To obtain evidence to support a diagnostic hypothesis and evaluate effectiveness of Psychodynamic Voice Therapy over time.	Adults with depression	Vocal parameters - likert scale	Audio analysis and psychoacoustic analysis PRATT		Research based Clinical use
Wosch, 2007a	EQ 26.5	C+E	Emotional transitions	Any improvisation	5 basic emotions; interest, anxiety, anger, sadness and joy rated/counted by music therapist through questionnaire	Audio and/or video analysis, Musical material & Instruments Computer software aid to calculate results	1+2	Research based, Research and clinical use
Wosch, 2007b	IMPP	C+E	Interactional transitions	Any dyad or group improvisation	Autonomy (IAP) in relation to rhythmic ground, melody and timbre	Audio/video analysis Graphic notation Computer software aid	1+2	Research based, Educational use

### 2.5.3.1 Tendencies in Music Therapy Assessment

In a comprehensive comparison of 20 assessment and microanalysis methods done by Wigram and Wosch (2007), some common features are evident. The comparison of the 20 models showed a great deal of detail regarding the function of the analysis. There was often an intention to interpret musical parameters for clinical purposes. Interaction and communication were often studied by means of improvisation analysis, and interactional events seemed to be the primary objective of music therapy in these 20 methods (Wigram & Wosch, 2007). Musical parameters were predominately referred to as the dependent variable, but they contained both musical data and verbal descriptions of musical material. Wigram and Wosch stated that video analysis is the most comprehensive and powerful tool and that it often was used for assessing interaction and communication in these 20 tools.

The primary foundation for the development of the 20 models was research-based with very complex and in-depth methods of analysis. Some authors have considered clinical applicability and suggest short forms of the methods by excluding some steps, but it still takes familiarity and more structured instructions to apply many of the tools to individual clinical areas and purposes.

Wigram and Wosch (2007) stated that none of these 20 methods have been systematically tested and validated. Even though some of the methods are not meant as assessment models, Wigram and Wosch argued that most music therapists are not good at providing systematic instructions, which are necessary in both validation and clinical application. This might be because music therapists like flexibility and adaptability in their approach, but consistency and structure goes hand in hand with reliability and trustworthiness. Standardization and systematic trials also require economical resources and good cooperation between clinicians and researchers. Music therapists tend to develop their own model and tool, but there is an urgent need for some professional agreement about models of assessment and evaluation (Wigram & Wosch, 2007, p. 315).

Looking at other assessment models outside this comparison of 20 methods of microanalysis, there does not seem to be other tendencies or characteristics (see Table 3). Wilson and Smith (2000) made an investigation of the feasibility of standardizing an assessment tool for music therapists to use in school settings. Of the 41 assessment tools they studied they did not find attempts of standardization for any of them. They reported the same lack of systematic instructions for clinical application together with research tested tools as Wigram and Wosch (2007) did in their comparison of 20 other music therapy assessment tools (Wilson & Smith, 2000).

Sabbatella (2004) presented a similar literature review and gave an overview of contemporary ideas on the status of music therapy assessment and clinical evaluation building on 41 references that were published in 11 music therapy journals between 1985 and 2001. The review revealed that most publications were related to assessment and evaluation of clients as part of treatment processes. Sabbatella found the same lack of

details and limited focus on methodological procedures in music therapy evaluation, including specifics on data collection, data categories and measurement, areas of evaluation, interpretation and reports (Sabbatella, 2004).

#### 2.5.3.2 Quantitative or Qualitative Assessment

Some music therapists argue against developing tools with too much emphasis on rigor and standardization. Loewy (2000) commented that assessment best serves the client and the actual process of therapy when the format of final written presentation is descriptive. She has developed a comprehensive tool with 13 areas of enquiry relevant in music psychotherapy relating to relationships, the dynamics, levels of achievement, and cognition. When the clients' personality is revealed through the music of the client, the process of therapy and music between therapist and client, descriptive analysis is the best representative according to Loewy. She further stated that charts, scales, and checklist may quantify the experience of music, but that clients and music therapy itself might be better understood through explicit descriptive writing (Loewy, 2000, p. 57). Art therapist Linda Gantt (2000) argued that even with structured and systematically models, all clinicians may not see the same thing because of the open-endedness of creative processes. She described the paradox of not being able to come to every client with an entirely open mind, but that assessment requires this type of openness together with an unbiased approach. She further stated;

We may not be able to predict or explain the emergence of a Mozart or Picasso but we can study objective aspects of their art. This picking apart of music or art is not destroying it. Works of art can be both appreciated and analyzed without any change or damage to the original. (Gantt, 2000, p. 43).

The challenge, according to Gantt (2000), is to develop objective and meaningful assessments despite the great latitude of individual responses in creative processes. But this is only a technical problem that can be resolved with hard work, and Gantt here referred to the slow development of objective measurements in art therapy. A few music therapists also developed assessment tools or microanalyses that use computer software to display or analyse musical parameters partly to increase objectivity and are working hard to find meaningful ways to interpret these analyses and relate them to reliable measures of emotion and interaction (Erkkilä, 2007; Wosch, 2007a; Wosch, 2007b). Gantt, however, stressed that creative arts therapists must conduct correlation studies to validate their instruments including correlation with normative samples and/or psychological tests, even if it takes decades of research.

#### **2.5.4 Summary and Reflection**

Music therapy assessment seems to be evolving from more clinically based to more research based in construction. There are both focus on detailed descriptions and a striving for high level of reliability and validity. There is much variety in purpose, dependent measures, analysis method, and clinical population,



but the purpose of diagnostics tend to involve a research based construction but with only few attempts on standardization. This seems appropriate because diagnostics should involve high levels of reliability and validity and be based on objective analysis as much as possible, while trying to be very accurate in deep respect for the client. There seems to be the same development within art therapy, but art therapists have started using nonclinical samples to have a more solid comparison point, and the current study seems to be the first to incorporate this within a music therapy setting.

Loewy seemed to connect the descriptions of the client with the description of music therapy approach and process. She made an important point that words should follow the client instead of numbers. This is very relevant and important in assessing capacity in clients, but a standardized and systematic approach does not prevent detailed descriptions in writing to follow the standardized numbers. Describing the client should not be influenced by specific approaches or a focus on the uniqueness of the music therapy regardless of qualitative or quantitative format. There seems to be far too big a risk of an unethical, biased description of the client in the direction of glorifying music therapy. It seems difficult to be specific enough in dependant measures because music therapy and art therapy produce individual client responses that are a challenge to measure. Different levels of contact, relationship or moods seem to be far more imprecise and difficult to define than musical parameters and musical behaviour.

In some cases within both music therapy and art therapy, it seems that the lack of systematic instruction and emphasis on standardization in assessment is connected with a hesitation to quantify and structure music therapy processes and interactions. Assessment and treatment are two different processes, and if the two are combined, one needs to be aware of the purpose and the possible biased interventions and assessment descriptions of clients that this can create. One needs to be conscious of whether doing music therapy assessment or music therapy treatment or a combination. Assessment sessions can be therapeutic and treatment sessions can inform a great deal about the client, but knowing the purpose for each session type is essential for the choice of intervention style and/or systematic instructed activities.

### **2.5.5 Music Therapy Assessment Research**

The following review briefly presents assessment tools and methods that have their focus on improvisation and interaction, diagnostics, and a high level of structure, and how these tools or methods of assessment were constructed and validated. The researcher did not find any music therapy assessment research that included a nonclinical population. These selected models were designed according to the pathology of different populations with a focus on the relationship between therapist and client and not between clients. While they do not appear to be applicable for neglecting parents and their children, they are relevant to assessing interaction and communication in music therapy, and how one can validate assessment tools striving for high levels of reliability and validity.

The Music Interaction Rating Scale (Schizophrenia; MIR-S) focuses explicitly on the musical co-improvisation by therapist and client and is anchored within the concept of dynamic form: musical-relational duality (Pavlicevic, 2007). It was developed in 1991 for evaluating music therapy improvisation with adults suffering from chronic schizophrenia. Pavlicevic recorded 240 individual music therapy sessions (both video and audio), which formed the basis for analysis. MIR was developed as a result of extensive microanalysis. This included a re-analysis of excerpts to look for different kinds of interactions in the improvisation. MIR has been subjected to interrater checks with trained raters. A high correspondence in scores was found together with relative ease of allocating levels to excerpts.

The Music Therapy Diagnostic Assessment (MTDA) is developed by Oldfield (2006a) to assist the diagnosis of children's difficulties at Croft Unit for Child and Family Psychiatry, UK. MTDA consists of two half-hour sessions with a specific but flexible structure depending on the child's preferences, strengths, and weaknesses. It can include activities like a hello song, the act of choosing, child on large percussion, child on wind instrument, improvised story, child on violin, child and therapist play small percussion together, goodbye song, etc. Every activity has different advantages in what kind of information is obtainable. The aim of the study was to examine whether MTDA could highlight important aspects of behaviour, which were symptomatic of or could exclude a diagnosis of an autism spectrum disorder. The study included music therapy assessment sessions with 30 children with possible autistic disorders aged 4-12 mostly of boys. As a main part of the method the results of MTDA was compared to the result of The Autistic Diagnostic Observation Schedule (ADOS), which is an imaginative test that relies on creative interaction with the tester (Oldfield, 2006a, p.124). The method also included questionnaires for each performed test either MTDA or ADOS and a structured interview with the child after each assessment type. The analysis and comparison included a distinction between three diagnoses together with a comprehensive comparison of the information gathered from the different tests. This included mostly nonparametric statistical tests, comparing means and standard deviation using the Kruskal-Wallis test. Oldfield's attempt to validate her assessment tool by correlating with a standardized questionnaire represents one way of establishing the validity of an assessment tool.

The results revealed that MTDA had a 72 percent agreement with the ADOS regarding the diagnosis for a child. This indicates that the MTDA procedure is picking up similar information to the well-established ADOS. The MTDA and ADOS also showed significant differences in their scores, implying that they were picking up different information on the children. The interviews with the children showed that children felt slightly less inhibited and more at ease in MTDA than in the ADOS tests and at times more self-conscious. Oldfield pointed to the importance of two assessment sessions as there were significant differences between the two sessions. More autistic behaviour was picked up in the second session. Oldfield stressed that further

research looking at larger numbers of children is needed in order to establish the MTDA as a reliable assessment tool. MTDA and ADOS can contribute to the diagnosis of specific children (Oldfield, 2006a).

Because people in low awareness states following profound brain injury demonstrate subtle changes in functional behaviour, and because the auditory modality is particularly sensitive in identifying responses, Magee (2007) argued for a need of assessment methods with greater sensitivity within the auditory domain for these patients. Music Therapy Assessment Tool for Low Awareness States (MATLAS) was developed by Daveson, Magee, Crewe, Beaumont, and Kenealy (2007). Its main purpose is to assess patient's level of behavioural response to a variety of live musical stimuli and recorded music in a controlled setting including discrete musical tones, melodies restricted to one octave in range, familiar songs, different instruments, and modulations in intensity of dynamics, timbre, and melody. MATLAS consist of assessing 14 behavioural response categories typically in 4 sessions over 8-10 days. This resulted in three summed categories: essential diagnostic criteria, patient musical parameter preferences and behavioural response type, and clinical information as related to goal setting and treatment planning. MATLAS scores range from zero to 45 where a low score indicates poor response and a high score highlights intentional response.

A research study with 8 subjects and 9 assessments (one participant twice) examined the correlation between MATLAS and a standardized behavioural checklist, the Wessex Head Injury Matrix Main Scale (WHIM) and a standardized multi-modal tool of rating responses, the Sensory Modality Assessment Rehabilitation Technique (SMART). The different tests were all conducted within the timeframe of 1 to 8 days. All actual scores were calculated as a percentage of the total possible score and this resulted in strong concurrent validity with significant correlation ( $p < .01$ ) ranging from .84 (WHIM) to .968 (SMART). To analyse the differences among the mean totals of the scores, the percentage scores were used in a one-factor within subject repeated measures ANOVA that showed a significant effect suggesting differences among the mean scores due to qualitative differences of the tools. The findings of the study suggest that MATLAS may be a cost-effective tool because it only requires 4 x 30 minutes over a period of 8-10 days whereas SMART requires 10 x 90 minutes over a period of 3 weeks. However, MATLAS does not assess a number of modalities addressed within SMART. WHIM and MATLAS are conducted within similar timeframes, but according to Daveson et al., WHIM is not able to determine diagnosis in the present form (Daveson et al., 2007). The testing of MATLAS is continuing with an investigation of its psychometric abilities including reliability, but this research has not yet been published and is not presented here (J. O'Kelly, personal communication, 11 December, 2011).

Other music therapy assessment research striving for high levels of reliability and validity that is currently in process is briefly presented here, as it shows a tendency for music therapy assessment research in 2012. Hald (2012) developed a music therapy assessment tool designed to measure the level of interpersonal

communication competences in adults with acquired brain injury. Hald based the music therapy assessment on the standardized test Interpersonal Communication Competence Scale (ICCS) by which client, staff, and relatives evaluate the client's interpersonal competences. In order to measure interpersonal competences in musical improvisation, ICCS was also modified into a music interaction version developed by Hald. This new tool, ICCMU, consisted of an assessment protocol where the client completed four interpersonal musical exercises: dialogue, follow the therapist, keep focus, and free improvisation. Hald performed different analyses of the video recordings of these exercises including a derived version of the Improvisation Assessment Profile, specifically the Autonomy Profile. One of the findings of the study was sufficient interrater reliability, but the analyses are currently not yet finished (S. Hald, personal communication, 26 October, 2011).

O'Kelly and Bodak are currently performing a study on the development of an assessment tool for advanced Huntington's disease, Music Therapy Assessment Tool for Advanced Huntington's Disease (MATA). According to O'Kelly, the study includes correlations with a standardized questionnaire and observational rating scales. Interrater and test re-test reliability analysis are part of the method, but data have not yet been analysed (J. O'Kelly, personal communication, 11 December, 2011).

### **2.5.6 Applied Music Therapy Assessment Tools**

Several models of assessment based on music therapy improvisation provide a good foundation for studying interaction and communication. Furthermore, they focus on the autonomy relationship, which may be particularly relevant in assessing parenting competencies. Two of them can produce quantifiable data and are easy to replicate in any given situation, which serves the purpose of allowing comparison with a nonclinical population in a quest for standardization. The third is a microanalysis of interactions, which serves the purpose of providing detailed descriptions of the differences between clinical and nonclinical families in music therapy. The following section presents analysis method, as they were developed by their authors.

#### 2.5.6.1 Improvisation Assessment Profiles

Bruscia (1987) made a complex, detailed, and extensive assessment tool, The Improvisation Assessment Profiles (IAP). It was developed on the basis of 10 years of clinical experience working with a broad range of clinical populations, and its purpose is to assess clients based upon clinical observation, musical analysis, and psychological interpretation of the client's improvisation. Bruscia has defined six specific profiles as areas of investigations, formed as continuums of five gradients or levels ranging from one extreme or polarity to its opposite. The profiles are

- Autonomy, forming a spectrum: dependent, follower, partner, leader, resister
- Variability, forming a spectrum: rigid, stable, variable, contrasting, random

- Integration, forming a spectrum: undifferentiated, synchronized, integrated, differentiated
- Salience, forming a spectrum: compliant, conform, attending, controlling, dominating
- Tension, forming a spectrum: hypo-tense, calm, cyclic, tense, hyper-tense
- Congruence, forming a spectrum: unengaged, congruent, centred, incongruent, polarized

Each contains subscales for various musical elements and their components. The assessment model consists of three basic steps: clinical observation of the client's improvisation under various conditions; musical analysis of the improvisation; and interpretation of the data. The various profiles and scales may be used separately according to the individual needs of the clients (Bruscia, 1987). The IAP was designed to analyse relationships that the client makes, both when improvising alone and together with another person or group. The interaction is not specified towards the therapist, as in many other music therapy assessment tools. Furthermore, Bruscia (1987) described the IAP as revealing a wide range of clinical problems including emotionally and interpersonally related problems. The IAP is appropriate for children and adult of normal intelligence at various levels of developmental maturity and emotional functioning. Bruscia pointed out that the mental age of clients should be over 18 months. The main purpose is to gather information, but Bruscia commented that IAP does not provide the basis for making diagnostic decisions or distinctions. Instead, it may have implications for understanding etiological factors. IAP can provide a global perspective of the client's problems and assets, rather than identify a specific, pathological trend. This may include inferences regarding the client's musical tendencies in terms of their generalizability to and significance for non-musical areas of functioning and projections of the client's musical tendencies onto conscious and unconscious aspects of personality (Bruscia, 1987).

In the assessment sessions, the client may be seen in dyadic, family, or group settings (Bruscia, 1987). When children participate, Bruscia advised to keep the session short and to include other musical activities along with the essential improvisation tasks. The clients are given free choice of musical media and instruments, and the therapist selects her instrument according to the purpose of the improvisation exercise. The therapist should, however, consider providing means of distinguishing between the different instruments in each exercise. In planning the assessment sessions, an introduction to the musical media and instruments is essential, and threatening improvisations should be avoided by any means. Bruscia offered a set of various conditions, exercises, and techniques to use in obtaining sufficient samples of the client's improvising, but essentially it revolves around being aware of the main purpose of the assessment in planning and conducting the sessions (Bruscia, 1987).

Bruscia (19987) had specific guidelines for analysing the improvisations using the overview of the six profiles (see Figure 1). Only significant observations should be scored, and the extreme gradients in each profile should not be searched for; they should present themselves. Bruscia stated that the middle gradient can be used for an in-between point, a score denoting that the two opposites have been equalized, balanced,

or integrated. Frequency and duration should be used as criteria for scoring. Scoring a gradient characterizes the element as being most present (Bruscia, 1987).

<u>INTEGRATION</u>	<u>CONGRUENCE</u>
Synchronizing	Reflecting
Incorporating	Doubling
Rhythmic Grounding	Contrasting
Tonal Centering	Integrating
Differentiating	Splitting
Intervening	Symbolizing
Contrasting	Projecting
Splitting	Pairing
Integrating	Free associating
	Fantasizing
<u>VARIABILITY</u>	<u>SALIENCE</u>
Imitating	Exaggerating
Repeating	Shaping
Modelling	Contrasting
Making spaces	Pausing
Interjecting	Playing back
Extending	Reporting
Completing	Reacting
Introducing change	Shifting
Modulating	
Intervening	<u>AUTONOMY</u>
Sequencing	Making spaces
Making transitions	Interjecting
<u>TENSION</u>	Modelling
Pacing	Imitating
Calming	Synchronizing
Intensifying	Differentiating
Holding	Sharing instruments
	Giving
	Bonding
	Soliloquies
	Receding
	Conducting
	Transferring
	Role taking
	Experimenting

**Figure 1. Guidelines in Analysing Improvisations**

Bruscia (1987) was detailed and comprehensive in his descriptions and guidelines for the IAP. Every profile, gradient, and musical parameter is connected and described together with indications for interpretation of the scores in each profile. He also connected the interpretation of musical parameters with different theoretical perspectives including the psychoanalytic and existential perspectives, and acknowledged that interpretations are subjective and belong to the therapist rather than to the client (Bruscia, 1987). However, Bruscia (2002) also stated that the IAP can be applied fruitfully to both qualitative and quantitative research, where a quantitative approach requires focusing on an improvisatory event that can be operationally defined and measured.

Several music therapists have applied the IAP to their particular area of music therapy (Adams, 2007; Hald 2012; Keith, 2007; Wigram, 2000, 2004, 2007; Wosch, 2007b). With its very detailed and structured guidelines for the musical analysis, the IAP has influenced many clinical and research settings, but it seems that the possible various purposes, interpretation styles, and comprehensiveness in general have kept the

original model as an inspiration for clinical and research applications more than a commonly used tool in everyday clinical work or even as a general method in research.

#### 2.5.6.2 Event-Based Analysis

Several music therapists have applied the IAP to their particular music therapy work with individual purposes and settings. Wigram (2007) used the IAP in developing his own tool for the diagnosis of children with autism spectrum and communication disorders within his former work at Harper House in England. Wigram contributed immensely to music therapy in this area of diagnostics with his well documented use of Event-Based Analysis (EBA). The tool is event-based and analyses children's improvisations according to two profiles from the IAP, Autonomy and Variability. Wigram chose these profiles because they were particularly relevant for diagnosis with this population. Autonomy enables a close look at the interpersonal events, the readiness of the child to interact with others, turn-takings, sharing, and acting as a partner, and identifies quality of autonomy aspects in the child's playing. Variability can illustrate the child's capacity for creativity, where a rigid or repetitive way of playing indicates a possible diagnosis within the autism spectrum (Wigram, 2007).

The method involves two stages: selecting profiles and improvisational material and EBA. Each stage has three and eight steps respectively, and the first three steps are based on the IAP guidelines given by Bruscia (1987):

##### Stage One: Selecting Profiles and Improvisational Material

- Step 1. Select focus (either intra or inter musical events)
- Step 2. Choose relevant profiles (either therapy centred or assessment centred)
- Step 3. Review the entire session (audio or video) and select relevant sections or improvisations  
(Step 3 and 2 may be in reverse order)

##### Stage Two: Event-Based Analysis (see Figure 2)

- Step 1. Watch or listen to selected extracts and choose a maximum of three musical parameters relevant to playing instruments, behaviour and analysis focus using Bruscia's (1987) descriptors and definitions (pp. 430-1, 445-7).
- Step 2. Choose one musical parameter to begin with and watch it again.
- Step 3. Make a tick in the box each time an event occurs in the improvisation. Pause the tape during this.
- Step 4. Where relevant pause to notate any clear themes as they occur at the bottom of the scoring sheet.
- Step 5. When finishing this parameter choose the second and repeat Step 4-6.
- Step 6. Add up the new events and put a total score onto the raw score table under the column for the first improvisation.
- Step 7. Interpret the scores for this section in relation to aims of therapy or diagnostic questions.
- Step 8. If another profile is to be applied repeat Steps 1-7. (Wigram, 2007, p. 218)

Name ..... Date .....

Profile.....

Gradient 1      Gradient 2      Gradient 3      Gradient 4      Gradient 5

Musical parameter	Gradient 1	Gradient 2	Gradient 3	Gradient 4	Gradient 5
<hr/> <hr/> <hr/> <hr/>					

**Figure 2. EBA - Raw Score Sheet**

Elaborating on EBA, Wigram (2007) noted that an event can be identified by frequency alone or by both frequency and duration. Duration of an event can be difficult to keep track of because of the multilayered nature of music. Therefore, for some purposes it is enough to record when an event starts. For the EBA to be realistic within a clinical working frame, it is important to keep data to a minimum. The selection of profiles and improvisational material must be based on relevance and essentiality. The choice of longer or shorter sections may be influenced by expectations regarding duration, frequency, consistency, and intensity of the musical events in focus, but more importantly one should consider the diagnostic questions, therapeutic relevance, and individual needs of the client (Wigram, 2007). The total scores for each musical parameter on each profile can be transferred to a table to give an overview of the entire analysis (see Figure 3).



Patient's name ..... Date .....

Improvisation 1:

Improvisation 2:

Improvisation 3:

*Autonomy* *Variability*

Dependent	1	2	3	Rigid	1	2	3
Follower				Stable			
Partner				Variable			
Leader				Contrasting			
Resister				Random			

**Figure 3. Total Score for Event-Based Analysis**

Wigram (2007) stated that the EBA is effective for determining changes over time due to the different gradients in each profile. One could argue that the middle gradient of the profiles is the healthy position, but it could also be very healthy to change from resister to follower, especially for children with an autism spectrum disorder. In analysing several improvisations there can be enough recurring characteristics presented in the client's musical behaviour to be able to establish consistency of evidence (Wigram, 2007). Using EBA results in statistical analysis also is, according to Wigram (2004), possible including looking at frequency of events and significant differences between categories of gradients. In looking at number of events in each category, he further stressed that a minimum of 20 events or subjects is necessary, in order to have enough allocated to each category or cell (Wigram, 2004, p. 226)

### 2.5.6.3 Ethnographic Approach to Video Microanalysis

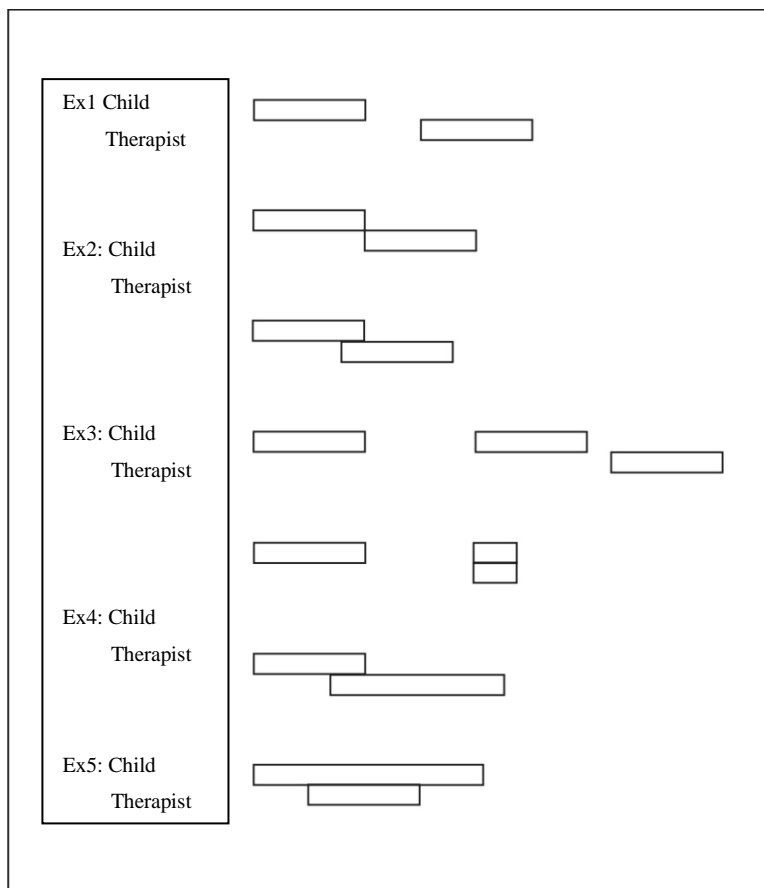
Holck (2007) presented an ethnographic approach to analysing actual interactions between child and therapist within the population of children with severe developmental delay. This method was used to address interaction patterns including turn interplay between therapist and child. According to Holck, an ethnographic approach has observation as the main choice of method, because it provides information about patterns of action not necessarily accessible by means of self reporting questionnaires or tests. Participants may not be aware of their ways of interacting, and therefore observation become essential.

The object of investigation is repeated actions, themes, or interaction patterns of everyday situations. Holck (2007) applied a qualitative and holistic interaction analysis to music therapy analysis, which resulted in a microanalysis method incorporating a range of different types of data: music, words, prosody, gesture, and facial expression. As she pointed out, this is only possible through the use of video recording. The method consists of four main steps: Data Selection, Transcription, Pattern Generalisation, and Interpretation.

Data Selection can be either focused or open. In a focused analysis the analyst selects a series of specific video excerpts with the particular problem present. In an open analysis the analyst selects sequences of a specific duration and looks at everything within these minutes.

In Transcription the level of detail depends on how open or focussed the analysis is (see Figure 4). Music notation can record temporal utterances and to some degree quality by adding dynamic features. Gestural and facial movement is added over/under the notation line. Without a pulse or tempo indicator a line with seconds underneath is helpful in keeping track of time. This transcribing process is time consuming, and computer based notation can save much time.

Pattern Generalisation is both vertical and horizontal. Vertical implies looking at chains of interactions and horizontal implies comparing across the material. When chains of interactions are alike, one can identify specific sequences of interest. Holck (2007) stated that with uncertainties, one should involve a second opinion. This analysis of pattern can lead to additional transcriptions in the form of sign or signal, indicating the chain of interaction, sequences or maybe even specific deviations from observed patterns (p. 34). Holck stated that one needs knowledge of the client population when interpreting and using clinical theories and research, regarding aetiology and pathology. According to Holck, a useful approach in validating results is to incorporate negative case analysis and look for material that contradicts or opposes the results or conclusion. Letting relatives, staff, social workers, or other people close to the client check interpretations by showing them video excerpts and results together, is also a possibility. However, in this form of member checking (without asking the investigated participant), one needs to consider different perspectives and epistemologies (Holck, 2007, p. 35).



**Figure 4. Interplay of Turns Interplay of Turns**  
 (After Holck, 2006, p. 4)

In her summary, Holck concluded that this method of analysis is useful in providing clinical information about what influences the interaction between therapist and client. The analysis of interaction patterns can be used in discovering appropriate clinical habits, as well as inappropriate habits and further aid clinical assessment (Holck, 2007, p. 39). Below follows a description of the few published studies of the music therapists working with assessment of parenting competencies.

### **2.5.7 Music Therapy and Assessment of Parenting Competences**

There are some music therapists working within the field of assessing parenting competencies or assessing families. All research publication on music therapy with families appears to be about music therapy *treatment* and effect or process, and not yet on music therapy *assessment* with families. Assessment in this sense refers to diagnostic questions and not the clinical assessment most music therapists do prior to treatment, looking for the applicability of music therapy to the individual client, relevant working strategies, etc. As described earlier, music therapy literature reports on two different types of families; families at risk, and families with special needs children. There seems to be very few music therapists, working within a social context for parents and their emotionally neglected children, who work with assessment.

Music therapist Clare Molyneux (2008) described her work at Child and Adolescent Mental Health Services where, as a part of a multidisciplinary team, she contributed to the assessment of family dynamics. She was part of an eclectic mix of systemic, behavioural, and psychodynamic models that sought to understand the strengths and difficulties of the family. The multidisciplinary team consisted of a psychiatrist, a psychiatric nurse, an occupational therapist, and a music therapist. The assessment was flexible with varying structure, as it adapted to each family's need. Families received one music therapy session during the 2-day assessment process. Through music therapy assessment, aspects of communication and dynamics, relationships were often strikingly apparent to both staff and the families themselves, including nonverbal events such as eye-contact, attending, listening, mirroring, and turn-taking. Molyneux pointed out that families need time to settle in getting accustomed to the staff and new surroundings before making music, as it can be uncomfortable for some parents. The same staff members followed the family to enhance the feelings of safety.

The music therapy assessment sessions had following points of focus:

- Family's interaction together using a nonverbal medium
- Family's interaction together with music therapist and co-worker
- How the family responds to each other including eye-contact, level of concentration, attention to task, and level of ease with engaging musically
- Family dynamics including behaviour, limit setting, and relationships

The overall aims of the session were for the family to have fun, enjoy being together, and interact in different ways and settings. Often the family's strengths were only evident in this particular nonverbal setting and came as a surprise to the other multidisciplinary team members. In case examples, Molyneux (2008) illustrated how the attitudes of families change from hostile to more positive and relaxed after attending the assessment sessions. Parents felt empowered by the experience of leading in the music, and consequently for the whole assessment process families revealed more of their strengths as a family. The new situation for the family was refreshing and allowed them to relate to each other in a new way, offering valuable insights into parenting capacity. Molyneux (2008) found the co-worker attending the music therapy session very useful in enabling support to individual family members, but more importantly it enabled discussions of observations of the family making a more balanced and informed assessment.

In his *Musical Interventions in Family Therapy*, Miller (1994) described how music can contribute to the assessment of families. He stated that a useful family assessment provides information about family roles,

communication patterns, balance of power, and symptoms of dysfunction. A family's response to rhythm alone may provide valuable information about communication skills and attitudes toward working together looking at rhythmical parameters such as stable pulse and tempo. By giving the family general tasks, the balance of power can be assessed by observing their way of completing the task. Unstructured musical tasks of interaction can show the particular function and style of communication for each family member. Imbalances of power and diffuse boundaries can become apparent.

Some music therapists have commented on assessment of families and parents but without assessment being the main issue. Music therapist Salkeld (2008) described her assessment of children and their adoptive parents, but her focus was on the need and characteristics of the child and its relation to the parents with emphasis on how to work with this in further treatment. Many others working with families have the same type of approach of assessing the child in relation to the family without giving much emphasis to parent characteristics (e.g., Oldfield et al., 2008).

Hibben (1992) believed that a family playing music together can be understood as a metaphor for how the family functions. The individual member's choice of specific instruments and how they play it provide information about the interactional patterns in the family, including communication, alliances, power struggles, and roles. She asserted that the choice of instruments can show psychological experiences in the family.

Despite her many years of working with families, Oldfield (2006a, 2006b, 2008) did not address assessment of parenting capacity directly, as it was not the main purpose of her clinical work. She described how, by involving all family members, she could observe the interaction of the family including whether the individual members could accept and give guidelines, and whether they listened to each other (Oldfield, 1993, p. 48). Additionally in many of her illustrative case stories, she often gave very detailed descriptions of the characteristics and competencies of the parent both on the basis of musical and non-musical behaviour. This included the parents' ways of communicating with the child, how they supported their children or not, power struggles, and attachment styles to name but a few (Oldfield, 2006b). In working with children with autism spectrum disorders and their families, Oldfield also described four different types of mothers, but unfortunately it is not clear how this information was obtained from the music therapy sessions (see Section 2.4.2). However, treatment and positive change is the main focus of her work with children and families and not assessment. As described earlier in Section 2.4.2, Oldfield (2006a) developed an assessment tool for children with autism spectrum disorders, and it would be interesting to hear her thoughts on assessing parents.

### **2.5.8 Summary**

In this section literature on assessment of parenting competencies within music therapy settings has been presented. Music therapy assessment in general has been discussed looking at specific methods of analysis and general tendencies together with the debate on qualitative and quantitative disadvantaged and advantages. There seems to be a lack of music therapy assessment with a high level of rigour and standardization and that includes a nonclinical population. The inclusion of a nonclinical population would enable a more fixed comparison point and aid the quest for high levels of reliability and validity.

The literature suggested how music therapy is relevant in assessing parent-child interaction, including looking at power struggles, symptoms of dysfunction, cooperation, turn-taking etc. Music therapy can assess parents and their capacity to meet their children's needs, to communicate and interact with them. However, there is a lack of research to support these clinical statements. Furthermore, several music therapists showed how music therapy can provide a frame for the families to relax and show their strengths as well as their weaknesses.

## 2.6 Formulated Hypotheses

The literature and research reviewed have presented theories and findings concerning the aetiology and pathology of the neglectful parent including theories and findings of the neglected child's autonomy behaviour and coping strategies. They have suggested different types of parental response within social service context, within psychological development, and within clinical music therapy with families. The nonverbal communication between parent and child in form of musical interplay with turns seems to be important both in understanding the parent-child interaction but also in measuring parenting competencies as research findings report positive effect in this particular aspect. The literature describes clinical applications of music therapy with families as well as research findings of the effect of music therapy with families. Furthermore, it describes issues associated with the difficult task of assessing parenting competencies and how music therapy may contribute to this. Although there are detailed descriptions of music therapy assessment models concerning communication and improvisation, the lack of assessment models with high level of reliability and validity including incorporating a nonclinical population has become evident. In child custody cases, the family is vulnerable in multiple ways, anxious and maybe even hostile, especially towards being assessed about parental capacity and the parent-child interaction. Music therapy assessment has a history of gathering information particularly from hard-to-approach clients. Music therapy concerns musical interaction and communication between participants and has similarities with early parent-infant relations. So, how can music therapy contribute to the assessment of possible child custody cases? Is it possible to minimise subjective interpretations in a music therapy assessment model? What is the effect of working with neglectful parents and their neglected children?

This leads to the following research questions:

### Research Questions

- 1) Can music therapy assessment measure parenting competences in cases of emotionally neglected children?
  - a. Can the APC consistently and reliably measure parent-child interaction including autonomy relationship, interplay with turns between parent and child, and parental response type?
  - b. Do clinical and nonclinical groups demonstrate different parent-child interaction as measured by the APC?
  - c. Can the APC differentiate between clinical and nonclinical groups as clearly and consistently as standardized psychological tests used for this purpose?
- 2) Can music therapy treatment with a parent and his/her emotionally neglected child improve or develop better parenting competences over time?

- a. Can APC measure possible change over time for families receiving music therapy and for families receiving regular treatment?
- b. Can music therapy treatment improve parenting competencies as measured by standardized psychological tests?



# Chapter Three

## 3. Methodology and Design

With formulated research questions in focus, Chapter Three concerns the empirical part of the study. The main focus for the overall method was to test the music therapy assessment model, Assessment of Parenting Competencies (APC; Jacobsen & Wigram, 2007), and to investigate how it could measure parenting competences and parent-child interaction in cases of emotionally neglected children compared with a nonclinical population. Furthermore, the study looked at the effect of music therapy on families with children who have experienced emotional neglect by means of a randomized controlled trial.

As an introduction to the method section, relevant research theory about multiple strategy design and mixed methods is presented. Throughout the subsections, relevant research theory related to test development, reliability, validity, and quantitative and qualitative analysis methods will be referenced and presented. Chapter Three will present the research design in detail including information about the subjects, recruitment, standardized tests, the APC protocol and procedure, treatment intervention, and data collection. Secondly, this chapter will present details of how analyses were performed. This primarily involves quantitative methods of measuring parenting competences. As stated in the introduction due to results of poor concurrent validity in the fixed design, the study also utilizes a qualitative method to address the research question concerning differentiation between clinical and nonclinical behaviour in the parent-child interaction. These descriptions were then used for further quantitative analysis.

Coming back to the scenery with the bridge over a wide and challenging river and a stream of troubled families with many complex origins, Chapter Three will show how the bridge was built. What kinds of stones were used, and how were they put together? Maybe the craftsman was using different kinds of stones and different kinds of masonry techniques. If so, then why? And how did she make these different stones fit together? Chapter Three seeks to give a clear picture of all the aspects and phases of constructing the bridge.

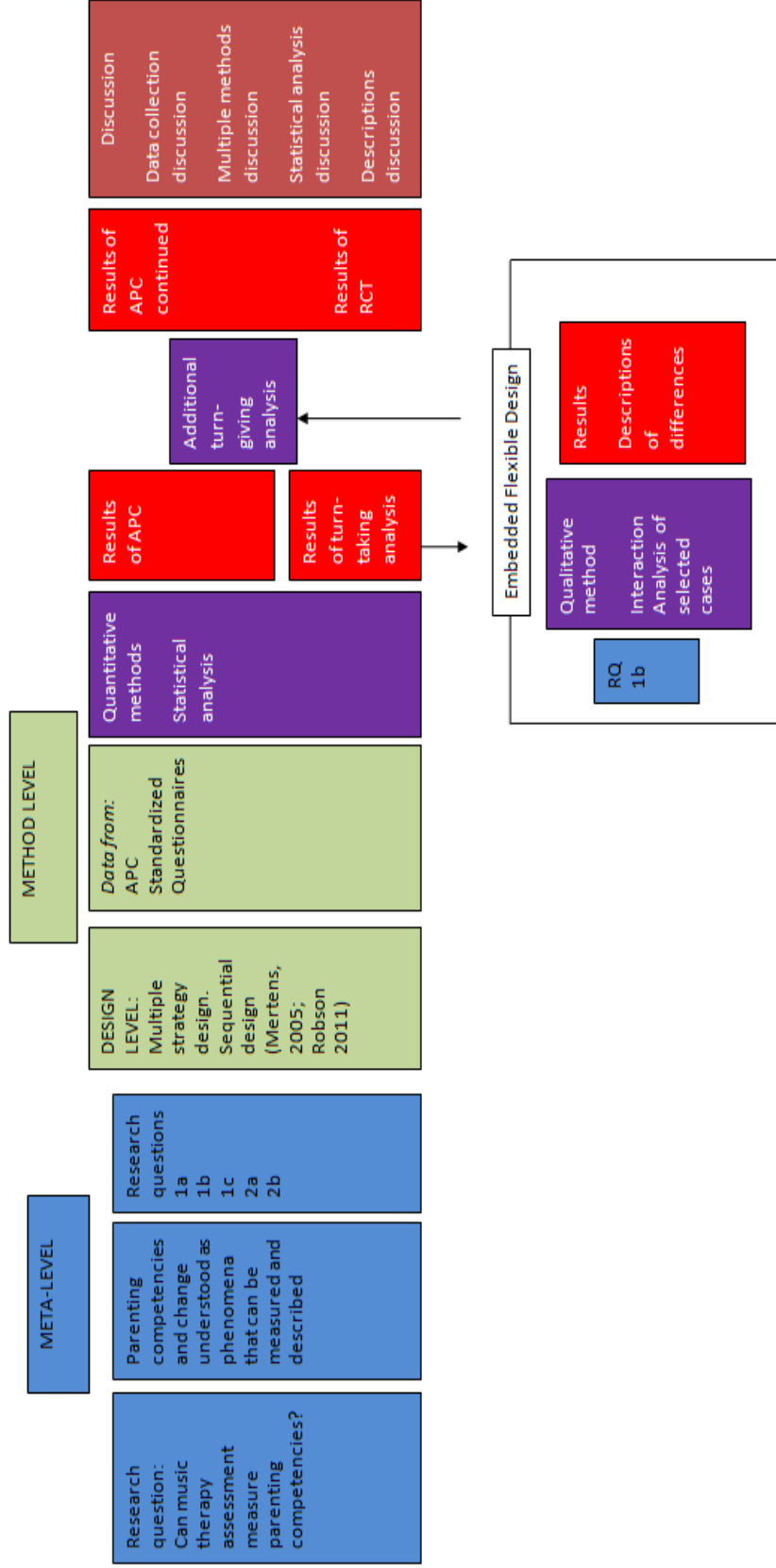
### 3.1. Multiple Strategy Design

As stated in Section 1.6, this study used a multiple strategy design with a fixed design as the primary method and a flexible design as secondary embedded method (Robson, 2011). The epistemological reasoning and debate of combining fixed and flexible designs are addressed in Section 1.6. To clarify further one needs to look at the research questions once more:

- 1) Can music therapy assessment measure parenting competences in cases of emotionally neglected children?
  - a. Can the APC consistently and reliably measure parent-child interaction including autonomy relationship, interplay with turns between parent and child, and parental response type?
  - b. Do clinical and nonclinical groups demonstrate differences in parent-child interaction as measured by the APC?
  - c. Can the APC differentiate between clinical and nonclinical groups as clearly and consistently as standardized psychological tests used for this purpose?
- 2) Can music therapy treatment with a parent and his/her emotionally neglected child improve or develop better parenting competences over time?
  - a. Can APC measure possible change over time for families receiving music therapy and for families receiving regular treatment?
  - b. Can music therapy treatment improve parenting competencies as measured as measured by standardized psychological tests?

Most of the main research questions were addressed with a fixed design using quantitative data and statistical analysis. One question, Question 1b, was, due to lack of concurrent validity in one of the analysis in the APC, addressed with a flexible design using qualitative data and detailed descriptions (see Figure 5). The researcher combined multiple research strategies by having a flexible and qualitative phase nested into the overall fixed and quantitative design, during which additional data were collected in order to look more closely at one of the analyses in the APC and make further quantitative comparisons.

Figure 5. Chart of Sequence of the Multiple Strategy Design



### **3.1.1 Why the Use of Multiple Strategy Design?**

This study was based on a pragmatic worldview. As stated in Section 1.6, this was done because parenting competencies are considered very complex and multilayered, consisting of communicative and emotional skills, personal traits, and characteristics that all are influenced by the parents' social status, stress level and environmental circumstances. Referring to both Robson (2011) and Creswell and Plano Clark (2007) and their rationale for mixed methods or multiple strategy design, more methods are needed when different types of questions are asked or when questions can be answered in multiple ways. This study tested an assessment model, APC, and provided multiple perspectives in an effort to measure and to understand parenting competencies with a music therapy assessment. Furthermore, the study tested a hypothesis on the effect of music therapy on parenting competencies, but there was no embedded qualitative design in the outcome study. The researcher agrees with Bonde (2005), and believes quantitative and qualitative methods to be separable from post-positivistic and non-positivistic/constructive paradigms and worldviews. It is the research questions that determine the methods and even the paradigm(s). Based on the presented theoretical background and on clinical experience, the researcher has a pragmatic point of view (see below). Thus the researcher has a broad understanding of parenting competencies and how these might be evident and addressed in music therapy with no wish of excluding either a reductionist or a non-positivistic/constructivist perspective.

### **3.1.2 Pragmatism**

Robson (2011) described that pragmatism within a research setting can seem almost non-philosophical without much concern about epistemological and ontological aspects. The focus is to get on with the research and undertake whatever works in the given context. A view of an “anything goes” philosophy is of course problematic and is not what this study refers to.

Pragmatism is always an important issue when considering health and well-being. Suffering is an important theme in philosophy. And, as health care providers, music therapists must consider how to remediate and health issues with efficacy and efficiency. (Wheeler & Kenny, 2005, p. 61)

A pragmatic view is guided by the idea that meanings of concepts are based on their practical implications. Rephrased, this means that the researcher explores what she thinks is important, and in a way that is congruent with her own value system and the value systems of both participants and their environment. Pragmatism rejects traditional dualism and prefers more moderate versions of philosophical dualism (Robson, 2011). It acknowledges the existence and importance of both the physical world and the world of the social and psychological human, thus embracing eclecticism and pluralism. Theories incorporated are

judged by criteria of their fundamental predictability and applicability for the study, by what makes most sense and what works the best in the complex context of the investigated phenomenon. To the current researcher knowledge is constructed, and there are no absolute truths. The results and outcome of the study are viewed as provisional truths. A pragmatic view acknowledges parts of a reductionist and parts of the constructivist scientific view, as it makes sense in the particular context and circumstances of the research. As there are multiple explanatory possibilities, and some will be better than others, one must be critical of the underlying thoughts and actions of any explanation (Robson, 2011). This has some similarities with social constructivism and the view that there is no single valid method in science and that knowledge is constructed by the researcher, but it also embraces testing theories with rational criteria, which is equivalent to the positivistic view of the world being measurable. One could phrase this viewpoint as wanting to know or understand why something, that was measured or found, happened. A research question might have both foci incorporated; Why/how can music therapy assessment measure parenting competencies or parent-child interaction? How can we explain the patterns of behaviour that was measured? As part of the pragmatic worldview, the study is based primarily on a deductive stance and within the small flexible phase also partly on an inductive stance. Replication is viewed as a way of confirming prior explanations and studies about actions and their mechanism and not as conclusive verifications of the actions and their mechanisms' existence

As this study also examines effect of music therapy treatment by using a randomized controlled trial, causation is considered necessary to address. Randomized controlled trial is the current best method for ruling out alternative explanations of why something happened, of why B regularly follows A, of why music therapy treatment influences parent-child interaction. Causation can, according to Robson (2011) be understood as units acting as a function of their basic structure. Generative causation is a more complex way of understanding change. Here A follows B because of one or more mechanisms (Robson, 2011). This means that A follows B under certain circumstances or even more complex outcome follows from mechanisms in particular contexts. Building on this, the researcher must have substantial knowledge of the phenomenon, she is investigating. She must know the circumstances and the particular context of the mechanisms well, building on previous work and both from theory and from observations. This focus includes looking for not so obvious reasons of why something happens or outcomes happen. In this study it could include trying to explain why music therapy treatment influenced parent-child interaction not only compared with a control group but also looking at the parents' level of education, the age of the child, the marital status, etc., and whether these factors or mechanisms might be part of the particular context or might have a place in the explanation of the outcome. These factors might also be blocking a possible positive effect or outcome.

### 3.1.3 Potentials and Implications in using Multiple Strategy Designs

Building on pragmatism serving as a scientific frame and explanation of how and why a multiple strategy design is possible, it seems relevant to operate with levels of how fixed and how flexible different designs can be. Conducting randomized controlled trials is a fixed method most often looking for effect. This study also used a randomized controlled trial to look for the effect of music therapy on families at risk, and there were no qualitative methods embedded in this design. The randomization and control of variables were performed in order to ensure validity and prevent subjective interpretations (Smeijsters, 2005). However, constructing an assessment model and measuring parenting competencies seems to call for less fixed methods, because they are multilayered. This becomes particularly evident when comparing clinical and nonclinical populations and trying to measure and understand the different types of behaviour especially as this kind of comparison is not yet carried out in music therapy assessment. One type of question precedes the other; one would need to know *how* clinical and nonclinical families act differently in music therapy before one can *measure* the magnitude of this difference. In other words, the researcher found herself in a position where she needed to go into depth with a part of the APC analysis, because she was uncertain of how to measure this difference. In spite of a theoretical paradigm war and instead of abandoning new knowledge, which ought to be the motivation and higher purpose behind all research, the researcher was true to her belief system of multiple truths and investigated this APC analysis further using a flexible design and approach. This qualitative analysis led to an additional analysis in APC, followed by a more advanced and informed quantitative analysis, which produced more informed and richer results.

Using a multiple strategy design to gain new and more refined knowledge, because one type of strategy was insufficient, is equivalent to Robson's (2011) concept of completeness in combining flexible and fixed designs. He also pointed out that in testing and developing an instrument, a qualitative phase of a study may generate items to include in a quantitative phase of a study (Robson, 2011, p. 167).

Bonde (2005) pointed out that a pragmatic point of view can raise ontological and epistemological dilemmas in the different kinds of collected and analysed data and knowledge. Within this study, one could ask whether quantitative scores from self-report questionnaires set a reality that rejects or is incompatible with the reality of the qualitative descriptions of interaction analysis. The quantitative scores from questionnaires on parenting competencies enabled comparison with a nonclinical population. The questionnaire scores built on self-report were not an interaction analysis, and this way of viewing parent competencies may be different from what the parents actually do, when they interact with their children in a music therapy setting.

However, this seems mainly to be a question of validity of the comparison of types of data rather than an epistemological dilemma, because the scores of the APC also essentially were quantitative.

As Robson (2011) implied, conducting both quantitative and qualitative elements in one study might jeopardize the quality of the results, simply because the researcher does not have sufficient skills in both

areas. The researcher's prior experience is mainly within the field of flexible designs and qualitative methods of analysis (Jacobsen & Wigram, 2007). With this PhD study the researcher sought to expand her knowledge and research skills by asking questions that call for the field of fixed designs and quantitative methods of analysis. The secondary qualitative phase, even though it was time consuming, therefore did not include a phase of learning a new set of research skills. The main focus for this study was to investigate measuring parenting competencies and parent-child interaction and to gain new knowledge and skills within this area.

#### **3.1.4 Different Sets of Principles and Rules**

When using multiple strategy designs, it can be difficult to report the different types of data collection and data-analysis, because they each have different principles, rules, and traditions. This study was mainly built on fixed designs and quantitative principles as described by Robson (2011) and Prickett (2005), using concepts like experimental fixed designs, dependent and independent variables, construct validity, criterion-related validity, concurrent validity, and internal and external validity. The qualitative phase in the multiple strategy design leaned towards flexible design and qualitative principles as described by Robson (2011), Wheeler and Kenny (2005), and Bruscia (2005) using descriptive interaction analysis of selected cases, including graphic transcription and microanalysis (Holck, 2007) as fundamental parts of the analysis. Furthermore, there were qualitative characteristics in the overall methodology such as ethical integrity, subjectivity, contextualization, and reflexivity, which reveal further how the researcher has a holistic and pragmatic view of research. A fixed design does not rule out subjectivity as an influencing factor. The researcher believes that the different sets of principles and traditions in multiple strategies are equally important in striving for validity. The finest task a researcher has to fulfil is to make every choice, every interpretation, and every limitation point clear for any recipient. The task is not to find truth, as it does not really exist, but to get as close as possible with all one's inevitable biases and subjective choices clearly stated.

#### **3.1.5 Ethical Approval of the Study**

The study was granted ethical approval by Faculties of Humanities' Human Research Ethics Board, HREB the 2<sup>nd</sup> September 2010 (See Appendix B). The study was considered to project a low-risk research project with adequate ethical considerations. HREB was founded at Aalborg University Jan 1<sup>st</sup> 2009 in response to researchers' (current researcher included) wish for advance ethical evaluation of studies that fall below the criteria of Regional Ethical Committee of North Jutland. Before the foundation of this board, led by Tony Wigram, researchers undertaking this type of research (that is, research with no biochemical treatments or personal data) had no means of obtaining independent ethical review and advice. HREB made it possible for studies already in progress to apply for ethical approval up until December 2010.

### **3.2 Data Collection and Protocol**

This study used mainly a fixed design with between and within group analyses to test APC's reliability and validity and the psychometric properties of APC. The two different sample groups were parents with neglected children, a clinical group (G1 & G2; see Table 4) and parents with non-neglected children, a nonclinical (G3). All groups participated in two initial (pretreatment) music therapy assessment sessions. The data consisted of APC data analysed by means of observation of video recordings and of standardized questionnaires on parenting competencies.

The study also included an experimental design, a randomized controlled trial only applied to parents with neglected children or the clinical group. In the experimental design there were two different conditions: music therapy treatment and control. Hence, Groups 1 and 2 also participated in a second (posttreatment) assessment session. Here the data also consisted of APC data analysed by means of observation of video recordings and of standardized questionnaires on parenting competencies. The purpose of the assessment in both designs was to detect parent capacity and assess parent-child interaction, and the purpose of the randomized controlled trial was further to investigate possible improvement in parenting competencies and parent-child interaction, as an effect of a series of music therapy sessions.

A randomization procedure assigned one of two music therapists to each of 18 families in the clinical group. A second blind randomization procedure assigned either the control condition or the treatment condition to each of the 18 dyads of neglectful parent and child, resulting in 9 dyads in the treatment condition (Group 1) and 9 in the control condition (Group 2). All neglected families received treatment as usual at the family care centre, which mainly consisted of psychological and pedagogical support and guidance. The study was not double blinded, because the families for ethical reasons knew about the two different conditions. (See Appendix C for further detail on time aspect the of the data collection.)



**Table 4**  
**Overview of Groups, Conditions, and Measures**

	<b>Group 1(G1)</b> 9 families with neglected children	<b>Group 2(G2)</b> 9 families with neglected children	<b>Group 3(G3)</b> 34 families with non- neglected children
Music therapy assessment (Pre) (2 sessions)	X	X	X
Standardized test (Pre)	X	X	X
Music therapy treatment (10 weekly sessions)	X		
Music therapy assessment (Post) (1 session)	X	X	
Standardized test (Post)	X	X	

### 3.2.1 Subjects

Subjects in this study consisted of 53 families, each with at least one child, aged 5-12. These families included those with neglected children ( $n = 18$ ) and those with non-neglected children ( $n=34$ ).

#### 3.2.1.1 Recruiting Clinical Families

Parents with neglected children were recruited in collaboration with a family care centre in Denmark. The families were recruited at the beginning of their stay at the family care centre as a part of their initial assessment period (see Appendix D). The staff consisted of family therapists, educated pedagogues, a social worker, and a psychologist, and together they agreed on which families to ask for participation. This was done in order to protect fragile families, who were at risk of getting very stressed by an introduction to the study. The researcher did not take part in approving the families in order to blind the study as much as possible. The staff approved the families on the basis of the inclusion and exclusion criteria described below. After the staff's approval, the social worker for the family gave his or her permission for the family to participate. With the permission of the social worker, the family was introduced to the study in an informal meeting with one staff member (to maintain feelings of trust) and a randomly assigned music therapist. The parent attending the music therapy sessions had to sign an informed consent (see Appendix E) and a consent form on use of video recording in the session (see Appendix F), in order for the family to participate. The child participating in the session was not asked to sign, because neglected children tend to take too much responsibility and worry too much. The children were introduced to the study in a way appropriate to their individual ages, but the welfare of the child was considered the responsibility of the assigned music therapist and the staffs, as the parent's capacity was in question. Neither the family nor the music therapist knew the

condition to which the family was assigned until after the first two assessment sessions had been conducted. This was also done in order to blind the study as much as possible.

Halfway through the data collection period, the researcher chose to try and incorporate a second family care centre with parents of children, who were described as emotionally neglected, because there was a risk of getting too little data and too small a sample size. She asked many different centres, and they all seemed positive toward the idea, but they had trouble meeting the overall timeframe for the project and some of the criteria for participating. Some centres did not have the manpower and financial freedom to invite “new people” in. Finally, a private centre agreed to participate in the study, and 1 clinical family was enrolled on the basis of this cooperation. The family met the inclusion and exclusion criteria of the study and was an equal part of the randomization process as all the other families. However, the centre differed slightly in that the families lived at the centre fulltime. The addition of this family resulted in a total of 18 families with neglected children.

#### 3.2.1.2 Recruiting Nonclinical Families

Parents with non-neglected children were recruited at public schools in four different cities of different sizes in Denmark. The head of each school gave permission for the researcher to ask families for participation. When possible, the head of school informed the researcher of at risk families at each school in order to meet the inclusion criteria of the study. The researcher asked random families across classes for participation. This met the broad age-range of children included in the study and ensured that individuals in classes did not stand out, because they did not meet the inclusion criteria.

The families only received a written introduction to the study (see Appendix G), and the parent attending the music therapy sessions had to sign an informed consent (see Appendix H) and a consent form on use of video in the session (see Appendix I), in order for the family to participate. The parents were guided to inform the attending child, but the child did not have to sign the informed consent form. The welfare of the child was considered the music therapist’s and the parents’ responsibility, because here the parent’s capacity was not under question.

#### 3.2.1.3 Inclusion and Exclusion Criteria

The parents of the neglected children, aged 5-12, were characterized as failing in their duty to give proper emotional care to the child. The emotionally neglected children and their healthy emotional development were characterized as being at risk. The parents of the non-neglected children aged 6-12 were characterized as not failing in the duty of giving care to their children, and they were not in contact with or treated at a similar family care centre. The children were not characterized as in need of special education, and their emotional development was characterized as not being at risk.

None of the families were excluded because of any kind of abuse and/or psychological illnesses or diagnosis. Families referred to the family care centre very often have these problems, and it is a part of the

characteristics of parents of emotionally neglected children. When families are referred to the family care centre, it is very likely that exact information on these points is missing. To be sure to get enough and representative subject, and to avoid having to exclude a family because of an abuse or psychological problem detected later, these points were not part of the exclusion criteria. It also was considered difficult to ask for this type of information and even more difficult to be sure to get truthful answers. The nonclinical population did not have any present or former contact with family care centres, and this knowledge was obtained from the head of school. The standardized questionnaire also functioned as a form of post screening of the participating families, enabling a thorough analysis of how the families or the clinical and nonclinical groups actually differed.

It was considered impossible to guarantee that children who were physically and/or emotionally abused did not participate in the study (see definition Chapter One, Section 1.5), mostly because the families were referred to the care centre partly for an investigation of this. There exists a procedure at the centre that if children are abused (either emotionally or physically), it will be reported, and their referral will be re-evaluated. However, none of the families participating in the study were reported by the family care centre for this type of behaviour. However, it is still not possible to rule it out.

#### 3.2.1.4 Informed Consent

Both clinical and nonclinical families were informed of the purpose of the study, who was participating, the risk and value of participating, how collected data would be stored, their rights, insurance questions, and the researcher's contact information. Furthermore, through a separate consent form they were informed of the different uses of the video recordings and asked to give permission for each kind of use. They had to give permission for the research team to view the recordings to participate, but showing clips to the staff at the centre or using clips in dissemination were optional for all families. The consent forms were formulated in a plain language in order for all participants to understand as much as possible.

Only the clinical families were introduced to the two different conditions from the experimental design, and they knew that they might have ten additional sessions after the first two assessment sessions. All families were informed that at any time, they could withdraw from the study with or without their data being used in the project (see Appendix E).

#### 3.2.1.5 Randomization

The experimental design randomly assigned the 18 clinical families to either assessment or assessment and treatment with allocation concealment. It was a restricted randomization with stratification and blocking that ensured equality between both the two different therapists and the two different conditions. One family was released from the family care centre just after being assigned to Therapist Two. Therefore, Therapist One had 5 families of assessment and 5 families of assessment and treatment, and Therapist Two had 4 families of assessment and 4 families of assessment and treatment. Blocking was used to avoid an imbalance in the

data in case of withdrawal of a participant family or other changes made late in the data collection period (See Appendix C for details on results of randomization). The statistical software program R was used to do the randomization, and it was masked to both therapists and staff at the family care centre. This is the code that was used and it was repeated five times:

```
cbind(sample(c("T1 Mt", "T1 No Mt", "T2 No MT", "T2 MT"), replace=F))
```

The nonclinical families were not randomly divided between the two therapists for practical reasons. Data were collected from different schools around Denmark and this generated a geographical problem. However, both therapists conducted assessment sessions with nonclinical families (see Appendix C, page two).

#### 3.2.1.6 Ethics

It was considered very important to ensure the welfare of all children and adults participating in the study. The clinical families were considered being in a fragile state, as they were referred to a family care centre. They were therefore treated with a high degree of respect and informed as much as possible without overwhelming them with too much or too complex information. The study was designed to not ask the families to wait for treatment or assessment regardless of which condition they were assigned to. The neglected children did not have to worry about participation or not, but of course some children might have found it stressful to participate anyway. The music therapists were aware of this but did not observe reasons to end therapy, even though this was a clearly expressed option. Both music therapists received six clinical group supervision sessions and one individual supervision session in relation to doing treatment. This was done in order to secure the welfare of the family, to ensure the quality of the music therapy treatment, and to offer collegial support in the challenging work with parents and emotionally neglected children.

It was considered somewhat unethical to offer music therapy on the condition that the families gave their permission to video record the sessions. However, at the family care centre, video recording the families was a common part of treatment, and there were no examples of families declining participation because of the video recordings. Music therapy was not available for families at the care centre during the period of data collection. It was not a regular part of treatment, and this could also be considered unethical, as the families were “forced” to participate in a research project, if they wanted music therapy. Furthermore, it was not possible to offer music therapy treatment after the project participation to the families assigned to the control group. Some families were sorry not to be a part of treatment group, but as this research project was conducted in order to attain new knowledge of music therapy with families, these aspects of questionable ethics were considered insufficient to cancel the research design. It was considered important to have a control group in the study in order for the research to potentially aid the family care centre in arguing for music therapy as a regular part of treatment. Regardless of outcome, this knowledge would benefit other

similar families. In the treatment group, however, it was possible to continue treatment after the last assessment session, if there were a clinical need to do so. However, there was no need for such a decision.

### **3.2.2 Researcher and Clinical Music Therapist**

In this study, the researcher was one of the music therapists working clinically with the families. This called for further control in the design in order to minimize an undesirable fusion of the two very different roles. The role of the researcher was to create the best possible design and choose the most fitting methods to address the research questions. This could be difficult to combine with the therapist role, because her main concern was the welfare of the families. Of course the researcher had ethical considerations as part of her design. But, as will be elaborated upon further in the discussion section, although doing a fixed assessment protocol was appropriate to achieve reliable results in an assessment test, in few cases this restriction could be somewhat of a challenge for the therapist to conduct “in real life.”

The danger in combining these two roles was one role possibly influencing the other in an inappropriate manner. With the families’ welfare in focus, the therapist might loosen research rules to meet the special need of the families by, for instance, letting the neediest families attend music therapy treatment regardless of the randomization. Or in the quest for “good” results, the therapist might unconsciously influence the posttreatment assessment session with clinical families in a way that favoured the results of the treatment group. In testing APC and looking at differences between clinical and nonclinical groups, it seemed difficult for the researcher to influence the therapist in order to get “good” results, because neither the therapist nor the researcher knew how the two groups would differ.

Of greatest concern was that the analysis of data was not hidden from the researcher. Because of the small sample size, the therapist/researcher knew every family, every assessment session, and the order of sessions. Still, an effort was made to prevent influencing the results by shuffling the video recordings of the sessions prior to analysing them. Fortunately, as there was a second clinical music therapist, a part of the analysis was blinded to the researcher. For these families she did not know what was pretreatment assessment session and what was posttreatment assessment session. The analysis of assessment sessions was not done during the data collection period but only after ending treatment, and when there were more than 7 sessions and 7 standardized tests to analyse and shuffle. This mix of roles is considered a validity issue and general limitation of the study.

#### 3.2.2.1 Preparing the Second Music Therapist

An important part of the method was to train the other clinical music therapist to perform both the music therapy assessment sessions based on the APC (described below) and the music therapy treatment sessions. The second music therapist had prior experiences in working clinically with neglected children and in

working with parent and child dyads. She was taught how to follow the assessment protocol together with the appropriate supportive and intervention style. Her own personal intervention style and therapist attitude was not altered, as it is important to stay authentic towards the families and establish a working alliance with the parent. As part of her training, she was informed of every aspect of recruiting subjects, as she also introduced families to the study at the family care centre.

### **3.2.3 Assessment Protocol for APC**

The study collected music therapy assessment data using the APC. Video analysis of music therapy sessions with parent and child was used to gather information about the interaction between them. The purpose was to analyse and describe the strengths and weaknesses of parent capacity in relation to the interaction with the child through the specific aspects that seem relevant in music therapy assessment. APC consists of a specific assessment protocol where the exercises were designed and chosen primarily in order to be able to investigate the autonomy relationship and the communication between parent and child, and to evaluate the parent's response to the child. . The music therapists followed the clinical guidelines of the IAP, since an autonomy analysis of improvisation was to be performed on the collected data. The clinical guidelines include letting the participants choose their instruments freely and engage in activities other than tasks and improvisation (Bruscia, 1987). The research staff eliminated duplicate instruments from the room to ensure individuality of instrument in the later analyses as Bruscia (1987) recommended. Hibbon (1992) also advised a free choice of instrument in the assessment of families, as it can inform concerning family characteristics. Families participated in two assessment sessions to give the family a fair chance of getting familiar with the music therapy setting and to ensure good conditions for data collection.

#### 3.2.3.1 Assessment Protocol

The identical two assessment sessions one week apart started with an informal opening, followed by a welcome song. Three exercises followed, after which a period of free play ensued before the session ended with a farewell song.

Beginning (Begin). The parent and child (hereafter referred to together as “clients”) entered the room. While the therapist tuned the guitar, they were invited to have a look around.

*Goal or reason:* This exercise was important, because it provided an opportunity to see how the clients reacted to an undirected and unstructured beginning, and how the parent spontaneously responded to the child in this particular setting.

A Secure Frame. The session started with an easy, familiar greeting song and ended with a farewell-song. This was provided in order for the clients to feel as secure and safe as possible.

Next followed three exercises. In each exercise the therapist participated the first time the exercise was undertaken in order to provide a role model for the family. To avoid interfering in the interaction between parent and child, the clients were then asked to do the exercise a second time without the therapist's involvement.

Exercise One (Ex1). Ex1 contained two parts. In Part 1 the clients were asked each to choose an instrument and to try out their chosen instruments, taking turns to do so. In Part 2 the clients were instructed to first play softly, then loudly, and then softly again without talking to each other.

*Goal or reason:* The exercise was designed to observe who took initiative and who followed whom, and to assess the autonomy relationship and the parental response type.

Exercise Two (Ex2). In Ex2, the clients were instructed to play in turns without talking. The music therapist clearly role modelled different ways of playing one's turn when she participated including playing short, long, loud, soft, and clear passing of turns melodically, rhythmically, etc.

*Goal or reason:* Here the turntaking between the parent and child could be assessed, and the research could evaluate their way of communicating. This exercise served as the basis for an additional turn-giving analysis developed in this study.

Exercise Three (Ex3). In the Ex3, the clients were instructed to take turns in following and leading each other in the music. Again the therapist participated with the clients the first time, and afterward the clients did the exercise alone.

*Goal or reason:* This exercise was constructed to analyse the autonomy relationship and the parental response.

Free Play (FP). Free play was an opportunity for the clients to play freely together without any specific instructions or playing rules. The therapist simply invited the clients to play as they pleased requiring only that they could hear each other. The music therapist played along and minimized her directive playing and focused solely on being an accompanist in order not to influence the interaction between parent and child.

*Goal or reason:* This exercise made it possible to assess how clients reacted to an undirected activity and provided insight about the autonomy relationship between parent and child and the parent's response. The therapist played along in this exercise to ensure a feeling of safety and comfort for the clients, and to gain awareness of, insight into, and sensitivity towards the interaction between mother and child from being "on the inside" of the musical experience

### **3.2.4 Music Therapy Treatment Guide**

The ten music therapy sessions took place once a week. They lasted around 45-50 minutes, and they were video-recorded. They took place in the same room and with the same therapist as in the music therapy assessment sessions. However, due to the family care centre's rearrangement of rooms, moving to another building, and other contextual aspects, the music therapists worked in four different rooms over the 2½ year period. The music therapy treatment was provided based on the literature review in Section 2.3 of music therapy with families and on clinical experience of the researcher/music therapist while working at the centre.

Being referred to the family care centre indicates suspicion of or an obvious problem concerning the family. The family reaction could be anything from keen on receiving help to having a lot of resistance. Some families were voluntarily at the centre, and some were more or less forced by the social authorities. However, all families agreed to participate in the study.

Prior to the music therapy treatment session, all families had the two assessment sessions. Neither the family nor the music therapist knew whether the family would receive treatment until after the assessment sessions were completed. Before the treatment sessions began, the music therapist and parent had a session talking about the content of the music therapy treatment sessions. The assessment sessions provided the music therapist with enough information to formulate goals, directions, and overall method for the treatment (prior to the assessment analysis for the research study). Parent and therapist agreed on at least one goal for the treatment, and depending on the parents' level of resistance and self-insight, this either had a predominantly confronting or a supportive focus/direction/goal.

#### 3.2.4.1 The Role of the Music Therapist

The greatest challenge for the therapist was to adapt to the individual family. Regardless of the predominant goal for the treatment, she would have to be supportive and affirmative in her intervention with the family. The families were in a vulnerable situation where the parenting competences were being questioned, and both parent and child were most likely dealing with many difficult and ambivalent emotions. Respect and acceptance without judgment were considered important for the creation of trust and alliance between therapist and family. First and foremost the music therapist was considered a facilitator for the relation between parent and child. Sometimes she was directing the family and offered structure, especially if the family tended to be passive, shy, or insecure. However, whenever the family took initiative, she would let the relation between parent and child unfold and follow their lead. The individual needs of the members in the family did of course influence the role of the music therapist accordingly.



#### 3.2.4.2 Goals

The most important goal for the treatment was for the parent and child to feel secure enough to participate and hopefully express themselves in music therapy. A positive experience of parent and child being together also was considered important. This did not mean that the clients could not get angry or express sad feeling towards each other or other people. In fact, this was considered to be necessary for some dyads of parents and children in order for them to truly enjoy being together.

The main treatment goal was to give the parent opportunity to develop or improve his or her parenting competencies. This was more or less conscious for the parent depending on his or her level of insight and resistance. In some cases it was considered necessary to have special goals for the child, if something stood in the way of building a trusting relation, or in the way of the child's positive experience of being with his or her parent.

#### 3.2.4.3 Working Alliance

The conversation prior to the treatment sessions with the parent was important in creating a strong working alliance. The parent had to be able to see an overall meaning of the treatment. The parent might not be aware of his or her own incompetence as a parent, and the therapist then had to build the alliance on the goal of a positive experience, and on how to best help the child and choose a more supportive intervention style.

If the parent had insight in his or her own parenting competences and could express, what was difficult in the interaction with the child, this was the returning focus for the therapy. During treatment, the parent and the therapist had meetings or conversations without the child. These conversations guided and encouraged the parent, giving him or her specific tasks in relation to the child, and it was also possible for the parent to express him/herself to the therapist. These extra meetings without the child were in addition to the ten music therapy sessions. They were conducted in order to nurture and maintain the working alliance with the parent.

#### 3.2.4.4 Methods and Techniques

In order to build a trusting relationship between parent, child, and music therapist a secure frame was considered necessary. This consisted of hello and goodbye songs chosen by the therapist or the family, or other rituals created together with family that marked the beginning and ending of a session.

Structure was very important in working with these families, but it did not necessarily mean loss of freedom.

Depending on the individual needs of the family, the music therapist provided structure with a focus on taking turns in deciding the activity. Structure also could be incorporated by giving spontaneous ideas a frame or a direction. The main technique with this population was not built on specific activities but rather on repetition and recognition and with a client-centred intervention style. The music therapy treatment sessions therefore contained multiple activities with both directed and undirected features, such as singing and listening to both familiar and new songs, musical improvisations and exercises (solo, duet, and trio),

history and songwriting, and many more. There was a variety of receptive and active techniques, as every family had different priorities and different needs.

It was the responsibility of the music therapist to ensure that termination of the treatment proceeded appropriately. This included reminding the family of the upcoming final session in the third and second to last session, and asking them if they wished to do something special in the last session.

### **3.2.5 Setting at Family Care Centre**

There was always a room for music therapy at the family care centre. All four different music therapy rooms used during the data collection period had similar features, and all were used for other type of consultations than music therapy. In the music rooms there were a piano, two Spanish guitars, two small sized Spanish guitars, a drum set, an alto diatonic metallophone from C to A2, two bongo drums, two set of maracas, four egg shakers, two different sized djembes, a soprano chromatic metallophone from C to A2, a pair of claves, Studio Shaker 5", Studio 49 Soprano xylophone, and small Nino Frog. Songbooks, paper, and crayons also were available on the shelves, but were only used in the music therapy treatment sessions.

The second family care centre had a similar collections of instruments besides the drum set including a piano, one Spanish guitar, one ukulele, one bongo drum, two set of maracas, four egg shakers, two different sized djembes, a pair of claves, medium Nino Frog, a glockenspiel, and a small cymbal.

Three permanent cameras were placed in the room enabling video recording of every corner of the room. There was an extra microphone placed in the centre of one wall to ensure good audio quality. The cameras were discrete and in two of the rooms, and they were managed in another room at the centre. In the second family centre there was one non-permanent camera placed in the room, and it was managed in the room and this might have influenced the interaction of the parent and child.

### **3.2.6 Setting at Public Schools**

The setting at the public schools took place in the music room of the school with different equipment. This room was considered familiar to the nonclinical families and associated with playing music. The music therapist did not meet the families prior to the sessions, and a familiar place was considered a way of providing a safe feeling for the family. An alternative was to conduct the sessions in the music room at the centre, but this might have evoked much anxiety in the families and might influence their interaction. The families might have been afraid to be seen walking into the centre, dreading what rumours people might make up. They might have been afraid that the social system secretly observed them and worried about possible consequences. The clinical families might also have felt exposed to the world if 30 or more nonclinical families with no relation to the centre went in and out of the centre. Therefore, the music therapy assessment sessions with nonclinical families took place in the music room of each participating public school. Still, the study strived to have the same instruments available to all the families and to have the same

amount of space available. There was one non-permanent camera placed in the room, and it was managed in the room. This was not as subtle as the video camera placement at the family care centre, and it might have influenced the interaction of the parent and child.

### **3.2.7 Standardized Questionnaires**

By comparing the music therapy assessment results from parents and their neglected children with nonclinical families, some aspects of the tool's validity and reliability could be answered. This comparison would determine whether the assessment tool could measure different parenting competencies in the two different groups of parents. However, this would not say anything about whether the results were accurate compared to other tests of parenting competences. For this, one must compare APC results with those from other standardized assessment tools for parenting competences. To be sure one has a true nonclinical population, results from a standardized and validated test of the two groups also were considered necessary. Parenting competences are complex to measure, because they consist of many factors like empathy skills, social skills, stress management, emotional skills, and autonomy skills (see Section 2.3). The comparison test should therefore be as complex as a personality test with multiple axes and continuum in order to know whether the results from the music therapy assessment were accurate or not. Comparing observed behaviour with self-reported tests could present some problems, because the parents might not answer truthfully, might not really know their true actions, or might misunderstand questions. A test filled out together with a psychologist was therefore considered more desirable. In evaluating treatment outcome, it was also necessary to find a test that had adequate test/retest reliability in order to measure changes over time. This type of test was difficult to find, especially in the native language of the population. Multiple tests contribute to the establishment of validity of the music therapy assessment, because it would increase the data pool for the statistical analysis. In the following the chosen tests and questionnaires for the study will be presented and discussed.

#### **3.2.7.1 The Parenting Stress Index (PSI)**

The Parenting Stress Index (PSI) is a clinical and research self-report questionnaire with 101 items. It is described as a screening and diagnostic assessment tool used to identify parent and child systems that are under stress, and in which deviant development of the child is likely to take place, or where dysfunctional parenting is likely to occur. It is a 5-point, Likert-type continuum, ranging from strongly agree to strongly disagree and has a fifth grade reading level. The PSI yields a total score, three domain scores, and 15 subscale scores. The domains measured are stresses related to child characteristics, parental characteristics, and contain situation and demographic factors. The age range for the child of the parent is 0-12. In Table 5 the scales, subscales and ranges of raw score are presented (Abidin, 1995).

**Table 5**  
**Subscales of Parenting Stress Index**

<b>Scale</b>	<b>Range of Raw score</b>	<b>Scale</b>	<b>Range of raw score</b>	<b>Scale</b>	<b>Range of raw score</b>
Child Domain	50-145	Parent Domain	69-188	Total stress	131-320
<b>Subscale</b>		<b>Subscale</b>		Life Stress	1-27
Distractibility/Hyperactivity	9-36	Competence	15-45		
Adaptability	11-38	Isolation	6-22		
Reinforces Parent	5-18	Attachment	7-22		
Demandingness	9-31	Health	5-21		
Mood	5-18	Role Restriction	8-32		
Acceptability	7-21	Depression	9-36		
		Spouse	7-28		

High scores in Child Domain indicate children who display qualities that make it difficult for parents to fulfil their parenting roles. It can also be interpreted as a measure of how stressful parents perceive their children. It is a sum of all underlying subscales. High scores in Distractibility indicate children who display behaviour associated with Attention Deficit Disorder with Hyperactivity. High scores in Adaptability indicate the level of the child's inability to adjust to changes. High scores in Reinforces Parent are associated with parents who do not experience their child as a source of positive reinforcement. A high score in Demandingness indicates a parent who experiences the child as placing many demands upon him or her. High scores in Mood are associated with children whose affective functioning shows evidence of dysfunction to the parent. The parent who scores high in Acceptability does not perceive the child as attractive, intelligent or pleasant as he or she expected.

High scores in Parent Domain indicate that the sources of stress may be related to the dimensions of the parent's functioning. It is a sum of all underlying subscales. High scores in Competence indicate problems in multiple aspects of parenting competencies such as lack of knowledge, unmet expectations of parenthood, and lack of acceptance from the child's other parent. High scores in Isolation indicate that the parent is socially isolated. High scores in Attachment suggest that the parent may not feel a sense of emotional closeness to the child, and/or that the parent might not be able to observe and understand the child's needs and feelings accurately. High scores for Health indicate deterioration in parental health either from parental stress or additional independent stress. Parents who earn high scores in Role Restriction experience the parental role as restricting their freedom and attempt to maintain their own identity. High scores in Depression suggest the presence of significant depression in the parent. High scores in Spouse indicate lack of emotional and active support of the other parent in the area of child management.

High scores of Total Stress are associated with parent-child systems that are under stress and at risk for the development of dysfunctional parenting behaviour or behaviour problems in the child. It is a sum of the Parent Domain and the Child Domain. A high score in Life Stress indicates parents who find themselves in stressful situational circumstances and provides information of the amount of stress outside the parent-child relationship. The PSI also controls for Defensive Responding. If a parent scores less than 24, the questionnaire is considered invalid. The T-score for every scale and subscale ranged from 1 to 99+. To avoid a ceiling effect the study used exact calculated T-scores in the statistical analysis, as this enabled small differences in scores to be evident.

The PSI is described as being able to predict observed parenting behaviour and children's current and future behavioural and emotional adjustment of United States populations and a variety of international populations. The trans-cultural research has involved Chinese, Portuguese, French Canadian, Italian, and Korean populations. These studies demonstrate comparable statistical characteristics, suggesting that the PSI is a robust diagnostic measure that maintains its validity with diverse non-English-speaking cultures. This ability to effectively survive translation and demonstrate its usefulness as a diagnostic tool with non-English-speaking populations suggests that it is likely to maintain its validity with a variety of different populations (Abidin, 1995).

In a review of the PSI, Heinze and Grisso (1996) found that the normative sample consisting of 2,633 parents with the majority of the children less than 5 years old. Alpha reliability coefficients measuring the internal consistency of the subscales, each domain, and the total score were high (0.70–0.95). Multiple test-retest reliability studies found the temporal stability of the test to range from 0.55 to 0.96. The PSI showed significant correlations with multiple tests measuring the same construct. The test was chosen for the current study, because it is rich in detail on both parent and child, and it has high validity and reliability.

#### 3.2.7.2 Parent-Child Relationship Inventory (PCRI)

PCRI is a self-report inventory with 78 items that examine how parents view the task of parenting and how they feel about their children. It has a 4-point, Likert-scale response format, ranging from strongly agree to strongly disagree. It is designed for use with mothers or fathers of 3 to 15-year-old children and gives quantified assessment of the parent-child relationship. It identifies specific areas in which problems may occur and covers seven distinct scales: Parental Support (ranging from 13 - 36), Satisfaction with Parenting (ranging from 18 - 40), Involvement (33 - 56), Communication (15 - 36), Limit Setting (14 - 47), Autonomy (14- 36), and Role Orientation (9 - 36).

Low scores in Parental Support indicate poor practical and emotional support. Low scores in Satisfaction with Parenting reflect lack of enjoyment from being a parent. A low score in Involvement indicates lack of seeking out ones child and in manifesting interest in its activities. Low scores in Communication represent

poor communication with the child both in terms of ability to talk to the child and the level of the parent's empathy. Parents with low scores in Limit Setting indicate poor limits set for the child. Low scores in Role Orientation indicate parent who tend to assume that there are marked differences between the normal roles of males and females, whereas high scores indicate parents who have attitudes consistent with sharing of parental responsibilities. The T-score for every scale ranged from 18 to 85. To avoid a ceiling effect the study used exact, calculated T-scores in the statistical analysis as this enabled small differences in scores to be evident (Gerard, 2005).

In addition, two validity scales are designed to alert on the examiner, that the parent is responding inconsistently or portraying the parent-child relationship in an unrealistically positive light. The validity scales consists of a Social Desirability scale and a scale intended to measure the tendency to give inconsistent responses. The test requires a fourth-grade reading level. PCRI items are appropriate for either parent and separate norms are provided for mothers and fathers. High scores indicate positive parenting characteristics and low scores indicate poor parenting skills (Gerard, 2005).

Heinze and Grisso (1996) reported that the normative sample for the PCRI consisted of 1,139 parents from separate places in the United States. Highly educated parents tended to score higher on the PCRI than less educated parents. Young parents also tended to score lower on the PCRI. The coefficient alpha values for the subscales ranged from 0.70 to 0.88, and the one week test-retest reliability of 22 subjects ranged from 0.68 to 0.93 for various subscales. The five month test-retest reliability of 82 parents for the subscales, ranged from 0.44 to 0.79. The PCRI showed significant correlations with subscales from the Personality Inventory for Children that where consistent.

Heinze and Grisso (1996) concluded that results suggest good internal consistency and temporal stability. However, there is a need for more research on the validity of the scales' ability to detect defensive responders together with research on the clinical application of the test. The PCRI test was chosen for the present study because it has highly relevant features including communication and autonomy scales and has a fairly good validity and reliability.

### 3.2.7.3 Translation of Tests

Although the PSI Short Form existed in Danish, neither the full PSI nor PCRI existed in Danish, so a translation for this study was needed. The two tests had different procedures for approving translations, but the procedure for translation was the same:

- 1) Translate the original test into Danish
- 2) Back-translate the Danish version into English (done by someone not familiar to the original test)
- 3) Compare the original version with the back-translated version (done by a third person)

- 4) When approved, apply copyright descriptions on each questionnaire document.

The psychologist at the family care centre did both back-translations. The third person in the procedure for the PSI was the author of the test Richard R. Abidin, and he approved the back-translated version. PCRI did not undergo this procedure, but relied instead on one of the supervisors of the study and his statement ensuring the quality of the translation and use of the test (see Appendix J). This supervisor of the current study was the third person, who compared the two English versions. After a few questions had to be re-translated and back-translated, the translation was also approved. Table 6 summarizes how the different tests meet the criteria of selection of standardized questionnaires and tests.

**Table 6**  
**Criteria for Selected Questionnaires and Tests**

<b>Criteria</b>	<b>PSI</b>	<b>PCRI</b>
High validity and reliability	X	X
Test/retest reliability	X	X
Child information	X	
Autonomy information		X
Communication information	X	X
Complex and rich in detail	X	X

### **3.2.8 Procedure for Data Collection**

All music therapy sessions with the clinical and nonclinical families were video recorded for later analysis. Five excerpts from different elements of each assessment session were selected to make the in-depth analysis more accessible for the researcher. The therapists made notes of each session including the treatment sessions and the conversations alone with the parent. Notes also were made of preparing the treatment sessions and of the supervision sessions.

Standardized tests were filled out by the parents of the neglected children before attending the pretreatment assessment music therapy sessions. A psychologist administered a third questionnaire, Parenting Preference Test, but only to half of the clinical families; therefore, these results were not included in the study. These tests were re-administered to the control group 4 months later and to the treatment group after ten weekly music therapy treatment sessions (see Table 7). The psychologist at the family care centre helped the parents fill out the tests. The nonclinical parents only filled out the tests once, and they filled them out between session one and session two. It would have been more comparable if the nonclinical families filled them out

prior to the assessment sessions, but it was considered more important to be able to guide the parent verbally on how to fill them out, and answer questions face to face rather than mailing them the questionnaires. The results of the standardized questionnaires were not available to the music therapist/researcher until after the posttreatment assessment sessions had ended. The family at the second family care centre also filled out PSI and PCRI, and the researcher helped this family fill out the questionnaires, as there was no psychologist available at the centre.

**Table 7**  
**Phases for Data Collection**

	<b>Phase 1 Recruitment</b>	<b>Phase 2 PT-questionnaires</b>	<b>Phase 3 PT assessment</b>	<b>Phase 4 Treatment or control</b>	<b>Phase 5 Post assessment</b>	<b>Phase 6 Post questionnaires</b>
<b>Clinical treatment group</b>	Family care centre 1 & 2 Staff decision	Parenting stress index (PSI) Parent-Child Relationship Inventory (PCRI)	2 sessions a week a part both video recorded	10 music therapy sessions a week part + treatment as usual	1 session	PSI PCRI
<b>Clinical control group</b>	Family care centre 1 & 2 Staff decision	PSI PCRI	2 sessions a week a part both video recorded	4 months of treatment as usual	1 session	PSI PCRI
<b>Nonclinical group</b>	Volunteer families at public & private schools	PSI PCRI (filled out between sessions)	2 session a week a part both video recorded	X	x	x

*Note:* PT = Prior to Treatment

### 3.2.9 Collected Data in the APC Analysis

In the following, the study presents how data collection proceeded including demographic information, drop outs and missing data.

#### 3.2.9.1 Clinical Group

Dyads (one parent and one child) of clinical families ( $n = 18$ ) participated in the study. Initially, 19 families agreed to participate in the study, but 1 family was discharged from the family care centre before they even met with the music therapist for the introductory meeting. All 18 clinical families completed both pretreatment assessment sessions including all exercises. All assessment sessions were successfully video recorded. All families completed the two pretreatment assessment questionnaires (PSI & PCRI).

The clinical families consisted of 16 mothers and 2 fathers with 10 daughters and 8 sons. Parent age ranged from 27-47 with a mean of 35.72 and child age ranged from 5-12 with a mean of 7.61. The marital status of the clinical families consisted of 5 parents who were married or with partner, and 13 who were single or



divorced/separated. The interval between the two assessment sessions ranged from 6-24 days with a mean of 12.83.

### 3.2.9.2 Nonclinical Group

Dyads (one parent and one child) of nonclinical families ( $n = 33$ ) participated in the study, Initially 35 families agreed to participate, but 2 families only participated in the first of the two assessment sessions and did not filled out any questionnaires. These two families were excluded from the study. All video recordings of the second assessment sessions were successful. Out of 32 families, 30 completed all sessions and filled out all questionnaires (PSI & PCRI). The nonclinical families consisted of 28 mothers and 5 fathers with 27 daughters and 6 sons. Parent age ranged from 32-49 with a mean of 39.24 and child age ranged from 6-12 with a mean of 8.39. The marital status of the nonclinical families consisted of 26 parents who were married or with partner, and 7 who were single or divorced/separated. The interval between the two assessment sessions ranged from 6-30 days with a mean of 9.18.

At the initial session, 2 families were not introduced to the assessment session with a free beginning, because the therapist did not instruct it, which resulted in missing data for the response type analysis. In collecting data from the first session, 3 video recordings were not successful, which resulted in missing data for these 2 families in all analyses, and they were therefore not part of the test-retest analysis. One family did not complete the free play exercise correctly in either of the two assessment sessions, because they designated roles before played, which also resulted in missing data for this family in the autonomy analysis and the response type analysis.

### **3.2.10 Collected Data in the Experimental Design**

#### 3.2.10.1 Treatment Group

All 9 families in the treatment group completed all pretreatment assessment sessions and pretreatment questionnaires. In addition, one family dropped out of the study due to discharge from the family care centre, but received four treatment sessions before doing so. Of the 9 families in the treatment group, two did not fill out post questionnaires, because the psychologist was not able to arrange meetings with them just before Christmas. The number of treatment sessions varied due to inconsistent attendance by the families at the weekly sessions; six families received ten treatment sessions, one family received eight, and one family received six. Parent age ranged from 26-48; there were seven mothers and two fathers. Child age ranged from 5-12; there were five daughters and four sons. In the treatment group, seven parents were separated/divorced or single, and two were married or with partner. The interval between assessment sessions in the treatment group ranged from 76-141 days with a mean of 100.88 and standard deviation of 22.80.

### 3.2.10.2 Control Group

All nine families in the control group completed all pretest assessment sessions and pretest questionnaires. However, five families did not fill out posttest questionnaires, two because the psychologist was not able to arrange meetings with them, and two because of discharge from the family care centre. One mother in particular did not wish to fill out questionnaires, because they were too daunting. In addition, three families did not attend post assessment session, two because of discharge from family care centre, and one because social services concluded that the child in the family was to be taken into custody. The interval between pretest assessment sessions and posttest assessment session in the control group ranged from 81-120 days with a mean of 98.14 and standard deviation of 16.55. Parent age ranged from 28-47, and there were nine mothers and zero fathers. Child age ranged from 5-12, and there were five daughters and four sons in the treatment group. In the control group, six parents were separated/divorced or single, and three were married or with partner.

### **3.3 Data Analysis of APC**

The researcher collected data for the APC analysis from video recordings of the second assessment session. The same assessment session was conducted twice in order to let the families get accustomed to the music therapy setting and accustomed to the music therapist. The first assessment session also functioned as means of examining test-retest reliability.

The APC consisted of the frequency of events related to autonomous behaviour based on Event Based Analysis (Wigram, 2004, 2007). It consisted of an analysis of turn-takings and turn-givings, including duration of the clients' turn takings, the number of interruptive and pure turn takings, and the frequency of turn-givings. The researcher also developed categories of the parents response types based on the literature review descriptions of different parental behaviour.

#### **3.3.1 Exercises and Video Excerpts**

Each of the five exercises from the assessment protocol had different aspects in relation to the interaction between parent and child and the different types of analysis were matched to these aspects (see Section 3.2.3). The video excerpts included the Beginning (Begin), Exercise One (Ex1), Exercise Two (Ex2), Exercise Three (Ex3), and the Free Play Improvisation (FP). The duration of the excerpts included a few seconds prior to the exercise to get the immediate context of the exercise. The excerpts from Ex1, Ex2, and Ex3 were as long as the actual exercise of the parent and child playing alone together. The excerpts from Begin and FP had a maximum of 2 minutes in order to make comparisons across families more equal but mostly to reduce data amount and make the analysis process more fit for clinical application. As explained earlier, the video excerpts were shuffled before they were analysed to blind the researcher and avoid a favouring of positive results for families in the treatment group.

#### **3.3.2 APC: Three Step Analysis**

In trying to learn about how clinical and nonclinical groups act differently in music therapy settings, this study focused on comparing the results on the APC for the two groups. The quantitative analysis of APC therefore consisted of the following three steps:

##### 3.3.2.1 Step One: Analysis of Autonomy Relationship

Ex1, Ex3, and FP excerpt were analysed by means of Bruscia's (1987) Improvisation Assessment Profiles and Wigram's (2004, 2007) Event Based Analysis presented in Sections 2.5.6.1 and 2.5.6.2. Each exercise was treated as an improvisational unit. After watching and listening to music produced in each time period, two salient musical parameters were chosen. Bruscia's Autonomy Profile was then used by marking events according to the five gradients.

### Musical Parameters

Dynamic	This includes musical parameters such as volume, timbre, intensity, and density.
Melodic	This includes musical parameters such as tonality, and melodies.
Rhythmic	This includes musical parameters such as tempo, meter, rhythmic patterns, and themes.
Structural	This includes musical parameters such as phrases, and pauses.

The Autonomy Profile had the following five gradients, Dependent, Follower, Partner, Leader, and Resister. Drawing on Bruscia's (1987) descriptions of the gradients in the Autonomy Profile the researcher created operational definitions of each. However, as Bruscia described partner as an indicator of general equality between follower and leader, and as the researcher was looking for individual events, this gradient was excluded from the event based analysis.

Through observations of the video, occurrences were noted of the musical parameters defined through one of the five gradients for autonomy. This was a count solely of the frequency of events relating to the relationship and behaviour between the child and the parent and not an analysis of the duration of events. The Autonomy Profile was intended for analysis of the different roles and patterns of interaction between the clients. Therefore, the analysis of the exercises focused upon the interpersonal and intermusical relationship, including how the participant musically related both to musical and non-musical aspects of the other. In clinical practice it would rarely be possible for more than just one practitioner to score these events; therefore, the researcher considered that clear, thorough definitions were important in relation to the reliability of the assessment model. Operational definitions of the four gradients used in APC are as follows:

Dependent Events: When a participant takes a dependent role, she or he attempts to musically synchronize with the partner and depends completely on the other participant's music for the direction of the improvisation.

- 1) The participant may withdraw or stop completely if the partner's music is too overwhelming or difficult to follow.
- 2) The participant may make exaggerated imitation of the other's rhythms and melodies, following a change in the other's tempo and volume very closely.
- 3) The participant will allow the other participant to control all aspects of improvisation.
- 4) The events may be described as lacking the presence of musical individual identity.

Follower Events: When a participant takes the follower role letting the partner determine the rhythmic, melodic, dynamic, and structural content of the improvisation.

- 1) The participant may imitate and match the other participant's rhythmic or melodic themes.
- 2) The participant may imitate and match the other participant's volume and tempo.

- 3) However, the participant maintains musical individual identity and is not dependent on the participant
- 4) Events within this gradient can be described as accompanying the other participant's music.

Leader Events: When a participant takes an apparently leading role, introducing new ideas and determining the style of the musical material.

- 1) The participant may offer apparent rhythmic and melodic themes.
- 2) The participant may try to influence the improvisation by using more distinct volume, timbres, and texture.
- 3) The participant may lead the improvisation by starting or stopping his or her playing.
- 4) The events can be described in this gradient where one participant takes a prominent, musical role.

Resister Events: When a participant attempts to evade or destroy any relation with the other participant (either consciously or not) and prevents or hinders the process of following or leader behaviour to occur.

- 1) The participant does not seek to influence the improvisation or the other participant in any direction and does not participate in interactions in the music.
- 2) The participant is absorbed in his own music or does not participate in the improvisation in a meaningful way.
- 3) The participant may be described as retreating, fleeing from, or aggressively avoiding interaction with the partner.
- 4) The participant may have an excessive focus on his own music through continuously repeating his or her own music and have exclusive attention to his or her their own musical impulses.
- 5) The participant may try to block, ignore, or overpower the partner's music and can be described as a soloist without accompaniment.

(For more complete details for the criteria for the gradients in relation to the Autonomy Profile see Bruscia, 1987, pp. 465–496)

#### Procedure for scoring events on the four gradients

For each exercise (Ex1, Ex3, & FP):

1. Watch and listen to the excerpt.
2. Choose the two most salient musical parameters (Melodic, Rhythmic, Dynamic, or Structural) and plot it in the musical parameter box in Table 8 for the respective exercise under each of the four gradients (see Table 8).
3. Choose one musical parameter and listen to the exercise and ONLY score events for the child. Make a tic in the box each time an event occurred in the improvisation – pause the tape while doing so.

4. With the same musical parameter listen to the exercise again and ONLY score events for the parent. Make a tic in the box each time an event occurred in the improvisation – pause the tape while doing so.
5. Repeat steps 4 and 5 with the second musical parameter.
6. Repeat step 1-6 for the two remaining exercises.
7. Note: In Ex3 the participants were to take turns in leading and following. If they lead when they were supposed to follow, score two tics in leading behaviour. If they followed when they were supposed to lead, score two tics in following behaviour.
8. Add up the events for the four gradients

Note:

One must consider that one participant (child or parent) can act as a leader without the other participant following; conversely, one participant (child or parent) can act as a follower without the other leading.

It is necessary to look at each participant's behaviour in separately.

Do not try to record of the duration of the events. One type of event can occur while another is still continuing. Only score the moment when a new event starts. Use dependent and resister gradients with care.

Wait for them to present themselves. Do not look for them. When in doubt, score the neighbouring level.

In a musical event, where one participant follows or leads the other participant, the musical parameter they follow (e.g., rhythmic pattern within a melodic phrase, or volume within a rhythmic pattern) should be used to identify a following or leading event. If two events occur simultaneously for one participant (e.g., increase in tempo and volume) only score the most salient musical parameter.

Data are listed in Table 8, where the four gradients are shown across in rows and the musical behaviour of the parent and child in the different exercises are shown vertically in columns. In the right column of the table the events for parent and child are summed up according to the four gradients.

**Table 8**  
**Autonomy Relationship Analysis Sheet**

			Ex1: ____seconds		Ex3 ____seconds		FP ____seconds		Sum	
Ex1	Ex3	FP	Child	Parent	Child	Parent	Child	Parent	Child	Parent
<b>Dependent</b>									<b>Dependent</b>	
Mp1	Mp2	MpF								
Mp1	Mp2	MpF								
<b>Follower</b>									<b>Follower</b>	
Mp1	Mp2	MpF								
Mp1	Mp2	MpF								
<b>Leader</b>									<b>Leader</b>	
Mp1	Mp2	MpF								
Mp1	Mp2	MpF								
<b>Resister</b>									<b>Resister</b>	
Mp1	Mp2	MpF								
Mp1	Mp2	MpF								

*Note:* Ex1 = Exercise 1. Ex2 = Exercise 2. FP = Free Play. Mp1 = musical parameter for exercise 1. Mp2 = musical parameter for exercise 2. MpF = musical parameter for Free Play.

### 3.3.2.2 Step Two: Analysis of Turn-Taking

The clients' playing in turns during Ex2 were scored in order to record how the turn-taking between parent and child happened, how long each participant was playing, how long the pauses between the clients were, and the number of pure and interruptive turn-takings. The turn-taking analysis rested purely on the time factor of the turn taking with no interpretation of musical content or initiative.

An event that was characterized "pure turn-taking" contained the following four elements:

1. Participant A plays
2. Participant A stops playing to give the turn (consciously or unconsciously) to Participant B
3. Participant B plays
4. Participant B stops playing to give the turn (consciously or unconsciously) to Participant A

In this analysis, it was possible to look at any kind of interruptive elements in case participant B played before participant A stopped. Turn-taking was still taking place if participant A did not stop before

participant B started, but it was then a turn-taking involving interruption. Likewise, a turn-taking was scored as "interruptive" if participant B also did not stop before participant A started, but stopped soon after. Data were collected in Table 9, where the play of the parent and child and pauses in between were shown vertically in columns and where the turn-takings were shown across in rows. In the bottom row of the table, the time played in seconds, as well as the length of the pauses were summarized together with the sum of the different types of turn-takings.

**Table 9**  
**Turn-taking Analysis Sheet**

Turn takings	Pure	Interruptive	Others	Child's play in seconds		Pause before parent	Parent's play in seconds		Pause before child
				m.ss – m.ss			m.ss – m.ss		
1				0.00 – 0.00	0	0	0.00 -0.00	0	0
2									
3									
4									
5									
<b>Sum</b>									

### 3.3.2.3 Step Three: Analysis of the Parent's Response to the Child

The literature review described many different types of parents and ways to respond to one's own child. In this study, six general types were chosen and predefined, because they were relevant for the focus of this analysis, which is the parent's ability to fulfil the child's emotional needs. The categories were rejecting, dominating, over-involved, passive, supportive, and emotionally exchanging. All six predefined categories and their connection with presented research and literature are defined as follows:

*Rejecting:* This category refers to an insecure attachment behaviour in which the child expects to be rejected (Ainsworth et al. 1978). Crittenden's (1981) description of some abusive mothers who enjoyed displeasing the child is also comparable to this category. Alvin and Warwick's (1991) description of mothers in a music therapy setting who had problems interrelating with their child and who withheld their emotions is comparable with being rejecting. This category refers to the kind of response where the parent clearly ignores or rejects the child as the child seeks the parent.

*Dominating:* This category refers to the descriptions by Polansky et al. (1996) of dominant and autocratic parents. The description of the impulse-driven parents from Polansky et al. (1981) also matches this



category, as the impulse-driven parent can be manipulative and prioritizes his or her own needs. This can be compared with Crittenden's (1981) description of the inept mothers wanting to maintain control and to some degree with Alvins and Warwick's (1991) description of the over intrusive mothers. Furthermore, there seem to be similarities with Stern's (1985, 2000) description of mothers wanting to change their child's behaviour by misattuning too selectively. Overall, this category includes the type of response, in which the parent deliberately dominates the interaction because of his or her own need and desire to control the interaction.

*Over-involved:* Crittenden (1981) described abusive mothers as interrupting their children and asking them to do tasks too difficult for their developmental stage. This pattern is relevant for this category. This category is also based on Alvin and Warwick's (1991) description of the over-intrusive, urgent, and worried mothers and on Oldfield (2006b) description of over-involved mothers who do not let their children take the initiative. Stern (1985, 2000) also described this kind of behaviour as "over-attunement" in intrusive mothers who wanted to be in every experience of the child. Overall this category of response refers to when the parent dictates how or whether the child should express him or herself.

*Passive:* This category is based on the apathetic parents who Polansky et al. (1981) described as passive parents who do not respond to their child and who have difficulty understanding and reading their signals. This is comparable with Crittenden's (1981) neglectful mothers who do not stimulate their children sufficiently and where there is a mutually passive interaction. In these descriptions there are similarities with Stern's (1985, 2000) theories of inauthentic attunement in the mother who fails to connect with her child and is inconsistent in her way of relating to the child. Furthermore, this in line with Main's (2000) descriptions of passivity in preoccupied parents. This category includes the type of response where the parent is inattentive and passive towards his or her child and the child's expressions and needs.

*Supportive:* This category refers to Crittenden's (1981) description of sensitive parents, their positive involvement, and adjustment of their behaviour toward their children to try to regain and maintain the child's interest. Winnicott's (1971) description of holding and object presentation is also within this category as the mother protects her child and helps it develop a healthy sense of independence. This is comparable with Trolldalen's (1997) description of acknowledging mothers, which includes listening, accepting, understanding, and tolerating the child in interaction with him or her. Oldfield's (2006b) description of supportive mothers and their clearly declared enthusiasm are also one of the foundations of this category. The category refers to the type of response where the parent supports the child through involvement, acknowledgement, and guidance.

*Emotionally exchanging:* This category refers to Stern's (1985, 2000) description of the affective attunement, which is an inter-subjective exchange of feelings and to Winnicott's (1971) similar description of mirroring and relatedness between mother and infant. This is also comparable with Trolldalen's (1997a) description of emotional exchanges between mothers and children in music therapy and Alvin and Warwick's (1991) description of parents who respond in accordance with their own feelings. Overall this category refers to the type of response where parents respond to the child's emotional expression by expressing their own feelings and sharing them with the child. Operational definitions for these categories are as follows:

Level of response type

0 = this type of behaviour is not evident at all in this excerpt

1 = this type of behaviour is slightly evident in this excerpt

2 = this type of behaviour is obviously evident in this excerpt

Rejecting: This category refers to the description of unsecure attachment, where the child expects to be rejected and the parent might even enjoy displeasing the child. The parent has problems interrelating with their child and withholds their own emotions. This category refers to the kind of response where the parent clearly ignores or rejects the child as the child seeks the parent.

Dominating: This category refers to a dominant and autocratic parent, the impulse-driven parent who manipulates and prioritizes his or hers own needs. This category includes parents who deliberately dominate the interaction because of their own needs and desire to control the interaction.

Over Involved: In this category the parent interrupts the child or asks the child to do tasks too difficult for his or her developmental stage. The category includes over-intrusive, urgent, and worried parents who do not let their children take initiative. Overall this category of response refers to when the parent dictates how or whether the child should express him- or herself.

Passive: This category refers to the apathetic parent who does not respond to the child and who has difficulty understanding and reading the child's signals. This includes the parent who does not stimulate the child. Often there is a mutually passive interaction. This category includes the type of response where the parent is inattentive and passive towards the child and the child's expressions and needs.

Supportive: This type of response is described when parents has positive involvement with their child. They adjust their behaviour toward their child trying to regain and maintain the child's interest. The parent protects the child and helps him or her develop a healthy sense of independence. This includes the acknowledging parent who listens, understands, and tolerates the child and parents with clearly declared enthusiasm. The category refers to the type of response where the parent supports the child through involvement, acknowledgement, and guidance.

Emotionally Exchanging: This category refers to affective attunement and the inter-subjective exchange of emotions between parent and child. This includes parents who respond in accordance with their own feelings and parents who emotionally seem related to the emotions of the child. Overall this category refers to the type of response where parents respond to the child's emotional expression by expressing their own feelings and sharing them with the child.

These categories were scored in four of the five exercises or settings of the assessment session. Also in this analysis it was considered important for clinical application and in ensuring a high level of reliability and validity for APC to have detailed step-by-step analysis procedure available for both the second rater and for clinicians wanting to use the APC. They follow below;

For every excerpt (Begin, Ex1, Ex3, and FP);

Score the parent to child response type, consider musical, verbal, and nonverbal behaviour. This includes

- the style and content of music both for parent and child,
- conversations and outbursts from both parent and child,
- both child and parent body language such as leaning away or towards each other,
- indications of eye contact, smiles, laughter together or alone, and physically touching each other.

All of these can occur in all of the six response types. Interpret the situation and score the level of each response type. How evident is each response types in each of the four excerpts?

1. Watch and listen to Begin
2. Watch Begin again and consider ONLY rejecting response type
3. Score the level of rejecting response for Begin (See Table 10)
4. Repeat step 2 and 3 with the 5 other categories of response for the beginning
5. Repeat step 1-4 with Ex1, Ex3 and FP

Data were collected in Table 10, where the part of the session was listed in left column and categories was listed across the top.

**Table 10**  
**Parent Response Type Analysis Sheet**

	Rejecting	Dominating	Over involved	Passive	Supportive	Emotional exchanging
Beginning (undirected)						
Exercise 1 (directed)						
Exercise 3 (directed)						
Free Play (undirected)						

### **3.3.3 Embedded Flexible Design**

In the following section, the researcher will present the flexible design used in this study. The flexible design consisted of descriptive interaction microanalysis of selected cases of Ex2 in the APC assessment protocol. The term flexible design instead of qualitative research was chosen in this study, because the main focus of the study consisted of a quantitative method of data collection (Robson, 2011). The quest in flexible design or qualitative methods is to create descriptions of specific phenomena that make sense from the inside of those researched and that are understandable to those outside of the research. As stated by Wheeler and Kenny (2005), a qualitative researcher must be explicit about personal, professional, and philosophical underpinnings of her research. These have been elaborated upon in the current study in Section 1.3 on clinical setting and personal motivation, Section 1.7 on the personal belief system of the researcher, and Section 3.1 on multiple strategy design and specifically a pragmatic philosophical worldview in Section 3.1.2. The principles and rationale of flexible design and qualitative research were obtained from several sources (Robson, 2011; Holck, 2007; Neergaard, 2010; Wheeler et al., 2005).

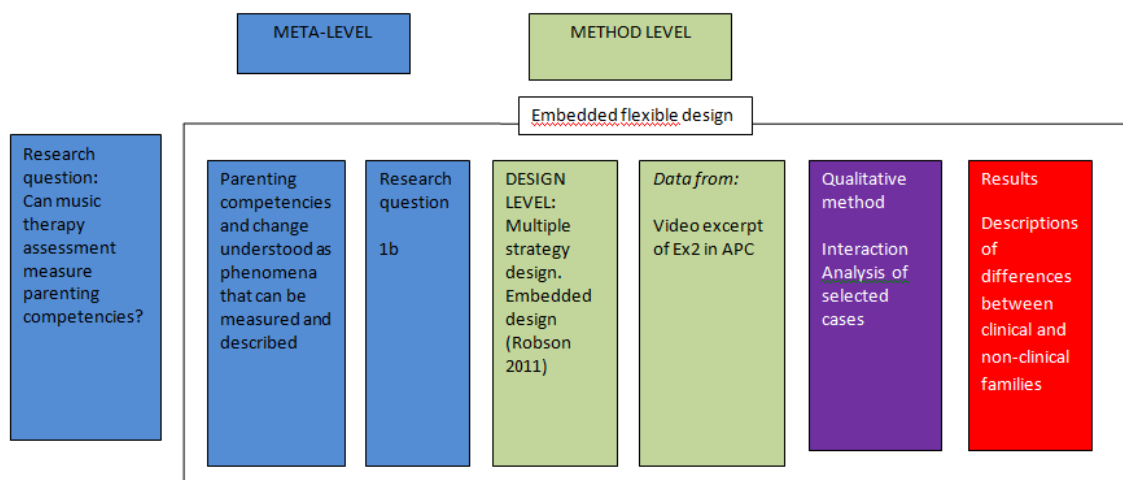
#### 3.3.3.1 A Need for Further Understanding

The need for a more flexible design emerged after the first statistical analysis of the quantitative turn-taking data. The researcher had a personal experience of clear differences in clinical and nonclinical groups and their behaviour in Ex2. This experience was supported both by having met these different families and observing them, as their actions took place but also in analysing 52 assessment sessions including 18 clinical sessions and 34 nonclinical sessions. The dilemma was that in spite of this personal experience, the statistical analysis of turn-taking and its focus on duration of turns, numbers of pure and interruptive turn-taking, and length of pauses did not reveal differences between the two groups. Only in number of pure turn-takings did the groups differ slightly, but the simple fact that the nonclinical group tended to produce more pure turn-takings than the clinical groups, did not inform much on how the parent and child communicated or

interacted. The assessment analysis method was not valid. It did not measure what it was intended to measure. The researcher needed to understand the interplay of turns between parent and child further. Prior to this discovery, the researcher had linked Ex2 to theories of autonomy and power struggles between parents and their neglected children, but this did not seem to apply anymore after having experienced so many different ways parents reacted to this particular exercise. Therefore, the researcher chose to investigate this personal experience of difference between clinical and nonclinical groups by means of descriptive interaction analysis looking at Ex2 once more. To understand the process and sequence of the flexible design, Table 11 and Figure 6 present a clarifying overview.

**Table 11**  
**Phases of Multiple Strategy Design in Detail**

	<b>Overall design strategy</b>	<b>Description</b>	<b>Indication</b>	<b>Choice</b>
<b>Phase 1</b> <b>APC-analysis</b> <b>Turn-taking</b> <b>statistical analysis</b>	Fixed & Deductive	Poor results of differences between clinical and nonclinical families	The method was not valid or did not measure what it was meant to measure	Investigate Ex2 further based on own personal experience
<b>Phase 2</b> <b>Blinded Peer Group + supervisor</b>	Flexible & Inductive	Describe differences between presented families through video experts of Ex2 (Blinded to clinical & nonclinical groups)	There was seemingly a difference between clinical and nonclinical families in their interaction patterns.	Analyse interplay of turns and specifically turn-givings further based on peer group and supervisor experiences
<b>Phase 3</b> <b>Interaction Analysis – Interplay with turns</b>	Flexible & Deductive  Selection of “good” cases:  Dialogues vs. Monologues  Dynamic vs. Mechanical	Part one: Microanalysis of musical, gestural, prosody, and mimic between parent and child in both groups including graphic notations and microanalysis.  Part two: Descriptions and analysis with operational concepts of turn organization	There was a difference in turn-giving and patterns of interaction between clinical and non clinical families.	Adjust APC analysis of turns and add a turn-giving analysis with focus on musical, gestural and confusing turn-givings.
<b>Phase 4</b> <b>Adjusted APC analysis</b>	Fixed & Deductive	Good results of differences between clinical and nonclinical families/groups	The method was more valid and measured what it was supposed to measure	Move on with statistical analysis and the development of scores for APC



**Figure 6. Chart of Flexible Design**

### 3.3.3.2 Descriptive Interaction Analysis of Selected Cases

This flexible design had a multiple case study strategy specifically with Ex2 and interplay of turns between parent and child as the case under study. Referring to Robson (2011), it can be characterized as a social group study and as a study of the Ex2 and the actions of the parent and child in this particular setting, comparing clinical and nonclinical group and looking for differences. Many features were fixed due to the assessment protocol and a controlled event such as Ex2, and due to the selected focus on interplay of turns. Therefore, the analysis for this study included an emphasis on the specific detail and descriptions of the actions of parent and child that distinguished the clinical and the nonclinical group from each other. The study was not based on phenomenological inquiry and its focus on lived human experience or essence of experience. The interaction microanalysis descriptions were analysed according to concepts of turn organization (see Section 2.3.3). The interaction analysis of Ex2 sought to describe patterns and differences between clinical and nonclinical families. The researcher did not study meaning, people or their experiences but sought to learn from what actually happened. This included descriptions and comparisons of music as recorded and other nonverbal features like gestures and mimicry.

### 3.3.3.3 Sampling Strategy and Data Collection

In a qualitative approach, the purpose of the sampling strategy is gaining new knowledge, and therefore one chooses informants strategically with emphasis on especially insightful cases and those that are especially rich and/or multifaceted. The purpose in this study was to obtain in-depth descriptions of differences between clinical and nonclinical parent-child dyads in interplay of turns (Neergaard, 2010). Therefore, the researcher selected clinical and nonclinical cases of Ex2 to order to compare the two types. According to Neergaard, the qualitative selection of cases can either be theory based or data based. In this study, the main sampling strategy was based on the collected data.

The researcher made an effort to describe her sense of the differences in the two groups in collaboration with one of her supervisors, and on the basis of a prior peer debriefing process of showing excerpts from Ex2 to fellow PhD. students and supervisors. The shared excerpts included both clinical and nonclinical groups, and peers were asked to comment on differences including body positioning, eye contact, body contact, facial expression, verbal expressions, musical expressions and content, and interaction with therapist. These presumptions or descriptions of differences were prior to the selection of specific clinical and nonclinical groups based on two continua: Monologue vs. Dialogue and Mechanical vs. Dynamic. Some clinical families tended to perform monologues; this was in contrast to nonclinical families, who tended to perform dialogues when asked to play in turns. Likewise, some clinical families tended to have a mechanical way of completing the task in contrast to nonclinical families, whose playing was dynamic and varied in Ex2. The cases were not chosen based on the presented theory on nonverbal communication or turn organisation.

Although the researcher had this knowledge, it was first explored after the analysis of the cases. This was done in order for the analysis to be as open to new knowledge as possible.

Coming back to the selection of cases, the researcher thus wanted cases with clear and rich examples of monologues and mechanical interactions and of dialogues and dynamic interactions. According to Neergaard (2010), selection of cases based on typical and intense examples suggests a purpose of wanting to underpin normal or average cases and a purpose of wanting to have detailed cases that manifest the phenomenon intensely but not to the extreme. More importantly, the study had, in its sampling strategy, a focus on maximum variation building on two continua of opposites. Here the purpose was to document variation and to identify common patterns.

Thus, the researcher chose four different cases to investigate including one nonclinical excerpt and three clinical families with clear aspects of monologues and dialogues and of mechanical and dynamic interactions. The selection also was based on the quality of the recorded video material. In some recordings, the faces of the families were unclear or too much out of focus to be observed for eye-contact or tiny hand movements. In some recordings the audio track was too low or obstructed from outside sources that made microanalysis impossible. The selected excerpts had to be clear and in focus, had to have a good audio sound, and had to capture the parent and child in the same frame and close enough to be able to analyse eye contact.

#### 3.3.3.4 Analysis Method

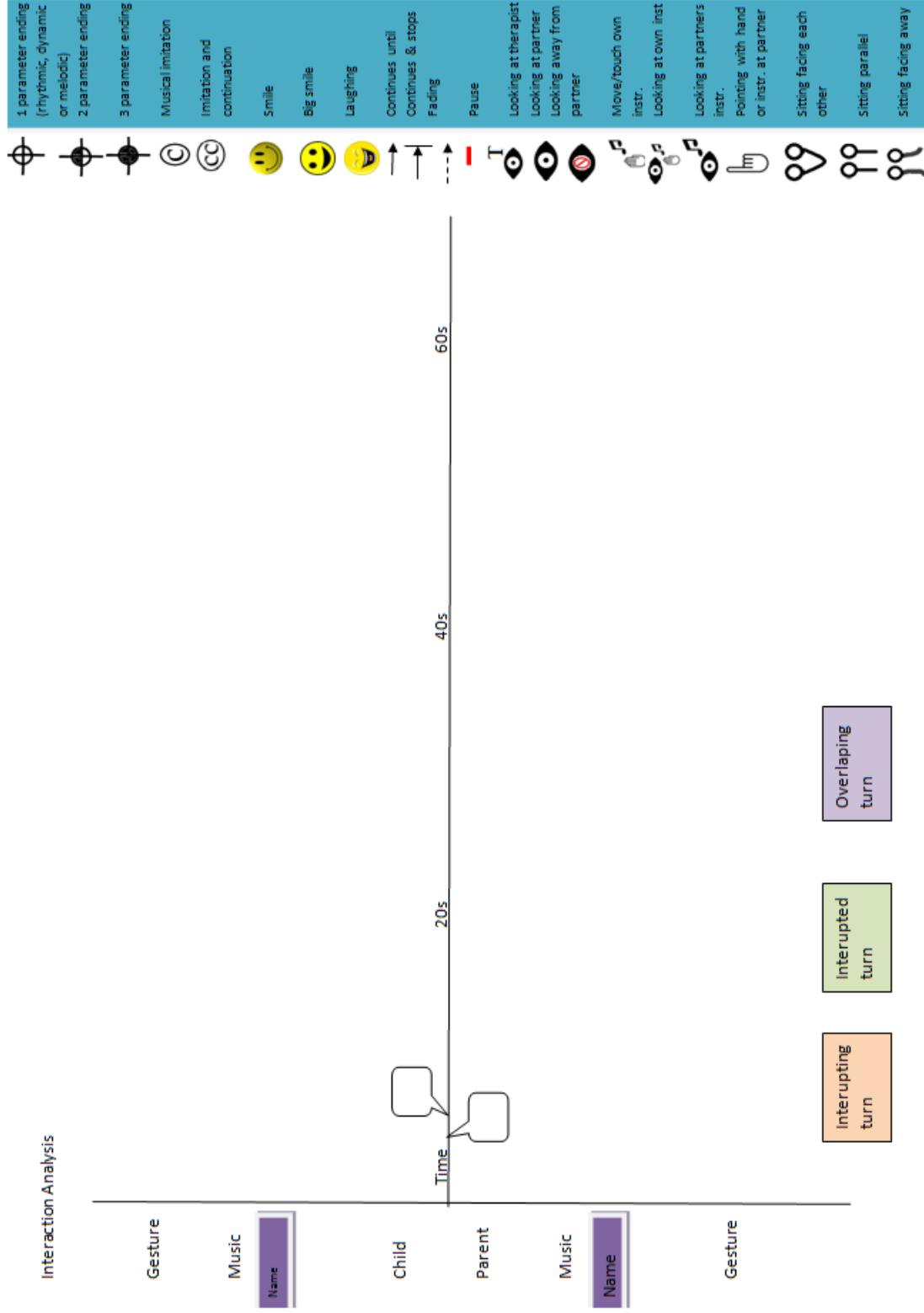
As mentioned above, prior to and during the statistical analysis a peer debriefing method was used in exploring differences between clinical and nonclinical ways of interacting or behaving in Ex2 from the assessment protocol in APC. The researcher asked a group of 14 fellow PhD students and their supervisors to comment on differences between two video excerpts of Ex2. They were not told which excerpt was clinical and which was nonclinical. They watched the two excerpts consecutively and then commented immediately on observed differences between them based on aspects of body positioning, eye contact, body contact, facial expression, verbal expressions, musical expressions and content, and interaction with therapist (see Appendix K). This aided the selection of cases and parts of the interaction analysis.

The main method was inspired from Holck (2007) and her way of analysing turn-taking and turn-givings, looking for patterns and themes for children with communication disorders. In this research, the microanalysis involved a graphic notation of interaction patterns including analysis of the interplay of turns. The researcher chose not to notate the musical notes but to interpret the musical content and intention. The analysis also sought to look at eye contact, body movement, and positioning, which was meant to enable in-depth descriptions of the cases and pinpoint differences in clinical and nonclinical interaction patterns between parent and child (see Figure 7).



The graphical notation was two-dimensional with time represented on the x-axis with the length of musical expressions proportionally adjusted between parent and child ( $x$  seconds =  $x$  cm). Depending on the whole length of Ex2, each interaction analysis used different proportions in order to fit the graphical notation for each family onto one page and enable visual comparisons between groups. The dyad's musical and verbal expression and gestural and facial behaviours were represented on the y-axis. Different icons for different behaviour created a graphical representation. For clarification it also seemed necessary to mark the duration of any behaviour, if the behaviour or movement faded rather than ended abruptly. This included the duration of pauses.

Figure 7. Final Template for Interaction Analysis



#### 3.3.3.5 Credibility

There were different aspects in the flexible design that seemed to raise the level of credibility. The analysis of data was based on descriptions of video excerpts, and not on the memory of the sessions or on music therapist's notes. The researcher tried to validate her personal experience of a clear difference between clinical and nonclinical families by showing video excerpts to a blinded peer group and letting them explain their experience of a possible difference. By means of conversation analysis and the work of Holck (2002, 2004, 2006, 2007), who implemented categories of specific turns and cues within a music therapy setting, the researcher had a theoretical understanding of turn-organizing and empirical theory, as a framework for her interpretations which enabled possible alternative explanations and a critical stance. This included specific categories of turns and cues such as turn-giving, turn-maintaining, turn-requesting, turn-denying, turns with repair, and turns with interruptions to name but a few. The researcher sought to overcome the influence of possible biases and overly subjective interpretation by incorporating a methodological triangulation with this presented theory and more importantly with quantitative data and further statistical analysis that also included a second rater and an interrater analysis. It was considered important to establish credibility in the flexible design by explicitly stating the researcher's role, and how using the researcher as an instrument in the method would/could influence the research.

#### 3.3.3.6 Researcher's Role

In the flexible design, the role of the researcher was to create a method that produced new knowledge of how clinical and nonclinical families interacted differently in Ex2. The data were already collected, and there were not many ethical considerations of the music therapist that could influence the researcher's choices. The same data were to be looked at from a new perspective with a different purpose and focus for analysis. However, the music therapist experienced the sense of differences between the groups on the basis of her clinical experience, and this did influence the researcher to a high degree. The mix of roles here actually seemed productive, because the researcher alone might not have acted upon this sense, and the music therapist alone might not have known what to do about it. The clinical experience combined with research experience of turn-organizing within music therapy enabled further evidence for the importance of turn-giving cues also within the area of music therapy with families.

#### 3.3.3.7 Researcher as Instrument

The analysis was to be conducted on the basis of clearly described methods and techniques including a theoretical frame and not on the clinical experiences of the music therapist. Of course, it was difficult to ensure the exclusion of the music therapist, as she was the co-creator of the purpose of the flexible design. As a part of the descriptions and analysis, it was the researcher's intent to make clear that whenever assumptions were influenced by clinical experience, this would be explicit.

### 3.3.3.8 Trustworthiness and Transferability

The purpose of this flexible design was not to be able to generalize results but to learn about what actually happened between parent and child in clinical and nonclinical groups. Trustworthiness was not about being able to find the same results as other studies, or other cases for that matter, as it was in the fixed design of the study. Reliability within the flexible design in this study was about making an audit trail, to make the “chain of evidence” and the research process as clear as possible. Transparency in the analysis process was considered important in striving for good reliability.

### **3.3.4 Additional Turn-Giving Analysis**

This additional turn-giving analysis of Ex2 was developed on the basis of the embedded qualitative design. It included a more interpretive focus on how the parent or child yielded his or her turn. This was intended to reveal how effectively the parent and child pass the turn to the other and how clear they were in communicating with each other. In clinical practice, it would rarely be possible for more than just the practitioner to score Ex2; therefore, the researcher considered the thoroughness of descriptions of the data collected to be important also in relation to the statistical reliability and validity of the assessment model. Below follows a detailed description of operational definitions of turn-giving and of how to perform the turn-giving analysis based on the theory of nonverbal conversation analysis presented in Chapter Two, Section 2.3.3.

Musical Turn-Giving is when a player makes a musical ending in his and her playing and then passes over the turn. This can be more or less clear with some or all parameters such as

- Melodic: A melody that has an upward or downward clear ending or forms a closing cadence in its harmony
- Dynamic: A sudden increase in dynamics that indicates a clear ending or a gradual decrease in dynamics as if the player were mumbling or fading out
- Rhythmic: A clear rhythmic phrase that comes to an end

Gestural Turn-Giving is when a player uses his or her body language to indicate that the partner can start playing. This has also multiple factors such as

- Eye-contact: Looks at the partner at the end of his or her own play or looks at the partner's instrument at the end of his or her own play
- Hands: Points at his or her partner with his or her own instrument or with hand
- Smiling: Smiling at the partner at the end his or her own play
- Nodding: Nodding to the partner at the end his or her own play

Confusing Turn-Giving implies that a player is sending mixed signals that include signs of turn-giving but also signs of wanting to play on or giving the turn to a third person (in this case the music therapist). This includes combinations such as

- Looking at the partner at the end his or her own play while continuing to touch or move his or her own instrument
- Nodding at the partner at the end his or her own play but looking in another direction
- Smiling, looking at, or nodding at the partner, but continuing to play
- Often the confusing turn-giving confuses the partner, and there is a short pause while the partner wonders what to do. The partner may actually request clearer signals by leaning forward, looking for eye contact, or asking, “Is it me?”

Verbal Turn-Giving is when a player says something that indicates that the partner can start playing. Often this happens before they start playing as they decide who will begin playing. Examples are, “Your turn,” “you decide,” “you start,” or “you begin.”

Instructions for Review of Ex2;

At each step, run the video clip again

- 1) See/listen to the whole of Ex2
- 2) Make a tic each time the child plays his or her turn
- 3) Make a tic each time the parent plays his or her turn
- 4) Child; After each turn you stop the video clip and indicate in the appropriate box Table 12
  - a. If the child performs turn-giving
  - b. If it was both a gestural and musical turn-giving
  - c. If it was only a musical turn-giving
  - d. If it was a only gestural turn-giving
  - e. If it was a only confusing turn-giving
  - f. If it was only a verbal turn-giving
- 5) Parent; After each turn you stop the video clip and indicate in the appropriate box Table 12
  - a. If the parent performs turn-giving
  - b. If it was both a gestural and musical turn-giving
  - c. If it was only a musical turn-giving
  - d. If it was a only gestural turn-giving
  - e. If it was a only confusing turn-giving
  - f. If it was only a verbal turn-giving

**Table 12**  
**Turn-Giving Analysis Sheet**

	Verbal TG	Musical TG	Gestural TG	Musical & Gestural TG	Confusing TG	Total TG	Total Turns
Child							
Parent							

*Note: TG = Turn-Givings.*

**Note:**

- 1) The participant might play his or her turn without performing turn-giving and without making a confusing turn-giving. This happens sometimes if the participant is not really aware of the other person or is more focused on his or her own playing or own instrument.
- 2) The participants might interrupt each other. This might influence how the one being interrupted performs his or her turn-giving, but other than this one does not evaluate it.
- 3) The participant might perform a turn-giving that is both verbal and musical, both verbal and gestural, or all three at the same time. Do not make a tic for verbal turn-giving in this situation. Only make a tic in for verbal turn-giving when there is no other parameter.
- 4) If the participant has performed a confusing turn-giving and then maybe corrects it afterwards, it only counts as a confusing turn-giving.
- 5) There can maximum be one turn-giving per turn.
- 6) Sometimes the participant performs turn-giving even though they have not played yet. This occurs mostly in the beginning. It counts both as a turn-giving and a turn.
- 7) If the music therapist stops them in the end and prevents a possible turn-giving the rater makes brackets around the last turn for this participant. If the participant performs turn-giving before the music therapist stops the exercise, the rater makes a tic for that turn-giving even though the partner does not get to play.

### 3.4 Statistical Analysis of APC

This study compared numeric results of the APC with those from standardized questionnaires from both clinical and nonclinical samples in order to determine reliability and validity of developed scores from the APC. Specific statistical analysis theory was obtained from several sources (Aarø, 2007; Brace, Kemp, & Snelgar, 2006; Decuir, 2005). The researcher also anchored this newly achieved research skill at the website of Field (2011) and found much guidance in his examples and teaching slides. There were many comparison points for the statistical analysis of testing APC (see Table 13).

**Table 13**  
**Overview of Statistical Comparison Points for APC Analysis**

<b>APC Reliability</b> (only Pretreatment data)		
<b>Comparison point A</b>	<b>Comparison point B</b>	<b>Statistical Focus</b>
Second rater APC scores	First rater APC scores	Interrater reliability
First PT assessment session APC scores	Second PT assessment session APC scores	Test retest reliability
Individual APC scores	Individual APC scores	Internal consistency
<b>APC Validity</b> (only Pretreatment data)		
APC scores clinical group	APC scores nonclinical group	Differences between clinical and nonclinical group
Questionnaires clinical group	Questionnaires nonclinical group	Differences between clinical and nonclinical group
APC scores clinical group	Questionnaires clinical group	Correlation with standardized questionnaires on parenting competences

*Note:* MT = Music therapy treatment condition. PT = Prior to treatment.

#### 3.4.1 Reliability

Following quantitative research principles according to Prickett (2005), establishing reliability of the dependent variable precedes considerations about validity. Reliability refers to having a measure that is capable of giving consistent results under similar circumstances with the same or other families of emotionally neglected children, with other music therapists conducting the sessions and with other people scoring the results.

##### 3.4.1.1 Interrater Reliability

A research assistant with music therapy assessment experience was assigned as the second scorer and analysed 30% (18 out of 61 sessions) of all analysed data from the second assessment session. She was trained by the researcher to do so and followed the “step by step analysis” protocol (Sections 3.2.3.1, 3.2.3.3 and 3.3.4). She received eight hours of training from the researcher and was not allowed to rate the data

before she and the researcher reached the same results in analysing families. These test-families were of course not part of the 30%. The second scorer was assigned random samples of six different types of data or conditions, in order to insure that the analysed data in the interrater reliability analysis was representational of all analysed data (see Table 14). The second scorer did not know whether the individual family was a part of the clinical or the nonclinical group, whether the individual family was part of the treatment or control group, or whether the individual session was pre- or posttreatment. Pearson's correlation coefficient was used to analyse the statistical significance between the two raters' scores for APC. To analyse the limits of agreement between the two raters, a Bland-Altman plot also was employed (Bland & Altman, 1986)

**Table 14**  
**Overview of Second Scorer's Analysis**

<b>Condition</b>	<b>Therapist</b>	<b>Families</b>	<b>All assessment sessions (pre + post)</b>	<b>Second scorer sessions</b>
<b>MT Treatment</b>	1	5	10	2
	2	4	7	2
<b>Control</b>	1	5	8	2
	2	4	6	2
<b>Nonclinical</b>	1	21	20	8
	2	13	10	2
<b>Sum</b>		52	61	18

#### 3.4.1.2 Test-Retest Reliability

Reliability is also the degree to which a measure will produce similar results in two administrations to the same sample. This study assessed test-retest reliability of the APC by comparing scores from the first pretreatment assessment session with the second pretreatment assessment session in the clinical and the non-clinical group. Initially, the researcher chose to conduct two pretreatment assessment sessions in order to help the families get accustomed to the music therapy session and not confound the results because of incomplete exercises or misunderstandings. To give the families a fair chance of proving themselves, the researcher would only score the second session. However, in learning more about statistical analysis and reliability in test development, the researcher found it relevant to conduct a test-retest analysis both because neither she nor the second therapist had experienced much difficulty in completing the assessment protocol, and because it was a good way of determining whether the families actually did need to be accustomed to music therapy.

An intraclass correlation coefficient was used to analyse the statistical significance between scores from the first pretreatment assessment session and the second pretreatment assessment session. To analyse if and how



clinical and nonclinical groups scored differently in the two sessions a Bland-Altman plot also was employed (Bland & Altmans, 1986).

#### 3.4.1.3 Internal Consistency

Tests of internal consistency show how the different scores relate to individual scores. This study examined internal consistency. In a scale or test one may speak of Cronbach's Alpha; however, as the APC is not a scale with different items but observational analysis, the alpha value was considered of less importance for this study. The correlations (Pearson's correlation coefficient) between APC scores were considered of greater importance. Correlations between scores can reveal whether subscales and total scales are dependent or independent. If scores vary together or similarly they can be understood as interdependent on one another, meaning that low scores in one area is predictive of low scores in other areas. If the scales or score do not vary together or if they correlate differently with other scale from other similar tests, they can be understood as independent measures and can be used separately or outside the context of the total score (Field, 2011).

#### **3.4.2 Validity**

In relation to quantitative research methods and its main principle, the study considered three types of validity: criterion, construct, concurrent and content. Furthermore, principles of a clear chain of reasoning or "chain of evidence" with clearly described definitions and categories were employed to reduce subjectivity in the analysis of the four gradients in the autonomy analysis, the definitions of pure and interruptive turn-takings and of different types of turn-givings, and the predefined categories of parents' response type.

In this type of assessment, it is important to examine the criterion-related validity that, according to Prickett (2005), relates to whether a test can describe a specific behaviour or a criterion, which in this case relates to parenting competences including the autonomy relationship between child and parent, their way of communicating, and the parent's response type. Criterion validity asks the question of whether the chosen method is believable in assessing parenting competences.

The belief described in Section 1.7.1 of musical interaction between parent and child in a music therapeutic setting being a mirror of their general interaction patterns is crucial to whether the study collects relevant data for describing parenting competences. The literature review pinpointed several music therapists who have worked with parents and children in music therapy, and who described the interaction between parents and children in a music therapeutic setting as a mirror of the overall interaction (Hibbon, 1992; Miller, 1994; Oldfield, 2006a; Trondalen & Skåderud, 2007). Another important aspect was construct validity, which according to Prickett (2005) relates to whether the method of measurement really measures what it is supposed to. In this study the constructs consisted of the elements of the protocol together with the data analysis and the development of individual APC scores. Statistically, these points were addressed by

correlating APC scores with questionnaire scores. Concurrent validity was examined by determining whether both set of scores could distinguish between clinical and nonclinical groups. A high level of correlation and the APC's ability to distinguish between clinical and nonclinical groups would indicate that the APC was, in fact, addressing aspects similar to the aspects addressed in the questionnaires about parent-child interaction and parental stress. Content validity concerns the extent to which the method or test reflects all the facets of the area being tested. Most important in relation to this aspect, this study did not try to emphasize every aspect of parenting competencies. It did, however, set out to measure autonomy relationship, communication style, and type of response and constructed the method, analysis, and scores to meet these demands.

### **3.4.3 Internal and External Validity**

According to Prickett (2005), internal validity reflects the researcher's ability to anticipate situations other than the independent variables that might influence the dependent variable and to design a study with a high degree of control. As the study consisted of an assessment protocol with fixed exercises and elements, a well-trained assisting music therapist, comparisons with a nonclinical population, and a randomized controlled trial, the study was considered to have some degree of control. But this was considered only truly answered when results either proved to be attributed to the independent variables or not. The study acknowledged the possibility of outside factors like drug-abuse, undetected neglecting parents in the nonclinical sample, trained musical skills, individual music culture of families, and personal intervention style in therapists might have influenced the results.

External validity concerns the degree to which the method and the results can be generalized to people, settings, and researchers beyond the current study. It is somewhat connected with reliability, but has more to do with what one can state to have found in one's results. This study was not able to examine whether the APC can be applied to families with other problems or pathologies than neglected children. But to some extent, it was able to suggest how a nonclinical population may react to the APC protocol.

### **3.4.4 Statistical Hypotheses and Statistical Tests Used for APC**

Prior to the statistical analysis the researcher had specific questions and comparisons, she wished to address besides the specific reliability analysis described above. Some concerned testing the APC model. The original questions are listed below in order to make the chain of evidence and the process of research clear and make the intent of the researcher explicit. Therefore, there are no questions concerning turn-givings.

#### 3.4.4.1 Control Variables

1. Do the questionnaire scores show differences between the clinical and nonclinical groups? (Do I really have a clinical and a nonclinical group?).
2. Are there quantifiable differences between groups at the pretreatment assessment session in the following?

- Child age and gender?
- Parent age and gender?
- Marital status?

#### 3.4.4.2 How Reliable and Valid is the APC?

1. Will the APC show quantifiable differences between clinical groups and nonclinical group in
  - a. Equality in the following and leading events between parent and child?
  - b. Number of interrupted and pure turn-takings in child, parent, and total?
  - c. Predominant response type in parent?
  - d. Are these true for all groups?
  
2. How does the nonclinical group react to APC?
  - a. Is there more equality in the nonclinical group than in the clinical group in the relationship between following and leading events between parent and child?
  - b. Are there more pure turn-takings in the nonclinical group than in the clinical group?
  - c. Are there fewer interruptive turn-takings in the nonclinical group than in the clinical group?
  - d. Are there more positive parental response types in the nonclinical group than in the clinical group?
  - e. Are there fewer negative response types in the nonclinical group than in the clinical group?

#### 3.4.4.3 Statistical Tests used in APC Analysis

Independent samples t-test were used to look for significant differences between clinical and nonclinical groups on every scale variable. An alpha level of .05 was used for all statistical tests. A Levene statistics test computed for each variable assured that the assumption of homogeneity of variance was not violated. When needed, transformation of data was computed to meet the assumptions of homogeneity of variance.

Nonparametric independent samples Mann Whitney U Tests were used when the assumption of homogeneity of variance was violated and could not be corrected by transformation of data. A chi-squared test was used to look at significant differences between clinical and nonclinical groups on each nominal or ordinal variable.

In correlations between APC scores and standardized questionnaires scores, the study employed a correlational design. Pearson's correlation coefficient was used as the scores of APC, PSI and PCRI all are numerical and continuous. The value of  $r$  or the strength of the correlation of 0 to .2 was generally considered weak, .3 to .6 moderate, and .7 to 1 strong (Brace et al., 2006). An alpha level of .05 was used for all correlation tests.

### 3.5 Analysis for the Experimental Design

In the experimental design, dependent measures consisted of APC scores that were developed based on the between groups design. Furthermore, scores from the PSI and PCRI also were included in looking for effects over time. Focus was on the outcome of music therapy treatment compared to a control group with pre and post measures. Both groups received treatment as usual. The comparisons points in the experimental design are listed in Table 15.

**Table 15**  
**Overview of Statistical Comparison Points for Experimental Design**

<b>Randomized Controlled Trial (Treatment and control group)</b>		
<b>Comparison point A</b>	<b>Comparison point B</b>	<b>Statistical Focus</b>
All pre data MT group	All pre data control group	Differences between MT and control group pre
Pre -post change APC MT group	Pre -post change control group in APC	Differences in MT and control group change
Pre-post change questionnaire MT group	Pre-post change questionnaire control group	Differences in MT and control group change

#### 3.5.1 Statistical Hypotheses and Statistical Tests Used for Effect Study

Prior to the statistical analysis the researcher had specific questions and comparisons, she wished to address. These original questions are listed below in order to make the chain of evidence and the process of research clear and make the intent of the researcher explicit. Therefore, there are no questions concerning turn-givings

##### 3.5.1.1 Outcome and Possible Effects:

1. Parent and child will move towards a partnership with more equal amount of leading vs. following events following music therapy intervention.
2. Null-hypothesis: There will be no quantifiable shifts in the attitude of the parents who experience music therapy treatment going from being predominantly follower to leader.
3. Null-hypothesis: There will be no quantifiable shifts in the attitude of the parents who experience music therapy treatment going from being predominantly leader to follower.
4. There is a quantifiable shift from interruptive turn-takings to pure turn-takings in parents and children who experience music therapy treatment.
5. There is a quantifiable shift in parent's response type with increasing incidence in positive response types following music therapy intervention.
6. There is a quantifiable shift in parent's response type with decreasing incidence in negative response types following music therapy intervention.

7. Families in the music therapy condition will improve their scores of the PCRI subscale Involvement compared to families in the control condition.
8. Families in the music therapy condition will improve their scores of the PCRI subscale Communication compared to families in the control condition.
9. Families in the music therapy condition will improve their scores of the PCRI subscale Autonomy compared to families in the control condition.
10. Families in the music therapy condition will improve their scores of the PSI subscale Competence compared to families in the control condition.
11. Families in the music therapy condition will improve their scores of the PSI subscale Attachment compared to families in the control condition.
12. Families in the music therapy condition will improve their scores of the PSI subscale Child Domain compared to families in the control condition
13. Families in the music therapy condition will improve their scores of the PSI subscale Parent Domain compared to families in the control condition.
14. Families in the music therapy condition will improve their scores of the PSI Total Stress Score compared to families in the control condition.
15. Null-hypothesis: There are no quantifiable differences in results of effect between Therapist 1 and Therapist 2.

#### 3.5.1.2 Statistical Tests Used in the Effect Analysis

The study used a repeated measures with between groups design (split-plot factorial design) to explore effects of music therapy on parenting competencies in families at risk. The between groups variable had two levels: experimental/treatment group and control group. The within-groups variable was time point with two levels: pretreatment and posttreatment. An alpha level of .05 was used for all statistical tests, except in simple effects analyses where the alpha level was adjusted for the family-wise error rate, yielding an alpha level of .0375. Where necessary, missing observations were estimated according to the procedure described by Yates (1933, as cited in Kirk, 1982), and error degrees of freedom were adjusted downward accordingly. A Mauchly test computed for each variable assured that the assumption of sphericity was not violated in any case. A Box's Test computed for each variable measured equality of covariance; for two variables (Mood and Child Domain Score from PSI) the assumption was violated. The researcher then performed a nonparametric test of two related samples, a Wilcoxon signed rank test for the within-groups measures for these two variables. Effect sizes were measured by computing Cohen's *d* using the average of the standard deviations from pretreatment and posttreatment and adjusting for the correlation between the two. An online calculator was used to calculate the effect size (<http://cognitiveflexibility.org/effectsize>). For nonparametric analyses,

the study calculated the relative treatment effect based on the mean ranks as referred to by Erceg-Hurn and Mirosevich (2008).

### **3.5.2 Pre-experimental Power Calculations**

Pre-experimental power calculations were not performed prior to the study. The researcher was advised by an expert researcher to collect as many nonclinical families as possible, as this would increase the probability of finding significant differences between clinical and nonclinical groups. A sensitive assessment tool would thus increase the probability of findings significant results in the experimental design. However, retrospectively with a medium effect size ( $f = 0.25$ ), alpha level set to 0.05, and aiming to identify a sample size that would lead to 80% power in a repeated measures design with two measurements, a power calculation using the software program G\*Power showed that 17 cases would be needed in each group to achieve 80% power. If a large effect ( $f = 0.35$ ) were assumed, 10 participants for each group would be sufficient to achieve the same test power of 80. The study aimed to collect 10 in each group and was able to recruit 9 participants in each group. With only 9 participants the probability of finding 80% power in the experimental study thus required a large effect size to prevent type 1 errors of not revealing significant changes over time between groups, even though they existed.

# Chapter Four

## 4. Results

Chapter Four presents all the results of this study on assessing and developing parenting competences in music therapy. The first part present the results from the within and between groups design on developing scores from the APC model by comparing clinical and nonclinical groups of families. The first part also describes the findings of the flexible design, including case studies and the interaction microanalysis of interplay with turn in both clinical and nonclinical families. These findings lead to the specific turn-giving analysis in APC and in developing a score for the Turn Analysis (TAS).

The second part in Chapter four presents results from the randomized controlled trial on possible development of parenting competencies looking at APC score and standardized questionnaires. Discussion of results in relation to presented theory and limitations of analysis, design and method is elaborated upon in Chapter Five.

The bridge reaches the other riverside. A riverside that was unexplored before the bridge opened access to it. Chapter Four serves to describe the precise site of where the bridge reaches the riverside. What does it look like? Is it a rough and exiting jungle with much life and many unknowns, or is it a carefully maintained park with a clear network of symmetrical paths and a small sign at each tree or flower? Or is it both maybe? Did the bridge manage to find a spot with new and unexplored flora or is the riverside much the same as any other? The building and construction of the bridge is completed – what is at the end of the bridge? Where does it lead to?

## 4.1 Test of APC Results

This section presents all the results of the APC Analysis, including developing of APC scores, reliability and validity analyses.

### 4.1.1 Control Variables

In the comparison of similarities and differences between the clinical and the nonclinical groups, the researcher analysed five control variables from demographic data: child gender and age, parent gender and age, and marital status. Furthermore, all subscales and total scores from the standardized questionnaires PSI and PCRI were used to determine whether the groups were different in various aspects of parental capacity. Independent samples t-test showed that the groups were not statistically different in terms of child age. The groups, however, were statistically different in terms of parent age; the parents from the nonclinical group were older than the parents from the clinical group. Means and standard deviations are showed in Table 16.

**Table 16**  
**Mean and Standard Deviations of Ages by Group**

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 33)		<i>F</i> (1,49)	<i>p</i>
	M	SD	M	SD		
Parent age	35.72	6.6	39.24	5.19	4.37	.042
Child age	7.61	2.547	8.39	1.60	1.82	.248

A chi-square analysis determined that the groups were not significantly different in terms of parent gender and child gender. There were however slightly more daughters than sons in the nonclinical group.

Frequencies and count are shown in Table 17.

**Table 17**  
**Frequencies of Parent & Child Gender by Group**

	Clinical ( <i>n</i> =18)		Nonclinical ( <i>n</i> =33)		$\chi^2(1, n =49)$	<i>p</i>
	Female	Male	Female	Male		
Child	55.6 %	44.4 %	81.8 %	18.2 %	4.03	.057
Parent	88.9 %	11.1 %	84.8 %	15.2 %	.16	.523

Chi-square analysis also showed that groups were statistically different in marital status with more alone parents in the clinical group. Counts and frequencies are showed in Table 18.



**Table 18**  
**Frequencies of Marital Status by Group**

	Clinical ( <i>n</i> =18)		Nonclinical ( <i>n</i> =33)		$\chi^2(1,N=49)$	<i>p</i>
	Alone	With spouse	Alone	With spouse		
Marital Status	72.2 %	27.8 %	21.2 %	78.8 %	12.71	.001

There was one invalid PCRI questionnaire in the non-clinical group that was omitted from the study. Independent samples t-tests showed that the groups were significantly different in terms of following scores from standardized questionnaires on parent-child relationship and parental stress level: Parental Support, Satisfaction (with parenting), Involvement (in the child), Communication (with the child), Limit Setting (towards the child), Autonomy (promote independence in the child), Role Orientation (egalitarian vs. traditional), Distractibility (in the child), Adaptability (in the child), Reinforces Parent (child), Demandingness (child), Mood (child), Acceptability (child's ability to accept), Child Domain, Competence (parental), Isolation (parent), Attachment (towards child), Health (parent), Role Restriction (being a parent), Depression (parent), Spouse (relationship with other parent), Parent Domain, and Total Stress. The families level of Life Stress were, however, not statistically different across groups. The difference were all in the expected direction where the clinical groups scored lower than the nonclinical group in the PCRI and higher than the nonclinical group in the PSI. Means and standard deviations are showed in Table 19.

**Table 19**  
**Mean and Standard Deviations of Questionnaire Scores by Group**

Questionnaire subscales	Clinical ( <i>n</i> =18)		Nonclinical ( <i>n</i> =33)			
<b>Parent-Child-Relationship Inventory (<i>n</i> = 32 for non-clinical)</b>						
	M	SD	M	SD	<i>F</i> (1, 48)	<i>p</i>
Support	43.72	12.74	60.09	10.85	23.142	.000
Satisfaction	48.50	11.51	57.88	5.48	15.273	.004
Involvement	42.17	12.99	53.47	7.79	14.875	.003
Communication	38.56	9.79	50.06	7.41	21.972	.000
Limit setting	43.61	6.94	58.69	8.83	38.850	.000
Autonomy	42.94	5.37	58.84	9.08	45.843	.000
Role Orientation	57.11	13.83	66.13	6.71	9.672	.003
<b>Parenting Stress Index</b>						
	M	SD	M	SD	<i>F</i> (1, 49)	<i>p</i>
Distractibility	65.68	21.76	20.78	24.87	41.324	.000
Adaptability	78.53	19.02	25.67	27.23	53.374	.000
Reinforces Parent	77.40	22.03	51.06	26.27	13.063	.001
Demandingness	79.53	20.60	33.10	29.82	34.478	.000
Mood	86.77	18.72	49.30	26.39	28.361	.000
Acceptability	74.96	25.84	32.12	25.12	33.192	.000
Child Domain	82.61	17.75	25.35	27.60	62.925	.000
Competence	80.01	20.88	22.68	21.32	85.395	.000
Isolation	68.66	33.31	37.01	30.42	11.790	.001
Attachment	64.05	34.39	39.96	28.42	7.203	.010
Health	77.56	12.43	39.42	27.87	30.194	.000
Role Restriction	50.62	30.88	26.91	23.53	9.464	.003
Depression	78.68	24.87	43.16	31.67	16.891	.000
Spouse	73.88	26.50	47.45	30.93	8.987	.004
Parent Domain	77.20	25.69	30.46	29.24	32.324	.000
Total Stress	82.02	21.27	26.16	27.82	54.857	.000
Life Stress	63.23	30.58	46.81	31.27	3.258	.077

Furthermore, Independent Samples t-tests showed that the groups were statistically different in terms of interval between assessment sessions, where the clinical group had a longer period between assessment sessions than the nonclinical group. Means and standard deviations are shown in Table 20.

**Table 20**  
**Means and Standard Deviations of Days between Assessment Sessions by Group**

	Clinical ( <i>n</i> =18)		Nonclinical ( <i>n</i> = 28)		<i>F</i> (1, 44)	<i>p</i>
	M	SD	M	SD		
Interval between assessment sessions	12.83	6.06	9.18	5.07	4.883	.032

**Table 21**  
**Correlations between Interval between Assessment Session and APC Scores by Groups**

	PCIM	AS	TAS	NR	PR
Interval between assessment sessions groups combined	-.223	-.098	-.373*	-.176	-.139
Interval between assessment sessions nonclinical group	.108	.131	-.292	.211	.433*
Interval between assessment sessions clinical group	.047	.195	-.158	.047	-.158

*Note:* PCIM = Parent-Child Interaction in Music. AS = Autonomy Score. TAS = Turn Analysis Score. NR = Negative Response. PR = Positive Response

Despite the correlation between interval and TAS for groups combined (see Table 21), the interval between assessments did not influence the ability of the TAS (or any other APC score) to distinguish between clinical and nonclinical groups ( $F(1,45) = 2.135, p < .151$ ).

## **4.2. Developing Scores from APC**

As part of the research question concerns how APC can measure parent and child interaction with a high level of reliability and validity, the researcher sought to transform the numerical data from the analysis procedures described in Section 3.3.2 into scores for each analysis. This was done to enable specific statistical analysis on reliability and validity including interrater reliability, test-retest, internal consistency, and construct and concurrent validity. It would have been possible to make these statistical analysis' on the basis of the raw analysed data comparing each number for each analysis procedure accordingly. However, the individual numbers from the analysis was not considered to inform on parent-child interaction or parental capacity. Instead the relationship between numbers for the child and numbers for the parent was considered to be the interesting features. Therefore, the researcher attempted to make further analysis and transform these numbers into scores for each analysis, which also made it much easier to look for internal consistency and how the different analysis interrelated with each other.

The development of these scores was based on comparison on numerical data from both clinical and nonclinical families. This included several statistical analyses on significant differences between clinical and nonclinical groups. The scores were never meant to stand alone in a report on parenting competencies but were meant to be as important as descriptions of both observations and scores. Some of the results regarding differences between groups were not incorporated into the scores because with their qualitative nature, they were considered to be more appropriate in the APC written descriptions instead.

### **4.2.1 Autonomy Score**

The Autonomy Score (AS) is based on the autonomy analysis from APC, more precisely the relationship between following and leading behaviour in the improvisations.

Bruscia (1987) defined the Partner gradient in the Autonomy Profile as equality between the Follower and Leader gradients, and Wigram (2007) defined the Partner gradient as a possible healthy descriptor of interpersonal interactions in music therapy improvisation. Building on this, the researcher investigated the relationship between following and leading events in the parent and the child, as it would reveal tendencies of autonomy in each participant's individual playing. More interesting was the relationship between one participant's following and the other participant's leading and vice versa as it revealed how attentive the participants were toward each other's initiatives and musical playing.

Furthermore, this relationship showed tendencies of extreme independence or dependence either toward the parent or toward the child. The researcher looked at differences between clinical and nonclinical groups in different variables and based the score on assumed healthy behaviour in comparison with assumed unhealthy behaviour, where a higher score indicated a healthier autonomy relationship between parent and child.

Independent Samples Mann-Whitney U Tests showed statistically significant differences between groups in terms of percentage of events in which the parent followed and led, percentage of events in which the parent followed when the child lead, the percentage of events in which the child followed when the parent lead, and the number of events in which the child resisted. Means and standard deviations are shown in Table 22. There was no statistically significant difference between groups in the percentage of total events, in which the child led and followed and in the number of events in which the parent resisted. Neither of the two groups revealed dependent behaviour.

**Table 22**  
**Means and Standard Deviations of Following and Leading Behaviour by Groups**

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 30)		<i>U</i>	<i>p</i>
	Median	SD	Median	SD		
PFP	43.61	13.85	51.86	9.00	396.00	.007
PLP	56.39	13.85	48.14	9.00	144.50	.007
CLPF_c	55.53	5.00	51.56	2.00	105.00	.000
PLCF_c	44.72	4.6	49.24	2.46	398.00	.006
CR	.00	.84	.00	.00	112.50	.000

*Note:* PFP = percentage of events in which the parent followed. PLP = percentage of events in which the parent led. CLPF\_c = percentage of events in which the parent followed when the child lead. PLCF\_c = the percentage of events in which the child followed when the parent lead. CR = number of events in which the child resisted.

Based on this, the researcher developed a score of the equality relationship between how much the parent followed when the child led compared to how much the child led all in all and how much the child followed when the parent led compared to how much the child followed all in all.

$$\text{CLPF}_c = (\text{number of child leading events} / (\text{number of child leading events} + \text{number of parent following events}))$$

$$\text{PLCF}_c = (\text{number of child following events} / (\text{number of child following events} + \text{number of parent leading events}))$$

$$\text{Equality} = (\text{CLPF}_c / \text{PLCF}_c) \times 100$$

To incorporate the difference in the percentage of times the parent followed and led, the researcher made the following rule for the final Autonomy Score: If the parent led more than 70% of events or followed fewer than 30% of events, an extra 10 points was to be subtracted from the equality score:

$$\text{PFP} < 30\% \text{ or } \text{PLP} > 70\% = -10$$

Independent Samples Mann-Whitney U Tests showed statistically significant differences between groups in terms of both the Equality Score and the final Autonomy Score. Means and Standard Deviations are shown in Table 23.

**Table 23**  
**Means and Standard Deviations for Equality Score and Autonomy Score by Groups**

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 30)		<i>U</i>	<i>p</i>
	Median	SD	Median	SD		
Equality	77.50	12.28	94.87	6.01	441.50	.000
Autonomy Score	78.77	11.40	95.00	6.01	470.50	.000

The Autonomy Score is an expression of how well the child and parent follow each other, and controls for the case in which the parent leads much more than he or she follows. The closer the AS is to 100, the more equal the parent and child both follow and lead each other. The score can be slightly over 100 if either of the two participants follows more than the other leads. This only happened in one of the clinical families and in three of the nonclinical families. To explain APC Autonomy Score further, examples of sums of following and leading events and the resulting AS are shown in Table 24.

**Table 24**  
**Examples of Events and Autonomy Scores**

Clinical	Leading Events	Following Events	Autonomy Score
Child	18	8	81 $((8/(8+10)) / (18/(18+15))) \times 100 = 81$
Parent	10	15	

Clinical	Leading Events	Following Events	Autonomy Score
Child	4	10	70 $((10/(10+12)) / (4/(4+3))) \times 100 = 80 - 10 = 70$
Parent	12	3	

Nonclinical	Leading Events	Following Events	Autonomy Score
Child	16	10	102 $((10/(10+9)) / (16/(16+16))) \times 100 = 102$
Parent	9	16	

Nonclinical	Leading Events	Following Events	Autonomy Score
Child	13	16	97 $((16/(16+17)) / (13/(13+13))) \times 100 = 97$
Parent	17	13	

The researcher did not choose to include the child resisting behaviour in the Autonomy Score, as this seemed more of a qualitative feature that was to be included in the descriptive APC report. Chi-square analyses determined that the groups were significantly different in the percentage of families showing parent resistance or child resistance. The percentage of families displaying resistance by either the child or parent is shown in Table 25. The nonclinical group did not reveal any resisting behaviour.

**Table 25**  
**Frequencies of Parent & Child Resisting Behaviour by Group**

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 30)		$\chi^2(1, n = 47)$	<i>p</i>
	Yes	No	Yes	No		
Parent as resistor	44.4%	55.6%	0.00%	100.00%	16	.000
Child as resistor	16.7%	83.3%	0.00%	100.00%	5.33	.047

Independent samples t test showed significant differences between groups in terms of duration of all exercises in the Autonomy Relationship Analysis (see Table 26).

**Table 26****Means and Standard Deviations for Duration of all Exercises by Group**

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 29)		<i>F</i> (1, 45)	<i>p</i> (1-tailed)
	M	SD	M	SD		
Duration of all exercises	195.56	49.717	229.62	63.766	4.721	0.04

**4.2.2 Turn Analysis Score**

The Turn Analysis Score (TAS) was based on both the original turn-taking score and the additional analysis of turn-givings. More precisely, the TAS represents how effectively the parent and child communicate when asked to take turns.

The relevant products of the turn-taking analysis were the frequency of pure and interruptive turn-takings and the relationship between the duration of turns of the parent and the child.

The researcher looked at differences between clinical and nonclinical groups for different variables and based the score on assumed healthy behaviour in comparison with assumed unhealthy behaviour where a higher score indicated a healthier way of communicating. Looking only at the turn-taking analysis, Independent Samples t-test showed no statistically significant differences between groups in duration of child's play, duration of parent's play, the durations of turns, the duration of the child's play compared to the duration of the parent's play, the duration of the parent's play compared to the duration of the child's play. Means and standard deviations are shown in Table 27. However, there were statistically significant differences between groups in terms of number of pure turn-takings.

**Table 27****Means and Standard Deviations of Variables from Turn-Taking Analysis by Group**

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 31)		<i>F</i> (1, 47)	<i>p</i>
	M	SD	M	SD		
Child play	42.47	24.46	43.18	44.36	.00	.951
Parent play	27.97	14.79	27.53	13.73	.01	.917
Turns pr second	.08	.10	.11060	.087	1.62	.210
CCP	58.81	13.30	55.0017	11.67	1.10	.300
PPP	.41	.13	.45	.12	1.10	.300
PPP vs CCP	.79	.45	.90	.42	1.51	.226
PTT	3.72	2.76	5.61	3.11	4.57	.033

*Note:* CCP = duration of child's play compared to the duration of the parent's play. PPP = duration of the parent's play compared to the duration of the child's play. PTT = number of pure turn-takings.

The low incidence of statistically significant differences between groups in this way of measuring turn taking led to further investigation of the interplay within the turns exercise, as the researcher had observed clear



differences between groups in Exercise 2 (Ex2) in the APC. The epistemology behind going from statistical analysis to descriptions of interaction is explained in Chapter Three, Section 3.3.3. This more qualitative investigation included peer group feedback and thick descriptions of the interaction between parent and child across groups. The following will present these results, as they functioned as arguments for an additional analysis in APC and subsequent additional statistical analysis.

#### **4.2.3 Peer Group Feedback**

As part of the investigation of interplay with turns, the researcher showed video clips of two families performing Ex2 from the assessment session to a group of 14 Ph.D. students and supervisors. One family was clinical and one family was nonclinical. The two video excerpts were chosen to illustrate differences and thus had monologues and mechanical communication as a key feature in the clinical example, and dialogues and dynamical communication as key feature in the nonclinical example. The group was asked to write down keywords of differences and similarities between groups according to the following aspects: body positioning, eye contact, body contact, facial expressions, verbal expressions and content, musical expression and content, interaction with therapist and any other observed difference. The researcher did not inform the peer group whether the families were clinical or nonclinical families. Table 28 presents all the unique keywords from the peer group.

Table 28

Keywords from Peer Group on Differences between Groups in Ex2

	<b>Clinical family</b>	<b>Nonclinical family</b>
<b>Body positioning</b>	Child turning towards parent Parent leans away from child 90 % parent not looking Parent leans towards therapist Parent rejecting child Distant	Parent turning towards child Parent & child leaning towards each other Mutuality Sit on the floor More friendly towards each other Closeness
<b>Eye contact</b>	Child looks at parent Parent looks at therapist Very little from parent to child Sporadic/ Some of the time	Mutual eye contact Constant Childs looks at therapist also
<b>Body contact</b>	None /limited	A lot of Relaxed & good
<b>Facial expressions</b>	Poor Parent is numb / neutral Child yes & Parent no expression Child seeks contact Parent not changing but “stiff” Parent very blank & child very needy	Vital & laughing Smiling & attentive Both smiling and engaged Communicating Joy Enjoying interaction & having fun Expressive and open
<b>Verbal expressions and content</b>	Only child speaks	None Laugh Joy
<b>Musical expressions and content</b>	Child leads and calls to parent Parent only follows Follows instructions but parent needs prompting (passive aggressive?) Child strong & parent weak Corresponding to each other More simple & shorter content Rhythmical phrases imitations Varied Same instrument – equal opportunities	Parent leads Child follows & imitates Flexible and with warmth Parent leads – child follows/imitates (quite well) Different volume Parent takes initiative all the time Variation in rhythm, dynamic & intensity Child corresponding to parent (focussed empathy) Parent understood when her offering was too long for child and shortened Parent more creative in beats Equality in musical interaction and play Question & answer = dialogue Different instrument - different opportunities
<b>Interaction with therapist</b>	None Parent looking at therapist	Almost none When laughing Child looks at therapist Therapist joining emotionally in laughter
	Musical contact?	

The peer group seemed to all notice differences in body positioning, eye contact, and facial expressions. The nonclinical family was positioned toward each other, had much eye contact and were more vital in their facial expressions. The child in the clinical family often was described as seeking her parent’s attention but

without much luck. The clinical family's facial expressions were more limited, and they did not seem to enjoy the interaction as much as the nonclinical family. In the musical expression, the nonclinical family was linked with keywords such as flexible, creative, dialogue, and equality, whereas the clinical family was linked with somewhat fewer keywords such as simple, varied, and short. Interestingly, the peer group also saw some similarities in musical content including imitation and correspondence; however the child led in the clinical family and the parent led in the nonclinical family. The feedback from the peer group confirmed the researcher's experience of clear differences between groups, and this served as an argument for looking more closely at interplay with turns. Still, there were no clear descriptions of how clinical and nonclinical families were different and similar in Ex2, which might guide analysis of data from APC and/or provide descriptive results

#### **4.2.4 Results of Interaction Analysis**

In collaboration with supervisor, <sup>1</sup>Ulla Holck and jointly looking at video examples of Ex2, the researcher discovered the relevance of the concept of turn-giving for this study. Turn-giving was a much needed counter to the concept of turn-taking. As described in the Chapter Three, Section 3.3.3, the researcher decided to make interaction analysis and graphical notations of selected cases of Ex2 in order to enable a microanalysis and look for patterns of interaction between groups specifically with turn-giving, including gestural, facial and musical cues. One nonclinical example with dialogues, dynamic and clear communication as key features and three clinical example with monologues, confusing and mechanical communication as key features were selected to illustrate the extremes. In the following, descriptions of the interaction microanalysis will be presented. The descriptions are separate from the analysis of concepts of turn organization to make the audit trail of the research clear for the reader. Figures 8 to 11 show the graphical notation for the interaction analyses of the four families.

##### 4.2.4.1 Nonclinical Interplay with Turns

###### Case 1: Description

Mother (37 years old) and daughter (8 years old) sit parallel beside each other with each of their instruments in front of them (see Figure 8). This means that they have to turn their heads to look at each other. The child has a flute and the parent has a xylophone. The therapist has just instructed them to take turns in playing and is sitting close by watching their interaction. Immediately the child says, "You start," smiles, looks at, and points to her mother with her hand. The parent, looking at her daughter, smiles back, replies "yes," and starts playing. The parent plays for 8 seconds, but half way through the child starts looking at her own instrument, and eventually she starts moving the flute around in her hands. The parent looks at her child halfway through, makes a clear musical ending with both melodic and rhythmical features and a clear increase in

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<sup>1</sup> Holck was assigned supervisor of the study late in the PhD study process.

volume. At the same time, she looks at her child and smiles to her. The child puts her flute to her mouth and starts playing. She imitates some of her mother's rhythmic patterns, but she also starts to invent some of her own rhythmic patterns. The parent looks at her child and smiles to her child, while the child is playing. The child ends her play with a rhythmic phrase and an increase in volume, points at her mother with the flute, looks at her, and smiles. The parent continues smiling and starts playing with imitation and continuation of the child's play. Again the child looks at her own instrument during the parents play. The parent ends her play with a melodic and rhythmic phrase and with a slightly bigger smile, looking at her daughter. This pattern continues. After the daughter has played her turn next, she keeps looking at her mother both when playing the flute and when the mother is playing. The child also keeps pointing her flute at the mother during the mother's play. Likewise the mother looks at her daughter during her own turn, and they both start to smile more. The daughter's plays a funny imitation of the mother's decrease in volume, and this culminates in joint laughter.

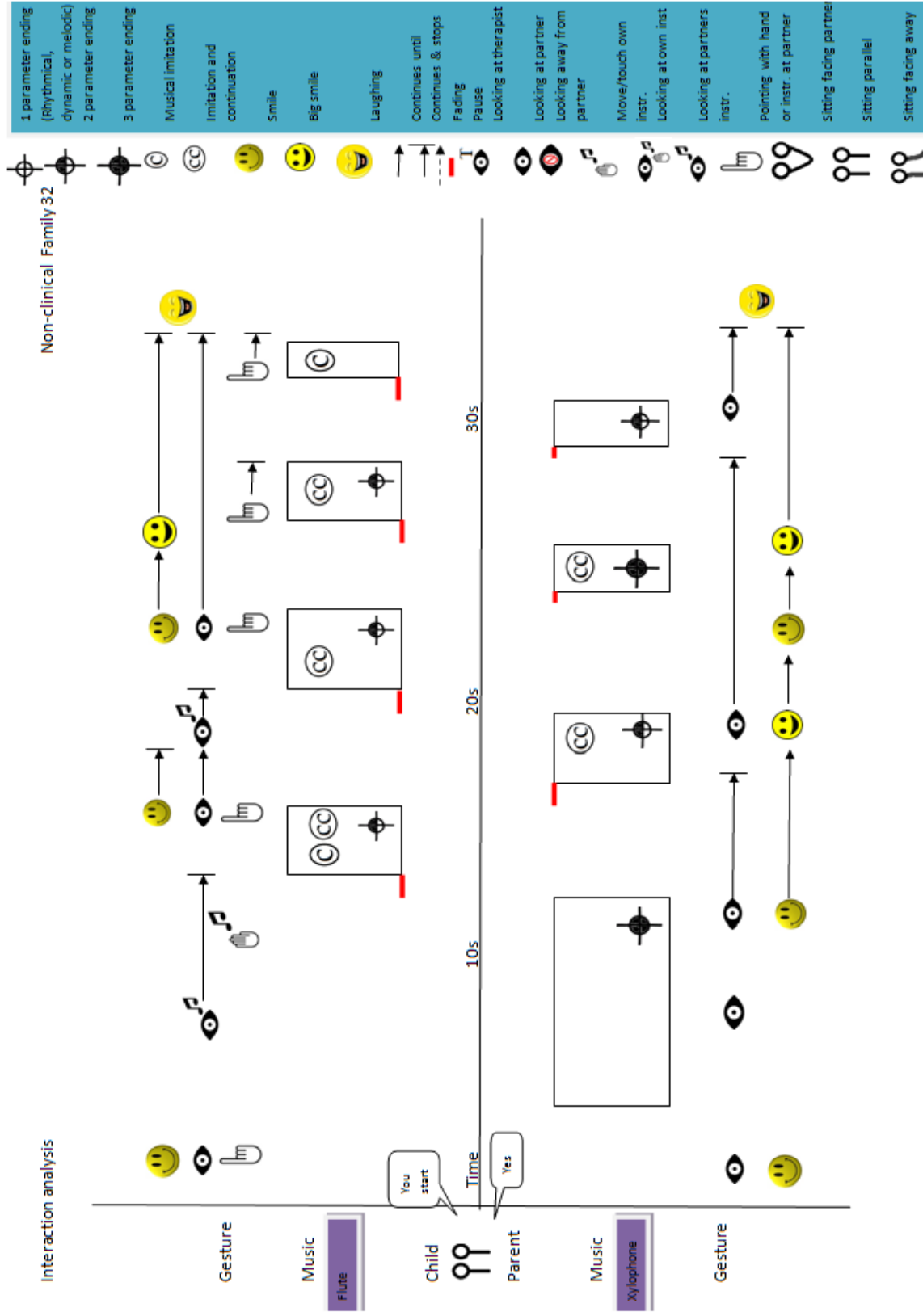


Figure 8. Interaction Analysis of Non-Clinical Family: Case 1

### Case 1: Analysis

It seems parent and child in this nonclinical family had a clear and dynamic dialogue when asked to play in turns. The musical content seems to be more addressed to the partner like a regular conversation. They appear to really enjoy themselves and to be very attentive and responsive towards each other, imitating the partner's play and contributing with own ideas. As described in Section 2.3.3, parents' variations of infants and children's expressions enhance their attention and tendency to actively participate. Daughter and mother do not misunderstand each other, nor are they confused about when to play; they could be described as effectively interacting. Neither child nor parent looks at the therapist at any time during Ex2, nor do they look in the opposite direction of the partner.

Referring to turn organization (see Section 2.3.3) there seem to be many clear nonverbal turn-giving cues in the nonclinical family such as clear musical endings, pointing, smiling, and looking at the partner to indicate the turn shift. The parent also seems to look at her child to reinforce her behaviour by maintaining eye-contact during her own play. This is similar to the Beebe et al. (1985) descriptions of patterns of gazing between parent and infant, where the parent persistently looks at the child regardless of who is the speaker. Toward the end, there seems to be tension building with increasing smiles and varied expressions, which also are characterized as very powerful turn-giving cues (Holck, 2004). The daughter also verbally yields the turn to her mother at the beginning of Ex2. There also seems to be one turn-requesting cue from the child during the parent's first longer turn, when the daughter starts to move her flute around, indicating that she would like to play it. The parent seems to immediately notice and stops her play soon after. She seems to adjust this in the rest of her turns, as they are not as long as the first one.

Both parent and child seem to be fairly good decoders and encoders. Mutual turn-interplay and smooth exchange of turns on the basis of many clear signals appear to be the characteristic of the nonclinical family, which is consistent with descriptions of turn organisation (Knapp & Hall, 2009).

#### 4.2.4.2 Clinical Interplay with Turns

### Case 2: Description

In the first selection of a clinical family, the daughter (12 years old) sits facing her mother (47 years old), while the mother sits parallel to her daughter (see Figure 9). The child plays egg shakers, and the parent plays a Studio Shaker (cylinder to shake). After the introduction from the therapist, the child looks and smiles at her mother and asks, "Ready?" The parent looks back and replies with, "Mmmh." Continuing smiling and looking at her mother, the daughter starts playing a short dynamic phrase with her egg shakers. The parent looks back at her child without smiling, and in her play, she makes a complete copy or imitates the dynamic phrase of the daughter. The daughter then shakes her eggs a single time and increases her smile to her mother. Again the parent imitates this in her play with the cylinder, and after this she looks to the other part of the room. The child's smile fades, but she keeps looking at her parent throughout Ex2. Sometimes the

child also looks at her own instrument just before she plays. The pattern of imitation of the child's play continues, until the child pauses, smiles, point to her mother, and tells her, "Your turn." After a short pause and with no visible reaction to the child, the parent starts playing in a similar way with three to five shakes, and the child imitates this in her play in the rest of Ex2. After three turns each the daughter smiles again and asks, "Are you done?" The parent replies, "One more." The daughter says, "Good," and the parent stops, looks at her child, and smiles. The child then smiles more and briefly looks behind herself, eyes down. The parent also looks away again without smiling. One last time, the child looks at her mother.

## Case 2: Analysis

This clinical family does not appear to have an equal level of engagement when asked to take turns playing. The daughter takes initiative to start and to change roles in imitating the other, and she seeks her mother's attention by sitting facing her, seeking her gaze, smiling at her, and talking directly to her. Unfortunately, the daughter gets very little in return for her many attempts. The mother successfully completes Ex2, but she is not very responsive in her play or toward her daughter. The parent seems to look away deliberately. Maybe this is because, she thinks it will make it easier for the child and less embarrassing for the child than if she looked at her<sup>2</sup>. At 12, the child is a young adolescent and might naturally be more aware and insecure of herself. However, the mother's excessive looking away does not seem to ease the child, as her smile fades away. Maybe it is easier for the parent not to look at her daughter, or maybe this is their usual way of interacting.

The interaction seems mechanical with only imitations of either the child's or parent's play and with no clear sign of empathic attentiveness. The pattern of two-part, chained alternation between initiative and imitation has been found in music therapy research with children with communication disorders (Holck, 2004), but seems also to be present in this population of families at risk. Neither child nor parent in this particular family had a communication disorder. The parent, however, was diagnosed as having a mild depression, which most likely affected the interplay with turns consisting solely of imitations. One could discuss whether this pattern of imitation could be characterized as turn-giving cues. According to Beebe et al. (1985), the feature of temporal regularity in shifting the turn between mothers and infants cannot be referred to as turn-giving, although it clarifies for the infant when to take the turn. Despite these imitations of small phrases and the temporal regularity of equal lengths of turns, child and parent do not seem to produce many turn-giving or turn-requesting cues. There are a few gestural attempts from the daughter such as smiles and gazes at her mother, and she also clearly and verbally turns over the turn to her mother, after she had enough of initiating and apparently wanted to imitate her mother instead.

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<sup>2</sup> Context for this assumption: In the first Ex2 in the first pre-treatment assessment session, the parent did the same just after the child said laughing; "This is crazy".

This description seems in line with Killén's (2005) descriptions of the roles being switched and the child becoming the caregiver in cases of severe mental health problems in neglectful parents. In this particular case, it is evident that a mere count of pure turn-taking says very little of the parent-child interaction. There were a total of 12 pure turn takings, which is much higher than the average for both clinical and nonclinical families. Although mother and daughter successfully completed the task and were able to interact longer than most families without complications, their way of communicating was mechanical and without many turn-giving cues.

### Case 3: Description

In the second clinical case, the child (5 years old) sits parallel to her mother (27 years old) playing the guitar while the mother sits facing her child, playing maracas (see Figure 10). After the instruction from the music therapist, the child sets out to play on her guitar. She looks at her instrument for all 15 seconds while her mother looks at her. One time the parent looks at the therapist and smiles and then returns to looking at her child. The daughter increases dynamics in her play and stops, looks at her parent, and smiles, but continues to move her instrument around and also looks at it. The parent smiles back, waits a bit, looks at the therapist, and smiles before she starts playing. During her own play, the mother looks mostly at her daughter and keeps smiling. The child keeps moving her instrument and looks both at her own instrument and at the parent's instrument. When the child starts looking away, the parent, still smiling, makes a rhythmic phrase, stops, and looks at the therapist just before she looks at her child. The child smiles and looks at her parent, but stops moving her own instrument. Both parent and child look at the therapist and the parent's smile fades. After a few seconds pause the child begins playing, still looking at the therapist and her smile starts to fade. For the 40 seconds she is playing, the child looks either at the therapist or her instrument. She smiles to the therapist when looking at her. The mother looks mostly at her daughter during her daughter's play. Two times the parent looks at the therapist and smiles. The parent also touches her own instrument, after the child has played for 20 seconds. Eventually, the child makes a last loud stroke on her guitar, looks at her mother, and smiles. Again, she immediately continues to look at and touch her own instrument. The parent looks at the child and looks at the therapist. After a short pause, she starts playing, smiling, and looking at her daughter. The daughter returns the smile, but it fades, and the daughter starts looking at her own instrument. The parent's smile also fades and after the child starts looking away, the mother increases volume, looks at the therapist, and stops her play just before the child says, "I want another instrument."

### Case 3: Analysis

In this clinical family, it is noticeable that the turns are few and long in both parent and child. The interaction appears as a series of monologues rather than a dialogue. Mother and daughter do not seem to communicate much with each other in the music. They gaze and smile at each to some degree, and the lack of musical



imitation or continuation does not appear as a conscious choice from either child or parent. Instead, it seems to be their natural way of being together. The child is only 5 years old, and as theory indicates her ability to both encode and decode is not expected to be fully developed yet. The child produces some contradicting cues (musical ending but looking at therapist and maintaining gestural movement), which confuse her mother slightly, as she looks to the therapist for guidance and is hesitant to start playing. Furthermore, the daughter is unsure whether or when to play after a more or less clear turn-giving cue from the mother. Most of the time the daughter seems to have a hard time waiting for her turn, as seen in the constant moving around with her own instrument, and she gives some turn-requesting cues to her mother. One might see the parent as imitating her child's play in the length and style of playing, but more importantly there is no variation or tension building to keep the child interested. The turn-giving cues produced by this clinical family do not contain many signals or strong musical endings. Throughout Ex2, child and parent gaze and smile at the therapist. This could have several meanings. One possibility is feeling insecure with the task, they are asked to complete, feeling insecure with the signals of their partner, or maybe seeking emotional support or reinforcement.

#### Case 4: Description

In the third clinical case, the daughter (9 years old) sits facing her father (46 years old). She plays guitar and the father sits parallel to his child and plays on a vibraphone (see Figure 11). The child starts abruptly with a one single strum, looking at her father and smiling to him, and at the same time she keeps touching and moving the guitar around, until it is her turn again. The parent looks at her, smiling and asking; "Was that it?" The child looks down and away and laughs. The father looks at his instrument and starts playing. After a short while, the daughter starts looking at his instrument. The father makes a melodic ending and smiles. The daughter quickly continues playing, looking at her own instrument again. The parent looks at the child's instrument while she plays. She makes an increase in volume, hurts her hand and says "ouch." She stops playing, looks at her father, then at the therapist, and then she looks away. The parent starts playing, looking at his own instrument, makes a melodic ending, smiles at, and looks at his daughter. The child again quickly starts to play, still looking away, while her father's smile fades, as he looks at her instrument. Suddenly, she stops, still looking away and continuing to move her guitar around. The father looks at her and does not start playing, until she looks at him and stops moving her guitar. The daughter looks away again for a second and then looks at her own instrument and starts moving it around again. The parent looks at his own instrument during his play, makes a melodic ending, and looks at his child's instrument also during her play. The daughter plays, still looking at her own instrument. She makes a dynamic ending and looks at her father who returns her look and starts playing. The child looks at her own instrument and moves it around, while her father plays and looks at his own instrument. Again he makes a melodic ending, looks at his daughter who looks at his instrument, and quickly starts playing, now looking at her instrument again. The father keeps

looking at his daughter during her play. The daughter plays a bit longer in this turn. Halfway through, she looks at her father and keeps playing. The father then looks at the therapist and back at the daughter. The child suddenly stops, keeps looking at her father, and keeps moving her guitar around. The parent looks at her and asks, “Me, again?” and she replies, “Mmmh.” The father starts playing, looking at his own instrument. The child looks at the therapist and stops moving her instrument around. The parent makes a melodic ending and an increase in volume, looks at his child and smiles. The child looks away and then at the therapist, as the therapist stops the exercise. The parent’s smile fades, and he looks at the therapist, too.

#### Case 4: Analysis

The characteristics of this family seem to be more dynamic dialogue than series of monologues or a mechanical interaction. Especially the father tends to consistently produce both musical and gestural turn-givings at the end of his play in form of melodic endings and gazing at his child. The daughter, however, is less consistent and produces both clear cues of turn-givings and more confusing cues with contradicting signals, such as abruptly ending her play while maintaining her gestural pose of both gaze and touch of instrument. These confusing turn-givings seem to make the father hesitate in starting to play. He also asked his child whether it is his turn and looks at the therapist. Once again, one could argue that the child is only 9 years old, and that her encoding skills are still developing. However, her inconsistency in producing both sufficient and insufficient signals suggests that she has difficulties in encoding. She is surprisingly good at decoding her father’s signal and starts playing almost immediately after his turn-givings. Although consistent, the father’s turn-givings do not contain more than two signals and could be clearer. As Knapp and Hall (2009) pointed out, having good decoding skills and poor encoding skills might be due to an inexpressive family environment, in which the child learns to read minimal cues from family members but does not learn to express herself clearly. The daughter seems nervous and uncertain about the situation, almost as if it is uncommon for her to interact with her father. She also produces some turn-requesting cues and appears rather restless even though she is still smiling and laughing. The father is far calmer and expresses himself when in doubt. He also repairs the failure of turn transfer and brings the interaction back on track, which is in line with descriptions of repair in turn organisation (Holck, 2004; Knapp & Hall, 2009). Looking at the context for this family, a younger sister in the family is recovering from a life threatening decease. This could explain some of the reasons for the father’s fairly good decoding and encoding skills and the child’s good decoding and poor encoding skills. The environment within the family might have some features of numbness and anxiety because of the unfortunate situation, leaving the older daughter with less attentive and less expressive parents to learn from, even though they might know a more adequate way of responding. This could be assimilated with Killén’s (2005) concept of secondary immaturity, where the parents have been more mature earlier in life, but have experienced too many straining stressors that have led to immaturity (see Section 2.2.1).

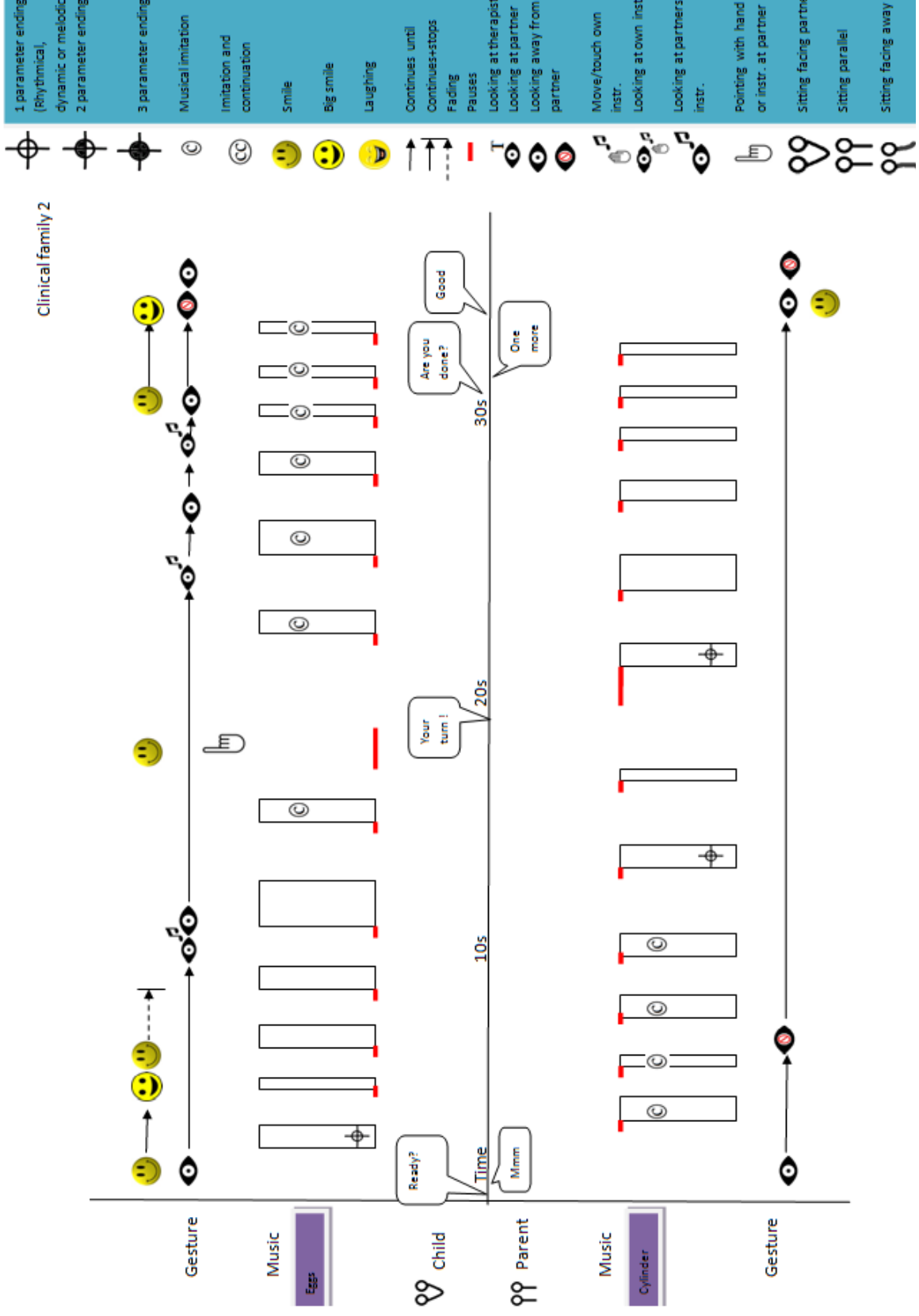


Figure 9. Interaction Analysis of Clinical Family: Case 2

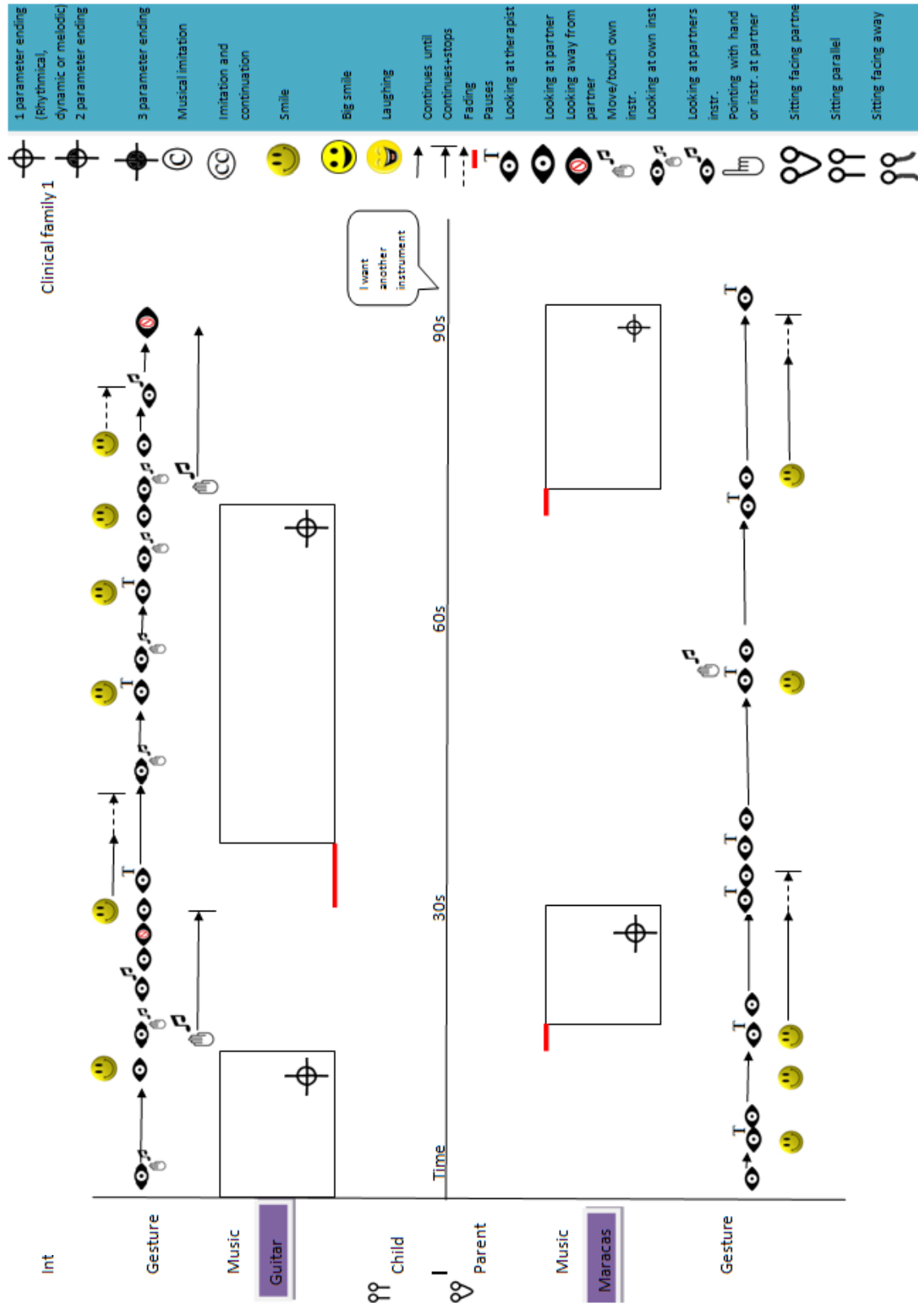


Figure 10. Interaction Analysis of Clinical Family: Case 3

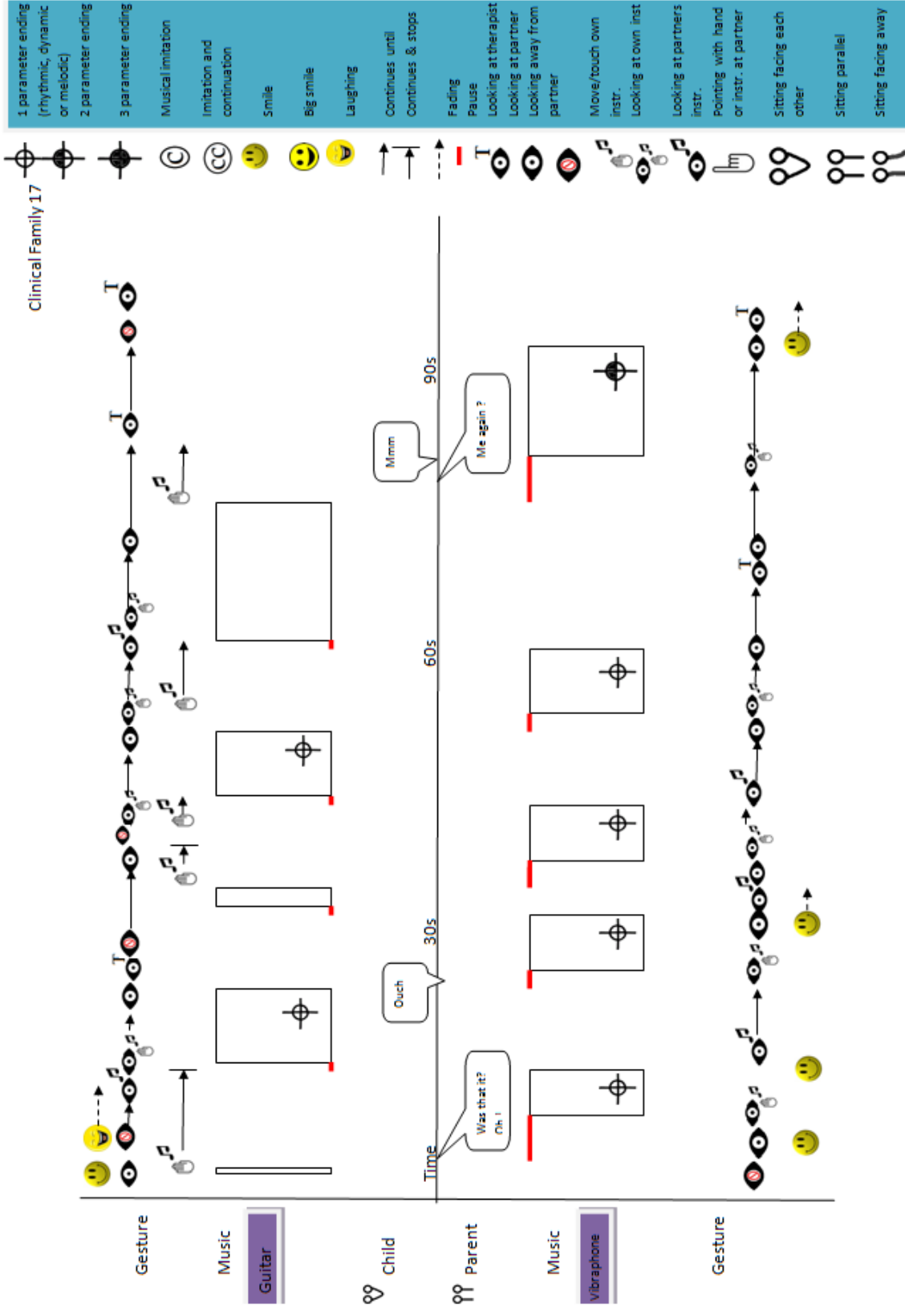


Figure 11. Interaction Analysis of Clinical Family: Case 4

#### 4.2.4.3 Differences between Clinical and Nonclinical Interplay with Turns

Many qualities seem to be different in clinical vs. nonclinical families. The nonclinical family seemed to really enjoy themselves and to have a dynamic dialogue in the music with imitation, continuation, and tension building. Their gazing pattern resulted in much eye-contact and increasing smiles. Their interaction seemed to have many similarities with a music therapy setting with emphasis on the need of the child and clear adult expressions. The nonclinical families had a mix of mechanical and dynamic interaction with far less dialogue, especially in the music. The gaze pattern between parent and child were more flickering, and sometimes they even avoided eye-contact. The clinical families also gazed more at the therapist, maybe looking for confirmation or reassurance. The clinical families did not seem to have the needs of the child in focus and appeared more restless, despite exchanging of smiles. The clinical families and the nonclinical family used verbal cues differently. The nonclinical family used them to get started and the clinical families used them to repair turn-transfer. Series of monologues also were different from the nonclinical family way of interacting; however, this does not seem to be the key point in this analysis when looking for quantifiable differences. The nonclinical family and the clinical families also seemed to differ in qualitative features of timing and emotional content, where the nonclinical family seemed attentive, at ease, and empathic, and the clinical families seemed restless, unsure, and hesitant. These qualities were considered important but would only be a part of a final descriptive rapport of APC, as they seemed difficult to measure quantitatively. However, this interaction microanalysis of 4 families showed some quantitative tendencies. All families to some degree produced turn-giving cues with verbal, gestural, and musical features. The key point seemed to be how clear and how many signals these turn-givings consisted of. In this microanalysis of selected cases, the nonclinical family had both musical and gestural cues in all turn transfers, while this was not the case for any of the 3 clinical families. The clinical families seemed to have more confusing or contradictory cues, regardless of the child's age. The researcher anticipated that other nonclinical families might have less clear turn-givings and more confusing turn-givings, while other clinical families might have clearer turn-givings and less confusing turn-givings, but only a quantitative analysis of all families' patterns of turn-givings would reveal whether this was a general tendency or not.

Building on these findings, the researcher developed the additional turn-giving analysis (see Section 3.3.4). The turn-giving analysis focused on the clarity of turn-giving or the number of signals in one turn-giving and on the proportion of turn-givings relative to total turns for each participant. In the attempt to produce clear definitions for the scoring procedure, the instructions of the turn-giving analysis were based on the interaction microanalysis. The researcher analyzed all Ex2 videos for both clinical and nonclinical families again, and the results of the additional turn-giving analysis follow. These results served as the primary basis for the development of the Turn Analysis Score.

#### 4.2.5 Turn Analysis Score Continued

Independent samples t-tests showed statistically significant differences between groups in terms of number of pure turn-takings, number of child turn-givings, and number of parent turn-givings. Means and standard deviations are shown in Table 29.

**Table 29**  
Means and Standard Deviations of Pure Turn-Takings, Child Turn-Givings and Parent Turn-givings by Group

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 31)		<i>F</i> (1, 48)	<i>p</i>
	M	SD	M	SD		
PTT	3.72	2.76	5.61	3.11	4.57	0.033
CTG	2.83	2.15	5.71	3.16	9.13	0.001
PTG	3.33	1.85	5.74	3.07	11.69	0.004

*Note:* PTT = Number of pure turn-takings. CTG = number of child turn-givings. PTG = number of parent turn-givings.

Independent samples Mann-Whitney U tests showed statistically significant differences between groups in the percentage of the parents' turn-givings that were both musical and gestural, percentage of the parent's turn-givings that were confusing, percentage of the child's turn-givings that were confusing, percentage of the parent's total turns that included turn-givings, and percentage of the child's total turns that included turn-givings. Means and standard deviations are shown in Table 30.

**Table 30**  
Means and Standard Deviations of Variables from Turn-Giving Analysis by Group

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 31)		<i>U</i>	<i>p</i>
	Median	SD	Median	SD		
PMGP	41.67	44.88	100.00	22.55	446.50	0.000
PCP	.00	14.79	.00	0.00	217.00	0.007
CCP	25	36.94	.00	9.59	104.00	0.001
PTP	100.00	24.77	100.00	0.00	387.50	0.000
CTP	54.17	32.34	100.00	9.80	446.50	0.000

*Note:* PMGP = percentage of the parents' turn-givings that were both musical and gestural. PCP = percentage of the parent's turn-givings that were confusing. CCP = percentage of the child's turn-givings that were confusing. PTP = percentage of the parent's total turns that included turn-givings. CTP = percentage of the child's total turns that included turn-givings.

Based on these findings, the researcher developed a Turn Analysis Score (TAS) that incorporated all these variables. Despite no statistically significant difference between groups, the researcher also took into consideration the number of interruptive turn-takings and the percentage of the child's turn-givings that were both musical and gestural. The calculation of the TAS is presented in Table 31. For the calculation of TAS,

all families start with 30 points. Depending on their scores for each of the above-mentioned variables, they either earn or lose points. The minimum TAS score is 4, and the maximum score is 38.

**Table 31**  
**Turn Analysis Score Calculation**

<b>Variables</b>	<b>Points added or subtracted</b>	<b>Starting point = 30</b>
Number of turn-givings child		
<1	- 2	
≥ 5	+ 2	
≥10	+ 3	
Number of turn-givings parent		
<1	- 2	
≥ 5	+ 2	
≥10	+ 3	
Child's turn-givings in %		
>75 %	- 2	
>55 %	- 3	
>30 %	- 4	
Parent's turn-givings in %		
>100 %	- 2	
>75 %	- 3	
>50 %	- 4	
Parent Musical & Gestural TG in %		
>75 %	- 2	
>55 %	- 3	
>30 %	- 4	
Child Musical & Gestural TG in %		
>70 %	- 2	
>50 %	- 3	
>30 %	- 4	
Parent confusing TG in %		
>0 %	- 2	
>20 %	- 3	
>50 %	- 4	
Child confusing TG in %		
>20 %	- 1	
>30 %	- 2	
>50 %	- 3	
>75 %	- 4	
Pure turn-takings		
<2	- 1	
>5	+ 2	
Interruptive turn-takings		
>1	- 2	
<b>Turn Analysis Score</b>		

*Note:* TG = Turn-Givings.

An independent samples t-test showed statistically significant differences between groups in TAS. Means and standard deviations are shown in Table 32.



**Table 32**  
**Means and Standard Deviations for Turn Analysis Score by Groups**

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 30)		<i>F</i> (1, 47)	<i>p</i>
	M	SD	M	SD		
TAS	21.89	6.10	32.71	4.07	55.55	.000

*Note:* TAS = Turn Analysis Score.

As the literature suggests that younger children have not fully developed their nonverbal communication skills of decoding and encoding, the researcher calculated the correlation between the child's age and TAS. Within the individual groups alone there was no statistically significant correlation between TAS and child's age. However, for the two groups combined, a Pearson's one-tailed correlation coefficient showed statistically significant correlation between the child's age and TAS. Correlations values are shown in Table 33.

**Table 33**  
**Correlation between Child Age and Turn Analysis Score**

	Pearson's <i>r</i>	<i>p</i> (1-tailed)
Clinical ( <i>n</i> = 18)	.387	.056
Nonclinical ( <i>n</i> = 31)	.193	.299
Combined ( <i>n</i> = 49)	.334	.019

#### 4.2.6 Response Types

The response type scores were based on the Response Type Analysis from APC. The analysis of parent response type was intended to reveal how the parent acted toward the individual needs of his or her child and also to give additional information on parental behaviour. The researcher looked at differences between clinical and nonclinical groups in different response categories and based the scores on assumed healthy response types in comparison with assumed unhealthy response types, where a higher score indicated a better way of responding to the child. Scores of the level of how evident each response type was (0 = not evident, 1 = slightly evident, 2 = obviously evident) were summed up in a total score of each response type score with a maximum of 8 for each response type (2 for each of the four exercises).

Independent samples t-test showed statistically significant differences between clinical and nonclinical groups in the mean number of parents of the Emotionally Exchanging Response Type. Means and standard deviations are shown in Table 34.

**Table 34****Means and Standard Deviations from Emotionally Exchanging Response Type by Group**

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 28)		<i>F</i> (1, 45)	<i>p</i>
	M	SD	M	SD		
Emotionally Exchanging	2.06	1.80	5.61	2.01	37.16	.000

Independent samples Mann-Whitney U test showed statistically significant differences between groups in the mean number of parents of the Dominating, Passive, and Supportive Response Types. Means and standard deviations are shown in Table 35.

**Table 35****Means and Standard Deviations on Dominating, Passive, & Supportive Response Types by Group.**

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 28)		<i>U</i> (1, 45)	<i>p</i>
	M	SD	M	SD		
Dominating	1.06	1.43	.179	.39	147.00	.004
Passive	2.67	2.54	.43	.74	98.00	.000
Supportive	5.94	2.01	7.71	.60	390.00	.000

The six categories from the response types were divided into Negative Response (Rejecting, Dominating, Over-Involved, and Passive) and Positive Response (Supportive and Emotionally Exchanging). Rejecting and Over-Involved were included in the Negative Response Type Score in spite of lack of statistically significant differences between groups, as the combination of specific categories were to be a part of the more qualitative description of the scores. To make both scores indicate a healthier response with a higher score, the Negative Response Type Score was reversed with the score subtracted from the maximum score 32 (4 categories x 8). The maximum score for Positive Response Type is 16 (2 categories x 8). The minimum for both scores are zero.

An independent samples t-test showed statistically significant differences between clinical and nonclinical groups in terms of Positive Response Type (PR), and independent samples Mann-Whitney U test showed statistically significant differences between groups in terms of Negative Response Type. Means and standard deviations are shown in Table 36.

**Table 36****Means and Standard Deviations on Negative and Positive Response Type by Groups**

	Clinical ( <i>n</i> = 18)		Nonclinical ( <i>n</i> = 28)			<i>p</i>
	M	SD	M	SD		
Positive Response	8.00	3.447	13.25	2.30	<i>F</i> (1, 45)38.49	.000
Negative Response	27.83	2.36	31.39	.88	<i>U</i> 472.50	.000

To get an idea of the norm tendency for all APC scores, the percentile scores were calculated using the cumulative frequency distribution of each score in a group of all 34 nonclinical families and 3 randomly selected clinical families to make the groups as representative of a normative sample as possible. When using percentiles to evaluate respondent's relative scores to the scores of all the subject in that sample, the normal range for scores is considered within the 15<sup>th</sup> and 85<sup>th</sup> percentiles (Abidin, 1995). Table 37 shows the percentile for each APC with markings of the normal range.

**Table 37**  
**Percentiles for APC Scores**

Percentiles	Autonomy Score	Turn Analysis Score	Negative Response	Positive Response	Parent-Child Interaction in Music
5	78.86	22.00	27.40	5.60	134.64
10	83.90	23.00	29.20	9.00	155.15
15	85.73	26.00	30.00	9.00	157.33
20	87.18	26.00	30.00	9.40	159.99
25	89.06	27.00	30.00	11.00	162.50
30	90.91	29.00	31.00	11.00	165.44
35	91.85	30.50	31.00	12.00	166.30
40	93.45	32.00	31.00	12.00	167.60
45	94.74	33.75	31.40	13.00	169.27
50	94.78	34.00	32.00	13.00	170.91
55	95.00	34.00	32.00	14.00	172.38
60	95.32	34.00	32.00	14.00	173.00
65	95.79	34.00	32.00	14.80	173.00
70	95.97	35.00	32.00	15.00	174.20
75	97.91	36.00	32.00	15.00	176.86
80	100.00	36.00	32.00	15.00	177.92
85	100.00	36.00	32.00	16.00	180.26
90	101.18	37.50	32.00	16.00	181.99
95	105.25	38.00	32.00	16.00	187.70

AS, TAS, PR and Parent Child Interaction in Music (PCIM; a total score of AS, TAS, NR and PR; see Section 4.3.3) all have a relatively large normal range, providing good grounds for indicating how close to or how far from the norm a parent or family might score. Looking at the scores for the clinical group of 18 families, 14 families were below the norm in AS, 14 families were below the norm in TAS, 8 families were below the norm of NR, 13 families were below the norm in PR, and 16 families were below the norm in PCIM. None of the clinical families scored above the norm in all scores, but some did score above the norm in some scores and not in others, indicating that the profiles of the families are dynamic as the internal consistency analysis also reveals. Building on this, it appears that APC can provide a diverse evaluation of weaknesses, strengths, and potentials of parenting competencies.

### **4.3 Reliability and Validity Results for APC**

This section will present the results from three different types of reliability tests. These include tests of interrater reliability, test-retest reliability, and internal consistency.

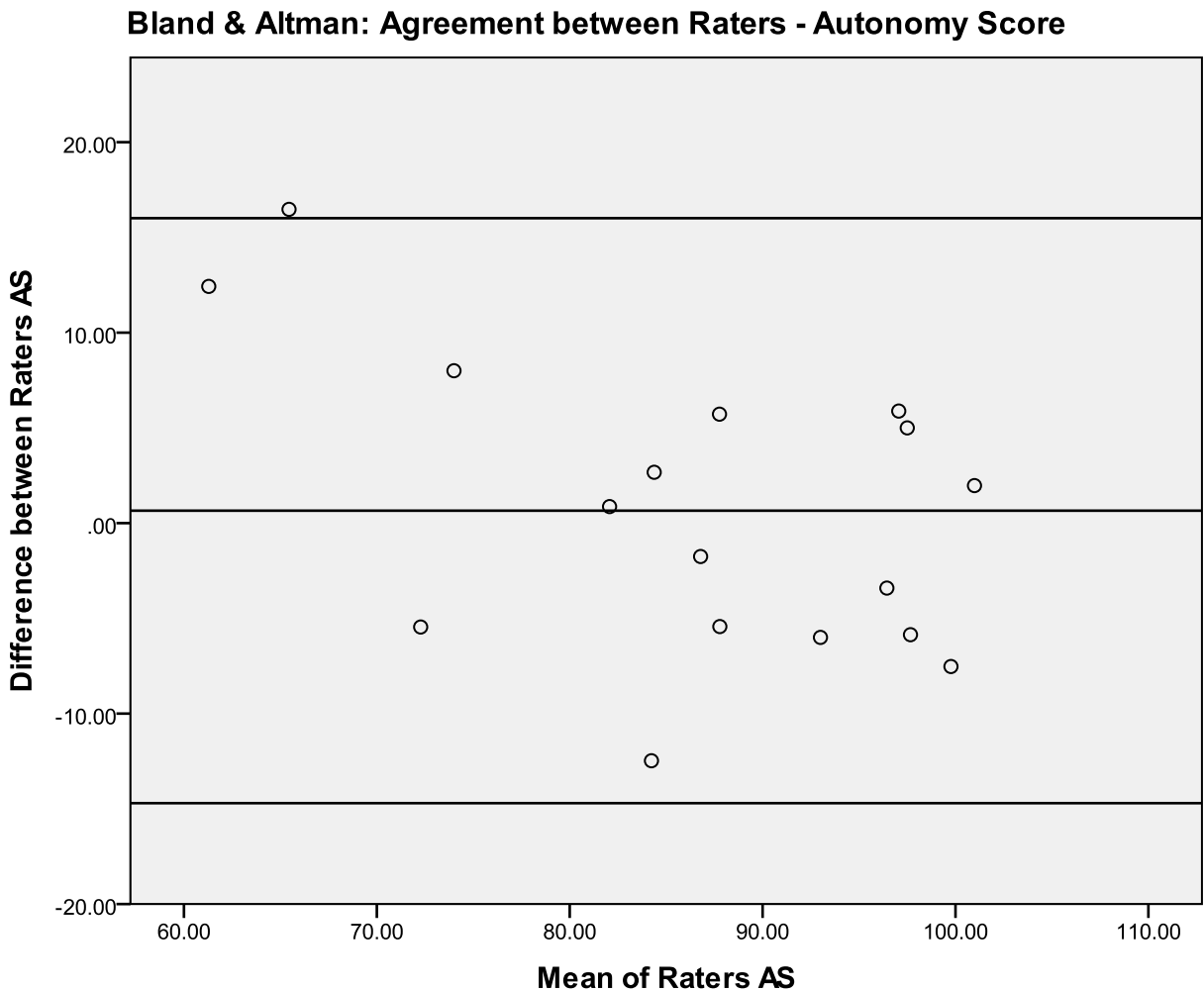
#### **4.3.1 Interrater Reliability**

As explained in Section 3.4.1, a second rater was trained to conduct the following analyses: the Autonomy Analysis, the Response Type Analysis, and in a second round 3 months later the Turn-giving Analysis. The second rater scored 30 % of all analyses including different conditions: pretreatment assessment sessions, posttreatment assessment sessions, clinical group, nonclinical group, Therapist 1 and Therapist 2. The selection of families for the second rater to score was partly random, as some were excluded because of poor video recordings. The second rater did not know which condition the individual family was in. The same families were scored in all three analyses. The second rater did not calculate the Autonomy Score (AS), the Turn Analysis Score (TAS), Negative Response (NR) or Positive Response (PR). The researcher made these calculations.

##### 4.3.1.1 Second Rater on Autonomy Score

Since the AS is a scale, the researcher chose a Pearson's correlation coefficient for the interrater reliability analysis for AS scores. There was a significant, positive correlation between the two raters for AS ( $r = .855$ ,  $p < .001$ , 2-tailed). The second rater scored 34.7% of all AS ( $n = 17$  for second rater,  $n = 49$  for first rater). This is a good correlation and suggests a good interrater reliability for the AS score.

Furthermore, a Bland and Altman plot demonstrated how the two raters scored in relation to each other. The plot demonstrated that the raters tended to agree, as the mean of difference between raters was close to zero (.65), and the confidence interval was narrow (5% of scores outside of the confidence interval, which is acceptable; see Figure 12).

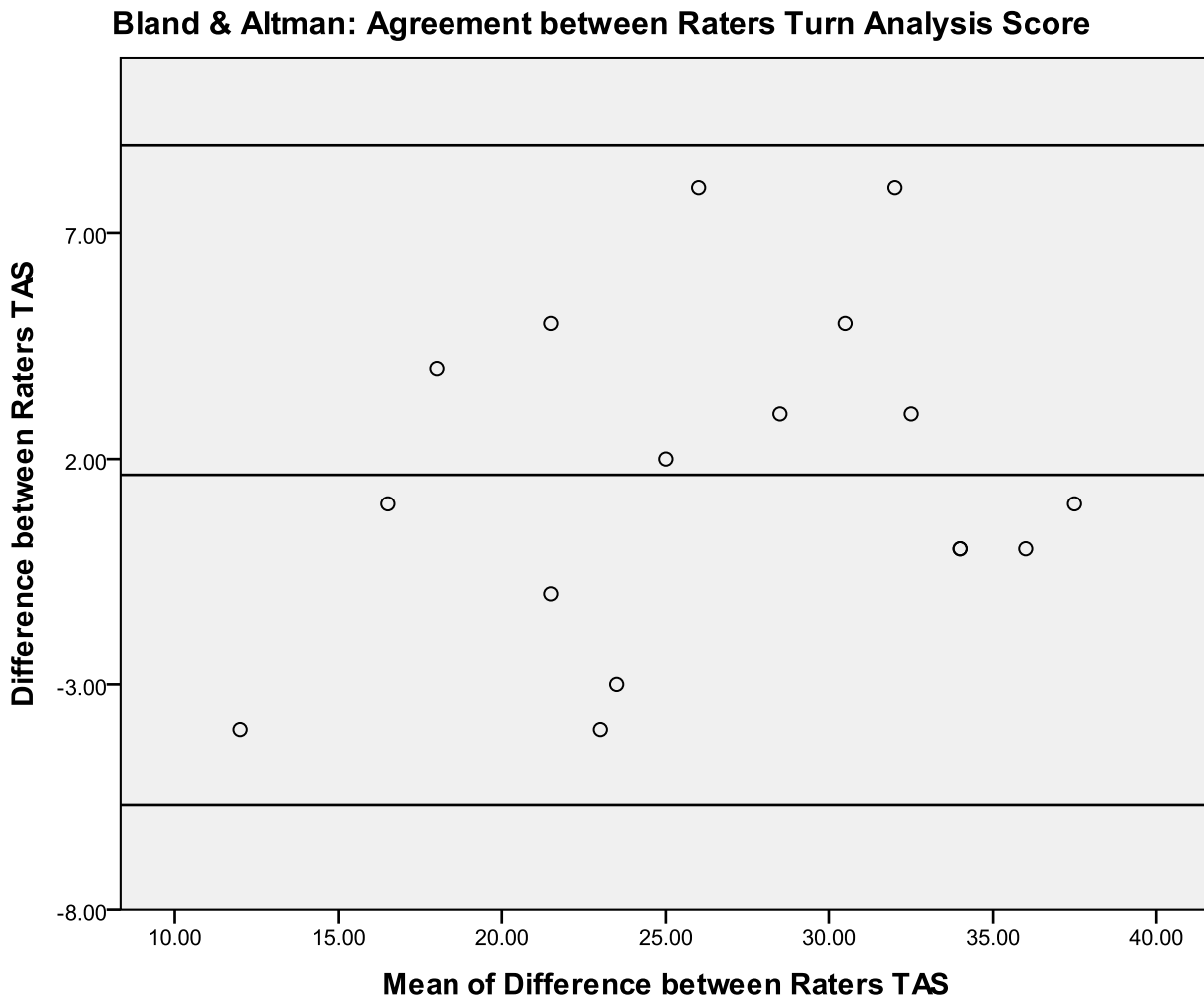


**Figure 12. Bland & Altman: Agreement Between Raters' Autonomy Score**

4.3.1.2 Second Rater on Turn Analysis Score

As the TAS is a scale, the researcher chose a Pearson's correlation coefficient for the interrater reliability analysis for TAS scores. There was a significant, positive correlation between the two raters for the TAS ( $r = .89, p < .001, 2\text{-tailed}$ ). The second rater scored 35% of all TAS videos ( $n = 17$  for second rater,  $n = 50$  for first rater). This is a good correlation and suggests a good interrater reliability for the TAS score.

Furthermore, a Bland and Altman plot demonstrated how the two raters scored in relation to each other. The plot demonstrated that the raters tended to agree, since the mean of difference between raters was close to zero (1.647), and the confidence interval was narrow with no scores outside the confidence interval (see Figure 13).



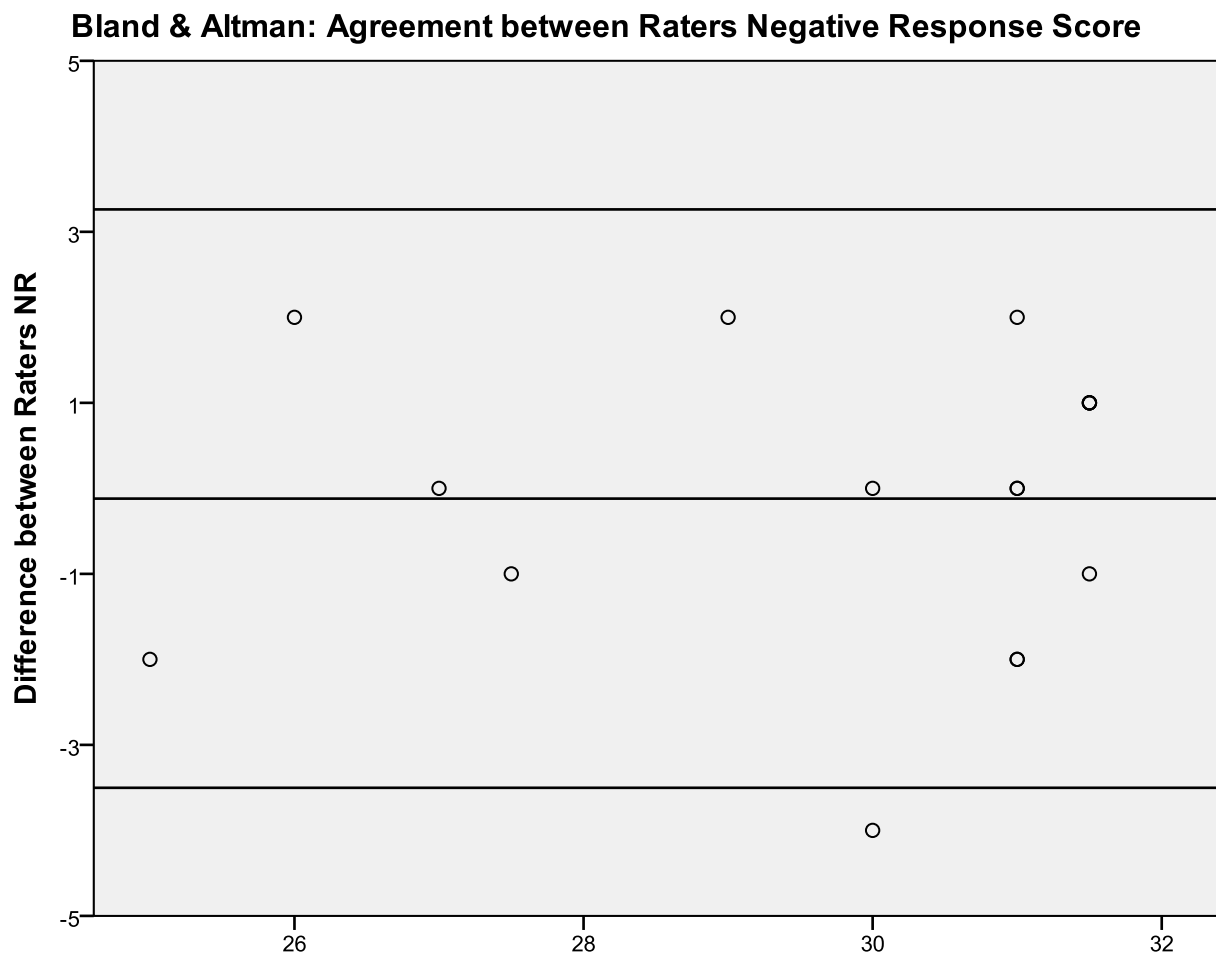
**Figure 13. Bland and Altman: Agreement Between Raters’ Turn Analysis Score**

4.3.1.3 Second Rater on Response Types Analysis

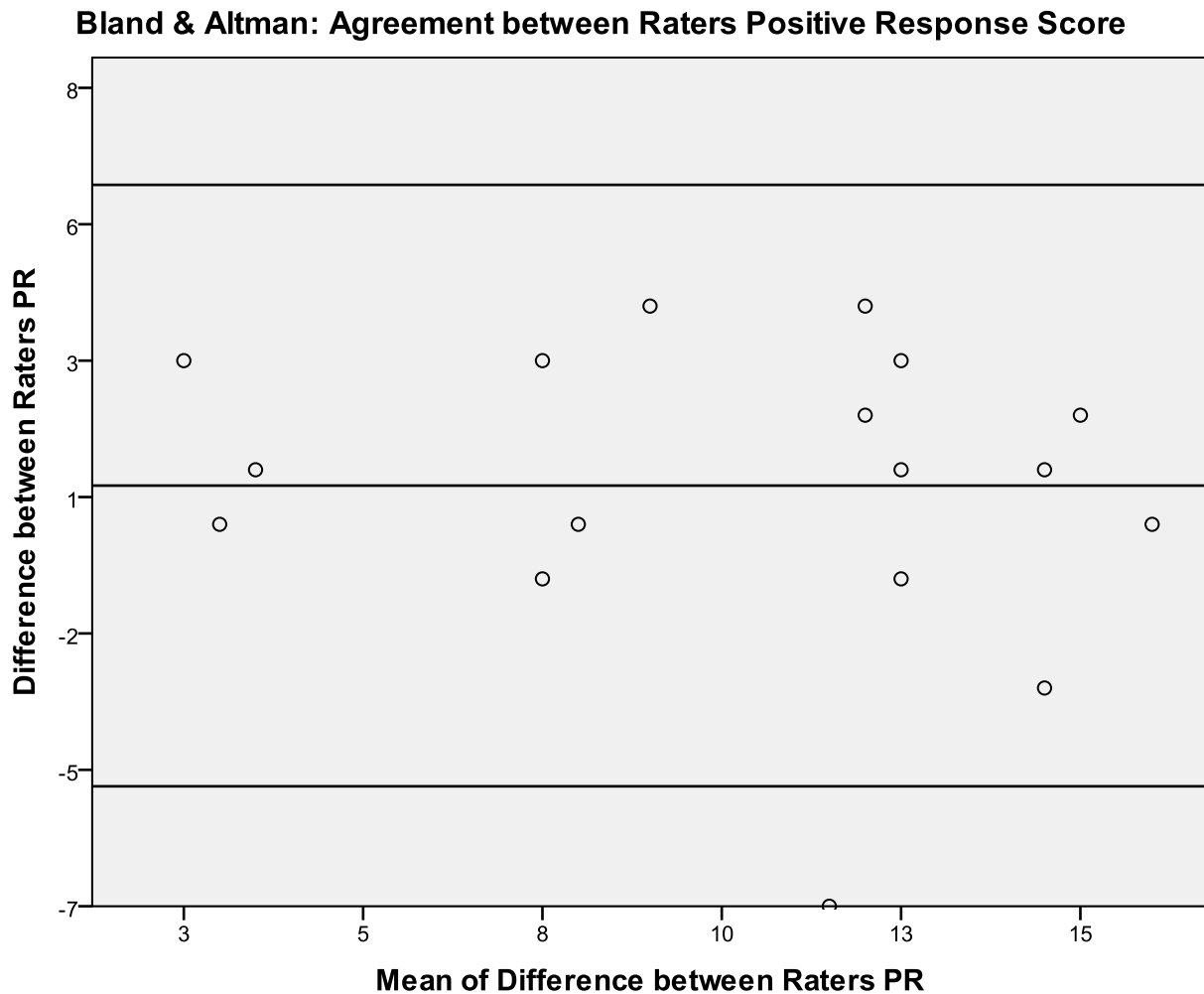
As the Response Type Analysis Scores (Negative Response and Positive Response) are scales, the researcher chose Pearson’s correlations for interrater reliability analyses. There was a significant positive correlation between the two raters for Negative Response ( $r = .73, p < .001, 2\text{-tailed}$ ). The second rater scored 36.1% videos ( $n = 17$  out of 47 for Negative Response). This is an acceptable correlation and suggests a fairly good interrater reliability for the Negative Response score.

Furthermore, a Bland and Altman plot demonstrated how the two raters scored in relation to each other. The plot demonstrated that the raters tended to agree, since the mean difference between raters was close to zero (-0.12), and the confidence interval was narrow (5% of scores out of the confidence interval, which is acceptable; see Figure 14).

There was a significant, positive correlation between raters for Positive Response ( $r = .817, p < .001, 2$ -tailed). The second rater scored 36.1% of all videos for Positive Response ( $n = 17$  out of 47 for Positive Response). This is a good correlation and suggests a good interrater reliability for the Positive Response score. Furthermore, a Bland and Altman plot demonstrated how the two raters scored in relation to each other. The plot demonstrated that the raters tended to agree, since the mean difference between raters was close to zero (0.71), and the confidence interval was narrow with no scores outside of the confidence interval (see Figure 15).



**Figure 14. Bland and Altman: Agreement Between Raters' Negative Response Score**



**Figure 15. Bland and Altman: Agreement Between Raters' Positive Response Score**

**4.3.2 Test-Retest Reliability**

As explained in Section 3.4.2, the researcher analysed the first pretreatment assessment session including Autonomy Analysis, Turn-Taking Analysis, Response Type Analysis, and Turn-Giving Analysis. The researcher analysed 44 of 49 (90%) first pretreatment assessment sessions. Cases not included were those where video recordings were missing, and one nonclinical family was very stressed in the first pretreatment assessment session due to personal problems. The researcher did know the condition assigned to the individual family, and she analysed the cases randomly to prevent biases from influencing the results. The same families were scored in all four analyses. The researcher both analysed the video recordings and calculated the AS, TAS, NR or PR. To know more about a healthy way of reacting to two sessions, the researcher analysed a Bland and Altman plot with the different groups visible to look for differences between sessions also across groups.



4.3.2.1 Test-Retest Reliability on Autonomy Score.

Intra-class correlation coefficient analysis showed a significant, positive correlation for the Autonomy Score ( $ICC = 0,712, p < .001$ ). This is considered acceptable and suggests fairly good test-retest reliability for the AS. A Bland and Altman Plot design demonstrated how the clinical and nonclinical groups scored in the first pretreatment assessment session and in the second pretreatment assessment session (see Figure 16). Both groups tended to score lower in the first pretreatment assessment session, but the clinical group varied more in scores than the nonclinical group.

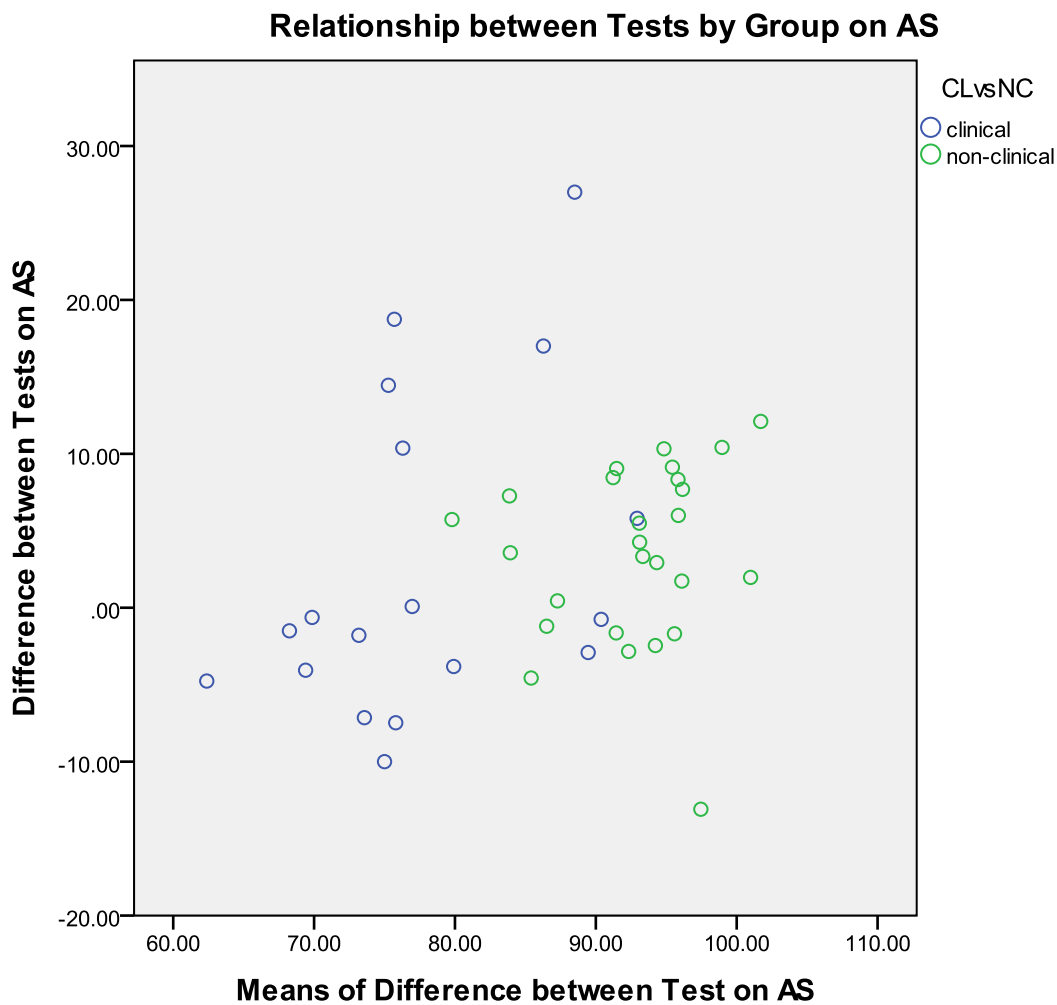


Figure 16. Relationship Between Tests on AS by Group

#### 4.3.2.2 Test-Retest Reliability on Turn Analysis Scores

Intra-class correlation coefficient analysis showed significant, positive correlation for the Turn Analysis Scores ( $ICC = 0.812, p < .001$ ). This is a good correlation and suggests good test-retest reliability for the TAS. A Bland and Altman Plot design demonstrated how the clinical and nonclinical groups scored in the first pretreatment assessment session and in the second pretreatment assessment session (see Figure 17). The clinical group tended to score higher in the first pretreatment assessment session, while the nonclinical group did not differ much in mean but varied more in scores between sessions than the nonclinical group.

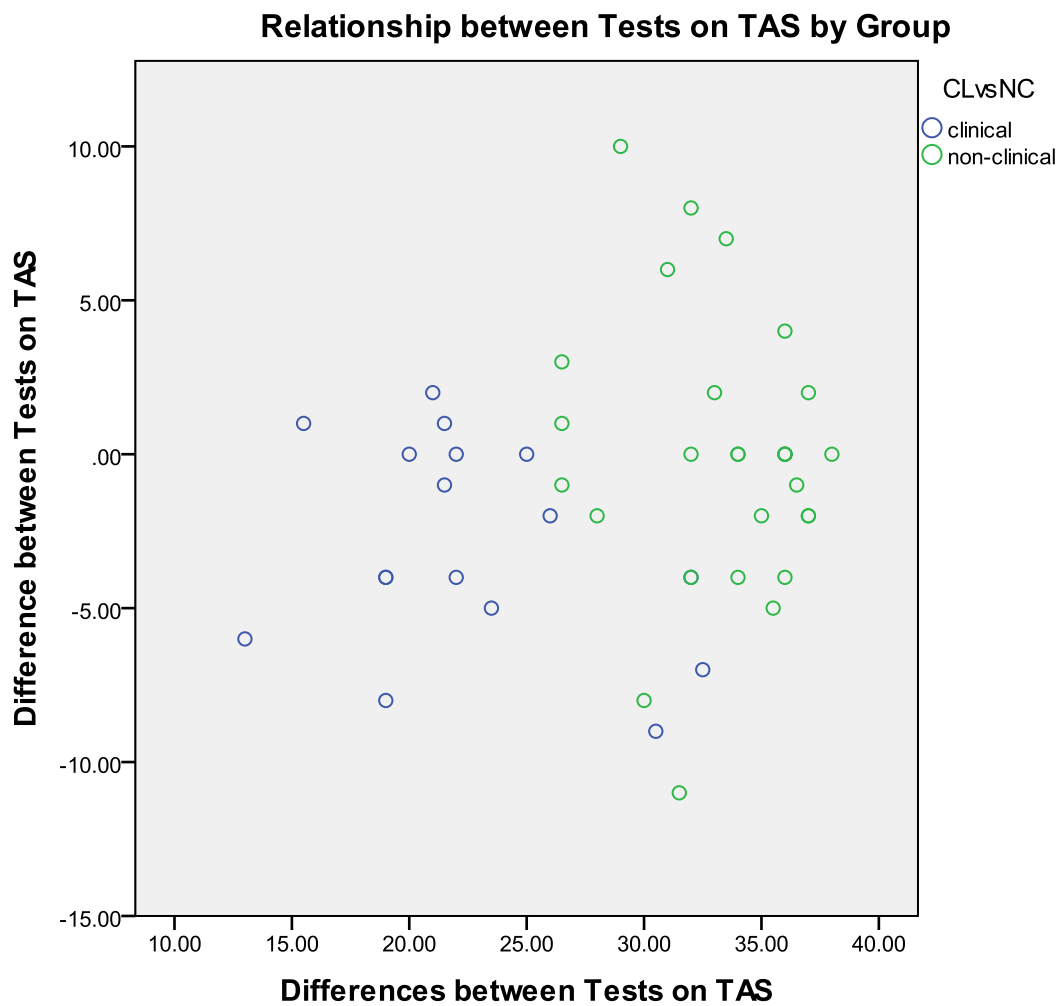


Figure 17. Relationship Between Tests on TAS by Group

#### 4.3.2.3 Test-Retest Reliability on Response Type Scores

Intra-class correlation coefficient analysis showed significant, positive correlation for the Negative Response Type Analysis ( $ICC = 0.887, p < .001$ ). This is a good correlation and suggests strong test-retest reliability for Negative Response Type analysis. A Bland and Altman Plot design demonstrated how the clinical and nonclinical groups scored in the first pretreatment assessment session and in the second pretreatment assessment session (see Figure 18). Both groups tended to score much the same in the two pretreatment assessment sessions, but the nonclinical group varied slightly more in scores than the clinical group.

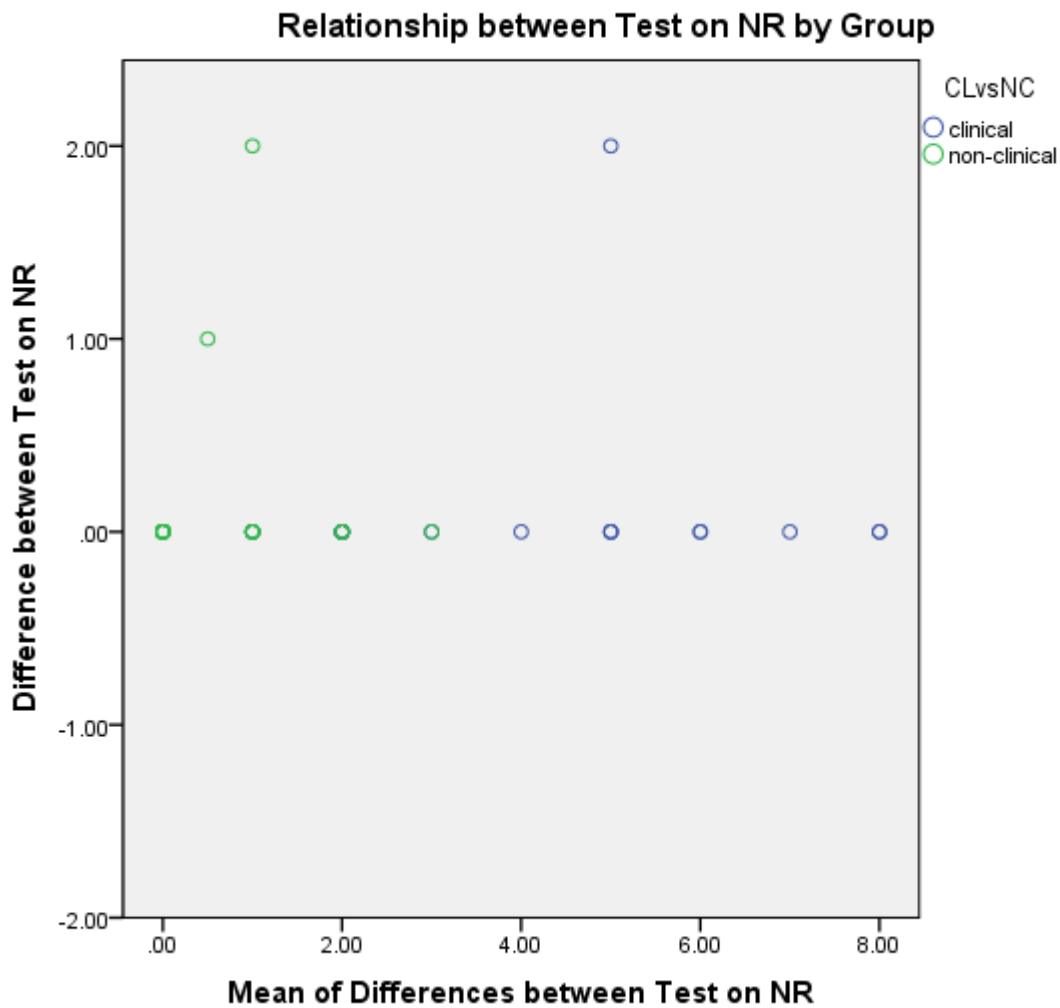


Figure 18. Relationship Between Tests on NR by Group

Intra-class correlation coefficient analysis showed significant correlation for the Positive Response Type analysis ( $ICC = 0.704, p < .001$ ). This is acceptable and suggests fairly good test-retest reliability for the Positive Response Type. A Bland and Altman Plot design demonstrated how the clinical and nonclinical groups scored in the two pretreatment assessment sessions (see Figure 19). The clinical group scored much higher in the first pretreatment assessment session than in the second pretreatment assessment session. The nonclinical group varied slightly more in scores than the nonclinical group.

In a post hoc analysis of how much the same musical instrument was chosen by each participant in the two sessions, a chi squared analysis revealed a significant difference between clinical and nonclinical group with the nonclinical families playing different instruments in the two sessions more often than the clinical families (see Table 38).

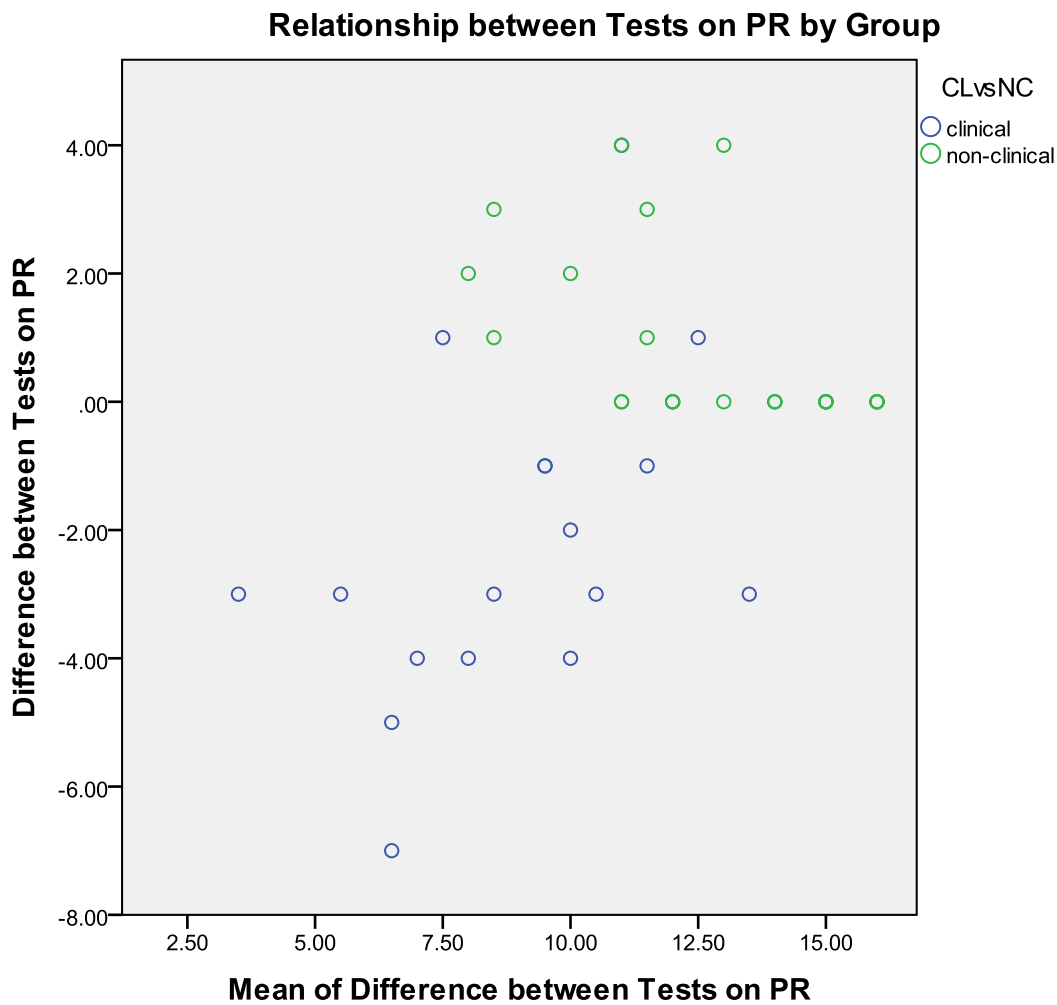


Figure 19. Relationship Between Tests on PR by Group

**Table 38**

**Frequencies of Number of Instruments Played Twice in Assessment Sessions by Group**

		Number of same instrument played in both assessment sessions by child	Number of same instrument played in both assessment sessions by parent
<b>Clinical (n = 18)</b>			
0		27.8%	33.3%
1		27.8%	22.2%
2		22.2%	33.3%
3		22.2%	11.1%
$\chi^2(1, n = 49)$	<i>p</i>		
10.21	.017		
<b>Nonclinical (n = 18)</b>			
0		35.5%	71%
1		54.8%	29%
2		9.7%	0%
3		0%	0%
$\chi^2(1, n = 49)$	<i>p</i>		
16.80	.001		

**4.3.3 Internal Consistency**

The four different scores of APC (AS, TAS, Negative Response Score, and Positive Response Score) appear to have good internal consistency based on standardized scores: alpha = .885 with correlation matrix presented below in Table 39. As the scores correlate fairly well, it seems acceptable to add all scores to calculate a total score. The total score is an indicator of the level of healthy Parent-Child Interaction in Music with a high score indicating a positive healthier interaction and a low score indicating less healthy interaction. With this total score, the APC has a strong internal consistency based on standardized scores: alpha = .932 with correlation matrix presented below in Table 40.

**Table 39**

**Correlation Matrix of APC Scores**

	AS	TAS	NR	PR
AS		.570	.692	.613
TAS	.570		.657	.571
NR	.692	.657		.848
PR	.613	.571	.848	

**Table 40**

**Correlation Matrix of APC Scores with Total Score**

	AS	TAS	NR	PR	PCIM
AS		.570	.692	.613	.914
TAS	.570		.657	.571	.817
NR	.692	.657		.848	.853
PR	.613	.571	.848		.792
PCIM	.914	.817	.853	.792	

The correlations between scores ranged from .570 to .914. This indicates that the scores have similar features but they measure different qualities of the same construct, which is desirable. Negative Response Type and Positive Response Type scores strongly correlated, indicating that one may be sufficient. Looking at the interrater reliability of Parent Child Interaction in Music, there was a significant positive correlation between the two raters ( $r = .865, p < .001, 2$ -tailed). Test-retest analysis showed significant correlation for the Parent Child Interaction in Music Scores from the two pretreatment assessment sessions ( $ICC = 0.878, p < .001$ ). This suggests strong test-retest reliability for the Parent Child Interaction in Music score.

The researcher measured the internal consistency in the set of scores from the interrater reliability analysis and the set of scores from test-retest. This analysis showed strong internal consistency: Interrater alpha = .93, Test-retest alpha = .893. These indicators of reliability suggest that APC is administered and scored in a consistent and stable manner. APC has a high level of reliability.

#### 4.3.4 Validity

The following presents measures of concurrent and construct validity looking at the APC's ability to distinguish between clinical and nonclinical groups and correlation with standardized test on parental capacity. As described in how the scores were developed, parametric and nonparametric tests showed statistically significant difference between clinical and nonclinical groups (see Section 4.2). Furthermore, independent samples Mann Whitney U tests show statistically significant differences between groups on AS, TAS, Negative Response, Positive Response and Parent Child Interaction in Music, which is the total score from the APC. Means and standard deviation for all scores are shown in Table 41.

**Table 41**  
**Means and Standard Deviations on APC Scores by Group**

	Clinical ( $n = 18$ )		Nonclinical ( $n = 30$ )			$p$
	M	SD	M	SD		
AS(nonparametric)	78.52	11.40	94.37	6.01	$U$ 470.50	.000
TAS (parametric)	21.89	6.10	32.71	4.07	$F(1, 46)$ 55.55	.000
NR(nonparametric)	8.00	3.447	13.25	2.30	$U$ 472.00	.000
PR(parametric)	27.83	2.36	31.39	.88	$F(1, 46)$ 38.48	.000
PCIM(nonparametric)	136.25	17.48	171.57	8.44	$U$ 490.00	.000

Note: AS = Autonomy Score. TAS = Turn Analysis Score. NR = Negative Response Type Score. PR = Positive Response Type Score. PCIM = Parent-Child Interaction in Music Score.

Pearson's correlation coefficients showed statistically significant correlations between APC scores and all subscales from Parent-Child-Relationship Inventory in the expected direction. There were only a few exceptions. Correlation coefficients are shown in Table 42.

**Table 42**  
**Correlations between Assessment of Parenting Competencies and Parent-Child Relationship Inventory**

	Parental Support	Satisfaction	Involvement	Communication	Limit setting	Autonomy	Role Restriction
PCIM	.296*	.355**	.273*	.413**	.379**	.463**	.343**
AS	.289*	.456**	.317*	.398**	.302*	.366**	.228
TAS	.298*	.176	.161	.367**	.432**	.421**	.349**
NR	.213	.246*	.302*	.322*	.330*	.442*	.352*
PR	.193	.169	.132	.255*	.283*	.483**	.431**

*Note:* PCIM; Parent Child Interaction in Music, AS; Autonomy Score, TAS; Turn Analysis Score, NR; Negative Response Type Score, PR; Positive Response Type Score.

Pearson correlation coefficients ranged from .246 to .483, indicating that the tests seem to have similar features, but they measure different qualities. Pearson’s correlation coefficients showed statistically significant correlations between APC scores and all subscales from PSI in the expected direction, as low scores on the PSI indicate lower levels of stress. Correlations are shown in Table 43. Pearson correlation coefficients ranged from .290 to .502 indicating that the tests seem to have similar features but measure different qualities.

**Table 43**  
**Correlations between Assessment of Parenting Competences and Parenting Stress Index**

	Child Domain	Parent Domain	Total Stress
Parent-Child Interaction in Music	-.533**	-.434**	-.507**
Autonomy Score	-.448**	-.397**	-.441**
Turn Analysis Score	-.55**	-.419**	-.502**
Negative Response	-.434**	-.380**	-.435**
Positive Response	-.365**	-.29*	-.355**

#### **4.4 Effect of Music Therapy Treatment**

The participants in the randomized controlled trial were 18 clinical families. Of these, 9 were assigned to music therapy treatment and 9 were assigned to a control group. Both groups received treatment as usual. The statistical hypotheses for the randomized controlled trial were;

1. Parent and child will move towards a partnership with more equal amount of leading vs. following events following music therapy intervention.
2. Null-hypothesis: There will be no quantifiable shifts in the attitude of the parents who experience music therapy treatment going from being predominantly follower to leader.
3. Null-hypothesis: There will be no quantifiable shifts in the attitude of the parents who experience music therapy treatment going from being predominantly leader to follower.
4. There is a quantifiable shift from interruptive turn-takings to pure turn-takings in parents and children who experience music therapy treatment.
5. There is a quantifiable shift in parent's response type with increasing incidence in positive response types following music therapy intervention.
6. There is a quantifiable shift in parent's response type with decreasing incidence in negative response types following music therapy intervention.
7. Families in the music therapy condition will improve their scores of the PCRI subscale Involvement compared to families in the control condition.
8. Families in the music therapy condition will improve their scores of the PCRI subscale Communication compared to families in the control condition.
9. Families in the music therapy condition will improve their scores of the PCRI subscale Autonomy compared to families in the control condition.
10. Families in the music therapy condition will improve their scores of the PSI subscale Competence compared to families in the control condition.
11. Families in the music therapy condition will improve their scores of the PSI subscale Attachment compared to families in the control condition.
12. Families in the music therapy condition will improve their scores of the PSI subscale Child Domain compared to families in the control condition
13. Families in the music therapy condition will improve their scores of the PSI subscale Parent Domain compared to families in the control condition.
14. Families in the music therapy condition will improve their scores of the PSI Total Stress Score compared to families in the control condition.
15. Null-hypothesis: There are no quantifiable differences in results of effect between Therapist 1 and Therapist 2.



#### 4.4.1 Control Variables in Effect Analysis

An analysis of six control variables compared similarities and differences between the treatment and control groups. These were child gender and age, parent gender and age, marital status, and time interval between pre and posttreatment assessment session. Furthermore, the researcher used subscales and total scores from the standardized questionnaires PSI and PCRI to determine whether that the groups were different in parental capacity prior to treatment.

Independent samples t-test showed that the groups were not statistically different in mean parent age, mean child age, and length of the interval between pretreatment assessment and posttreatment assessment sessions (all  $p$ 's > .10). Means and standard deviations are shown in Table 44.

**Table 44**  
Means and Standard Deviations for Parent and Child Age and Duration Between Pretreatment and Posttreatment Assessment by Group

	Treatment ( $n = 9$ )		Control ( $n = 9$ )		$F$	$df$	$p$
	M	SD	M	SD			
Parent Age	34.00	6.708	37.44	6.54	1.22	1, 17	.286
Child Age	6.78	2.386	8.44	2.56	2.05	1, 17	.172
Number of Days Between Assessment Sessions ( $N = 14$ )	100.88	22.80	98.14	16.55	0.07	1, 13	.797

Chi-square analyses determined that the groups were not significantly different in terms of parent gender and child gender. Frequencies and counts are shown in Table 45.

**Table 45**  
Frequencies and Counts on Gender by Group

	Treatment ( $n = 9$ )		Control ( $n = 9$ )		$X^2$	$p$
	Female	Male	Female	Male		
Child	56.6%	44.4%	56.6%	44.4%	0.00	1.000
Parent	77.8%	22.2%	100%	0%	2.25	.235

Chi-square analysis also determined that the groups were not significantly different in terms of marital status. Frequencies and count are shown in Table 46.

**Table 46**  
Frequencies and Counts on Marital Status by Group

	Clinical ( $n = 9$ )		Nonclinical ( $n = 9$ )		$X^2$	$p$
	Alone	With spouse	Alone	With spouse		
Marital Status	77.8%	22.2%	66.7%	33.7%	.28	.50

All questionnaires were valid in both groups at pretest and posttest. Independent samples t-test showed no statistically significant differences between groups prior to treatment in AS, TAS, Negative Response Type, Positive Response Type and Musical Parent-Child Interaction from the APC; Communication from the PCRI; and Mood and Child Domain from the PSI. Means and standard deviations are shown in Table 47. Violation of the assumption of homogeneity of variance was corrected for Mood scores by use of reciprocal transformation.

**Table 47**  
**Means and Standard Deviation on APC Scores and Questionnaire Scores at Pretreatment by Group**

	Treatment ( <i>n</i> = 9)		Control( <i>n</i> = 9)		<i>F</i> (1, 17)	<i>p</i>
	M	SD	M	SD		
Autonomy Score	74.11	9.39	82.94	12.03	3.01	.103
Turn Analysis Score	20.11	5.44	23.67	6.50	1.58	.227
Negative Response Type	28.11	2.52	27.56	2.30	.24	.632
Positive Response Type	8.78	3.31	7.22	3.60	.91	.354
Parent-Child Interaction in Music	131.11	16.00	141.38	18.28	1.61	.223
Communication	36.78	9.63	40.33	10.19	.58	.458
Mood	79.67	23.81	93.89	8.01	2.87	.121
Child Domain	77.60	21.12	87.63	12.92	1.47	.246

#### 4.4.2 Effect Results

The ANOVA for AS scores revealed a significant group by time interaction,  $F(1, 12) = 11.592, p < .005$ . Analysis of simple effects and an examination of group means showed that the experimental group experienced significant increase in AS over time,  $F(1, 12) = 23.44, p < .001$ , whereas the control group showed no significant change,  $F(1, 12) = 0.24, p > .633$ . Means and standard deviations are presented in Table 48 with a visual graph in Figure 20.

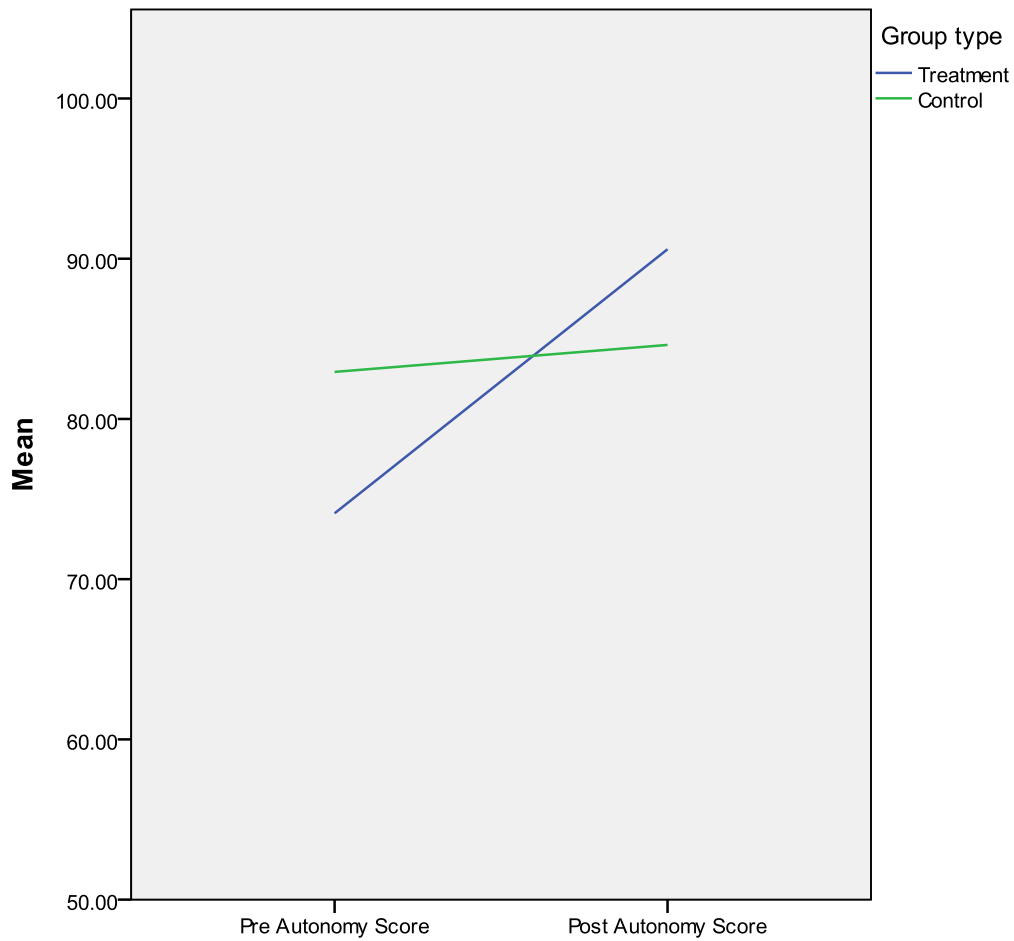
**Table 48**

**Means, Standard Deviations and Effect Sizes for APC scores by Group**

Variable Group	Pretreatment ( <i>n</i> = 9)		Posttreatment ( <i>n</i> = 9)		<i>d</i>
	M	SD	M	SD	
<b>Autonomy Score</b>					
Experimental	74.11	9.39	90.59**	11.32	1.60
Control	82.93	12.03	84.62	11.42	
<b>Parent Following/Leading</b>					
Experimental	46.88	11.13	46.21	8.63	0.11
Control	45.58	16.78	44.10	12.81	
<b>Turn Analysis Score</b>					
Experimental	20.11	5.44	25.11**	3.86	1.25
Control	23.67	6.50	21.22	6.65	
<b>Negative Response</b>					
Experimental	28.11	2.52	29.78**	1.56	0.67
Control	27.56	2.30	28.89**	1.62	
<b>Positive Response</b>					
Experimental	8.78	3.31	11.67**	2.12	1.20
Control	7.22	3.60	9.33**	3.67	
<b>Parent-Child Interaction in Music</b>					
Experimental	131.11	15.10	157.15**	14.71	1.77
Control	141.38	18.28	144.06	17.40	

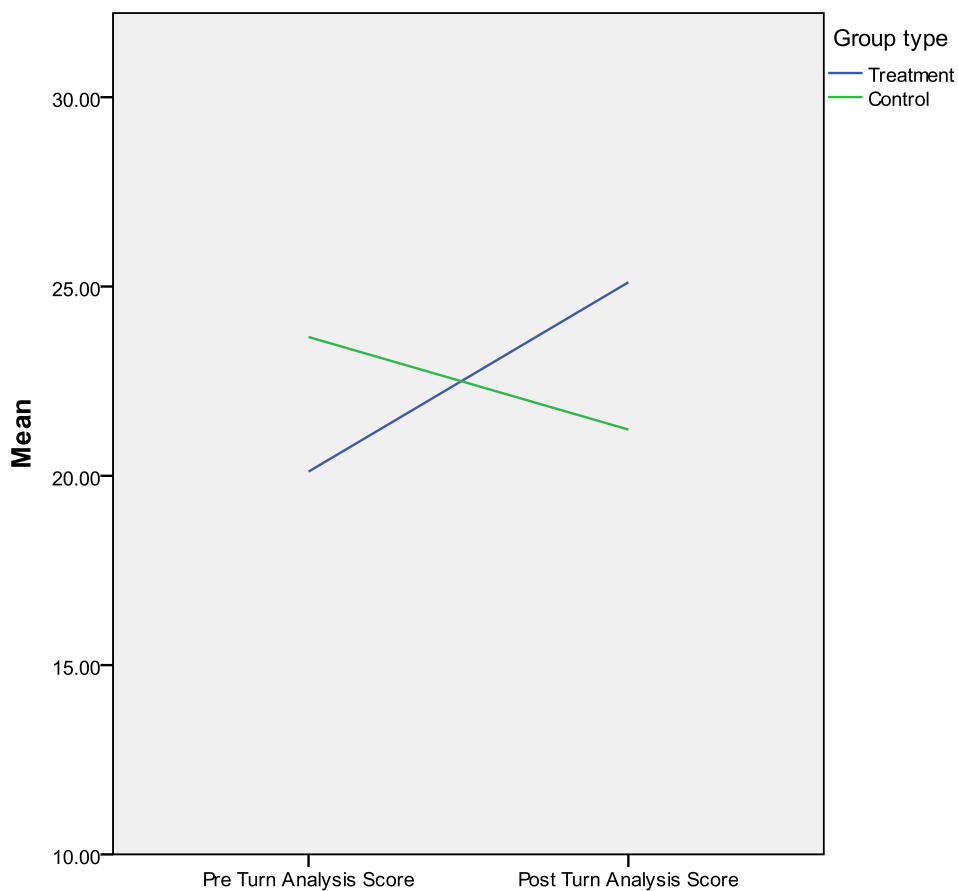
Note. \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

The ANOVA for percentage of the parent’s following and leading behaviour did not reveal a significant group by time interaction,  $F(1, 12) = .030$ ,  $p < .875$ . Analysis of main effects showed non-significant change over time,  $F(1, 12) = .210$ ,  $p < .655$ . Means and standard deviations are presented in Table 48.



**Figure 20. Means Autonomy Scores at Pretreatment and Posttreatment by Group**

The ANOVA for TAS scores revealed a significant group by time interaction,  $F(1, 12) = 9.446, p < .009$ . Simple effects analysis and an examination of group means showed that the experimental group experienced significant increase in TAS over time,  $F(1, 12) = 10.46, p < .007$ , whereas the control group showed no significant change over time,  $F(1, 12) = 2.5, p > .139$ . Means and standard deviations are presented in Table 48 with a visual graph in Figure 21.

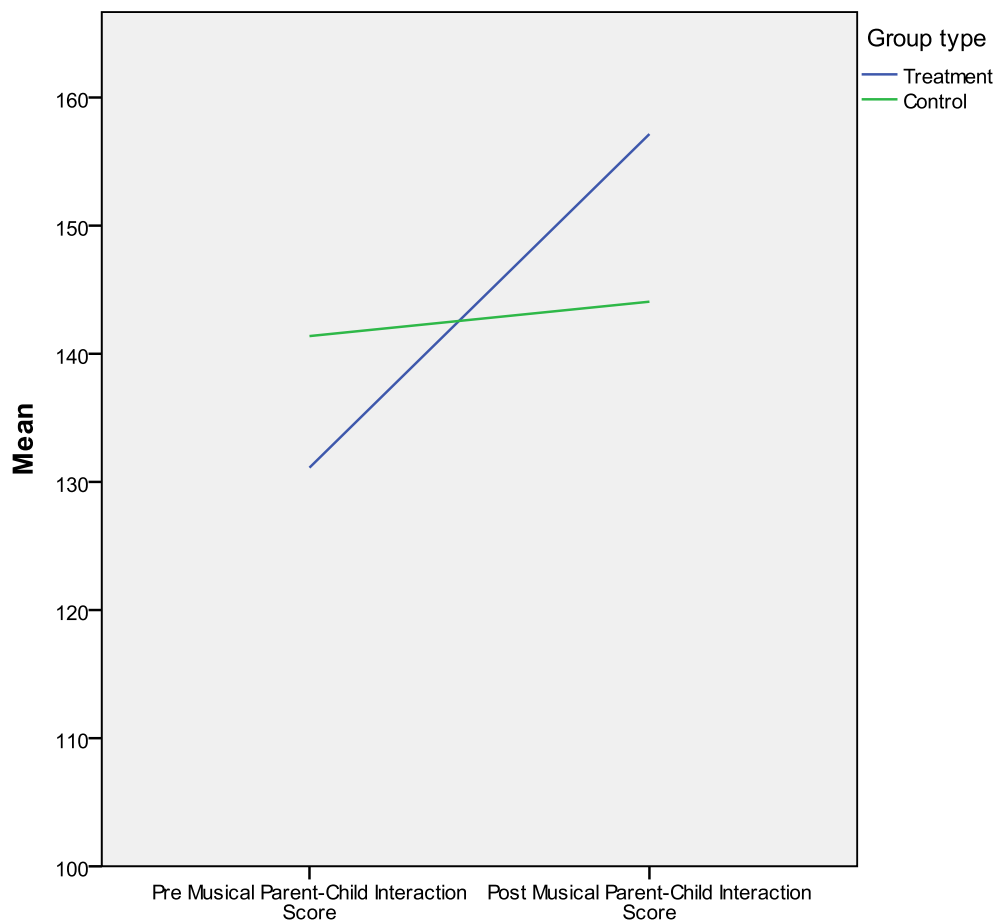


**Figure 21. Means of Pre- and Posttreatment Turn Analysis Scores by Group**

The ANOVA for Negative Response scores did not reveal a significant group by time interaction,  $F(1, 12) = .154, p < .702$ . An examination of main effects showed that both groups changed significantly over time  $F(1, 12) = 12.46, p < .004$ . Means and standard deviations are presented in Table 48.

The ANOVA for Positive Response scores did not reveal a significant group by time interaction,  $F(1, 12) = .352, p < .564$ . An examination of main effects and group means showed that both groups increased their Positive Response scores significantly over time.  $F(1, 12) = 14.54, p < .002$ . Means and standard deviations are presented in Table 48.

The ANOVA for Parent-Child Interaction in Music scores revealed a significant group by time interaction,  $F(1, 12) = 16.675, p < .002$ . Simple effects analysis and an examination of group means showed that the experimental group experienced significant increase over time,  $F(1, 12) = 41.45, p < .000$ , whereas the control group showed no significant change over time,  $F(1,12) = 0.44, p > .519$ . Means and standard deviations are presented in Table 48 with a visual graph in Figure 22.



**Figure 22. Means of Parent-Child Interaction in Music at Pretreatment and Posttreatment by Group**

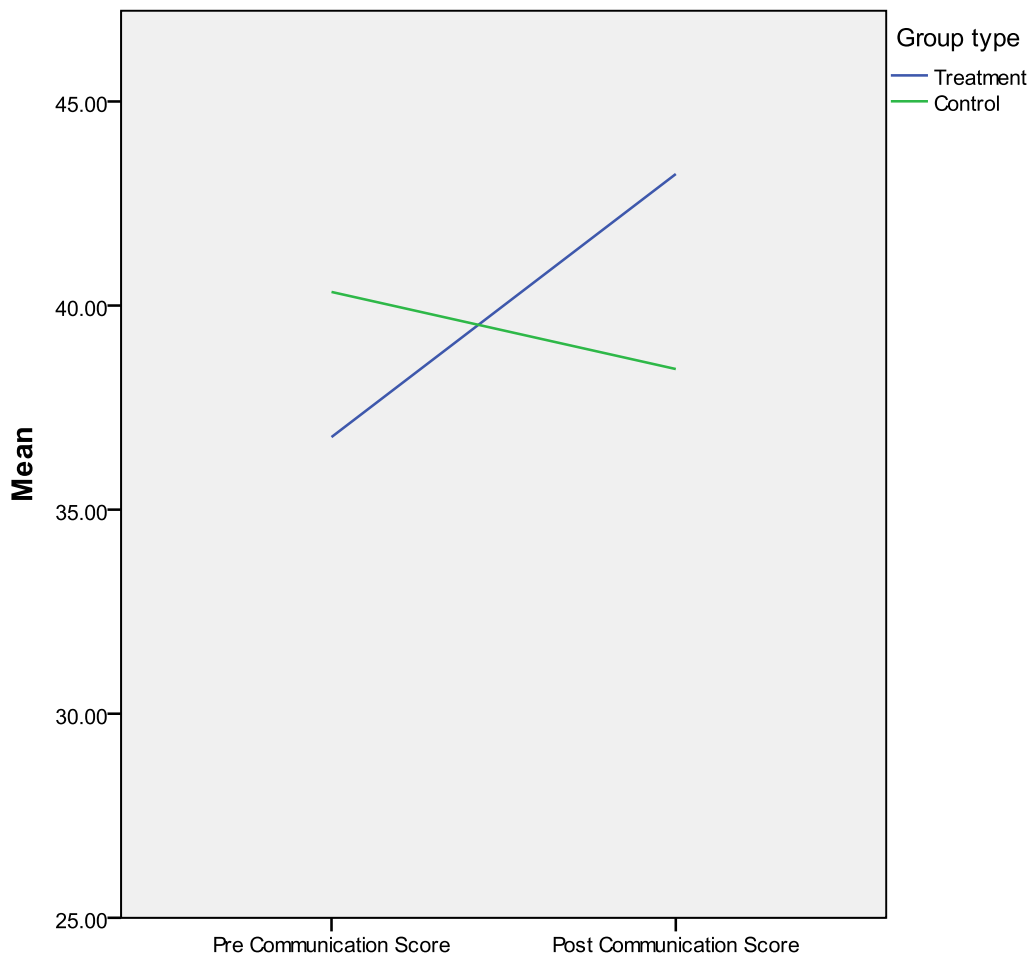
ANOVA for Involvement scores from PCRI did not reveal any significant group by time interaction ( $F(1, 8) = 5.030, p < .055$ ). An examination of main effects showed that both groups changed significantly over time  $F(1, 8) = 7.52, p < .03$ . Means and standard deviations for Involvement are presented in Table 49.

**Table 49****Means and Standards Deviations for Parent-Child Relationship Inventory and Parenting Stress Index Subscales by Group**

Variable Group	Pretreatment ( <i>n</i> = 9)		Posttreatment( <i>n</i> = 9)		<i>d</i>
	M	SD	M	SD	
<b>Involvement</b>					
Experimental	43.44	15.17	43.80*	13.43	-0.07
Control	40.89	11.15	44.44*	10.92	
<b>Communication</b>					
Experimental	36.77	9.63	43.22*	8.29	0.82
Control	40.33	10.19	38.44	9.13	
<b>Autonomy</b>					
Experimental	44.67	6.58	43.17	4.49	0.20
Control	41.22	3.38	44.50	7.05	
<b>Attachment</b>					
Experimental	61.56	37.44	47.83	36.00	0.38
Control	66.56	33.13	63.65	41.72	
<b>Total Stress</b>					
Experimental	72.74	25.70	57.86**	28.97	0.57
Control	91.31	10.36	77.99**	19.02	

Note. \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

ANOVA for Communication scores from PCRI revealed a significant group by time interaction,  $F(1, 8) = 9.595, p < .014$ . Analysis of simple effects and an examination of group means showed that the experimental group experienced significant increase over time,  $F(1, 8) = 11.48, p < .005$ , whereas the control group showed no significant change over time,  $F(1, 8) = 0.99, p > .349$ . Means and standard deviations are presented in Table 49 with a visual graph in Figure 23.



**Figure 23. Means of Communication Scores at Pre-Treatment and Post-Treatment by Group**

The ANOVA for Autonomy scores did not reveal any significant interaction between groups (Non-significant group x time interaction,  $F(1, 8) = .472, p < .512$  and non-significant main effect  $F(1, 8) = .31, p < .593$ ). Means and standard deviations are presented in Table 49.

The assumption of homogeneity of variance was violated for Mood scores from PSI and could not be corrected by arithmetic transformation of data. Nonparametric Wilcoxon test showed that the 8 out of 9 families in the experimental group experienced a decrease (no ties) in Mood score change over time,  $Z = -2.56, p < .001$ , whereas 1 out of 9 families in the control group experienced a decrease in stressful Mood score over time (4 ties),  $Z = -1.36, p > .176, r = .45$ . Medians and ranges are showed in Table 50 with a visual graph in Figure 24.



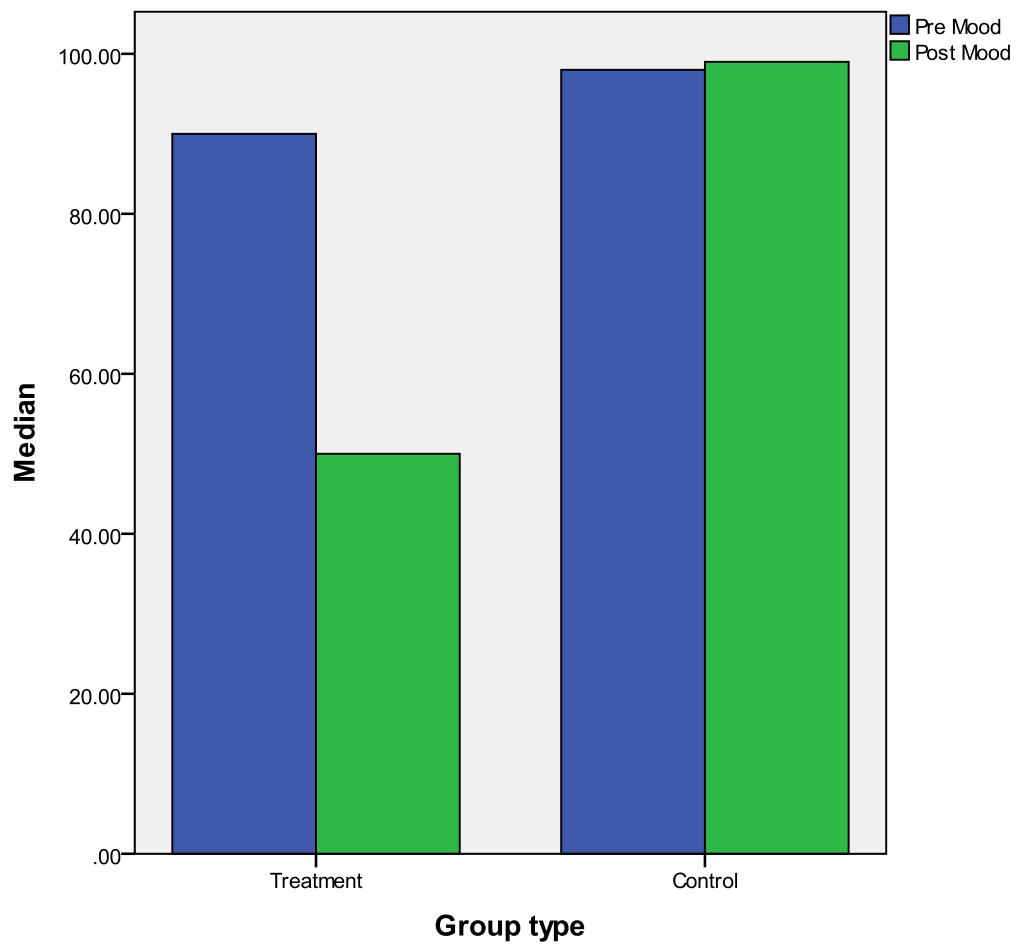


Figure 24. Medians of Mood Scores at Pre-Treatment and Post-Treatment by Group

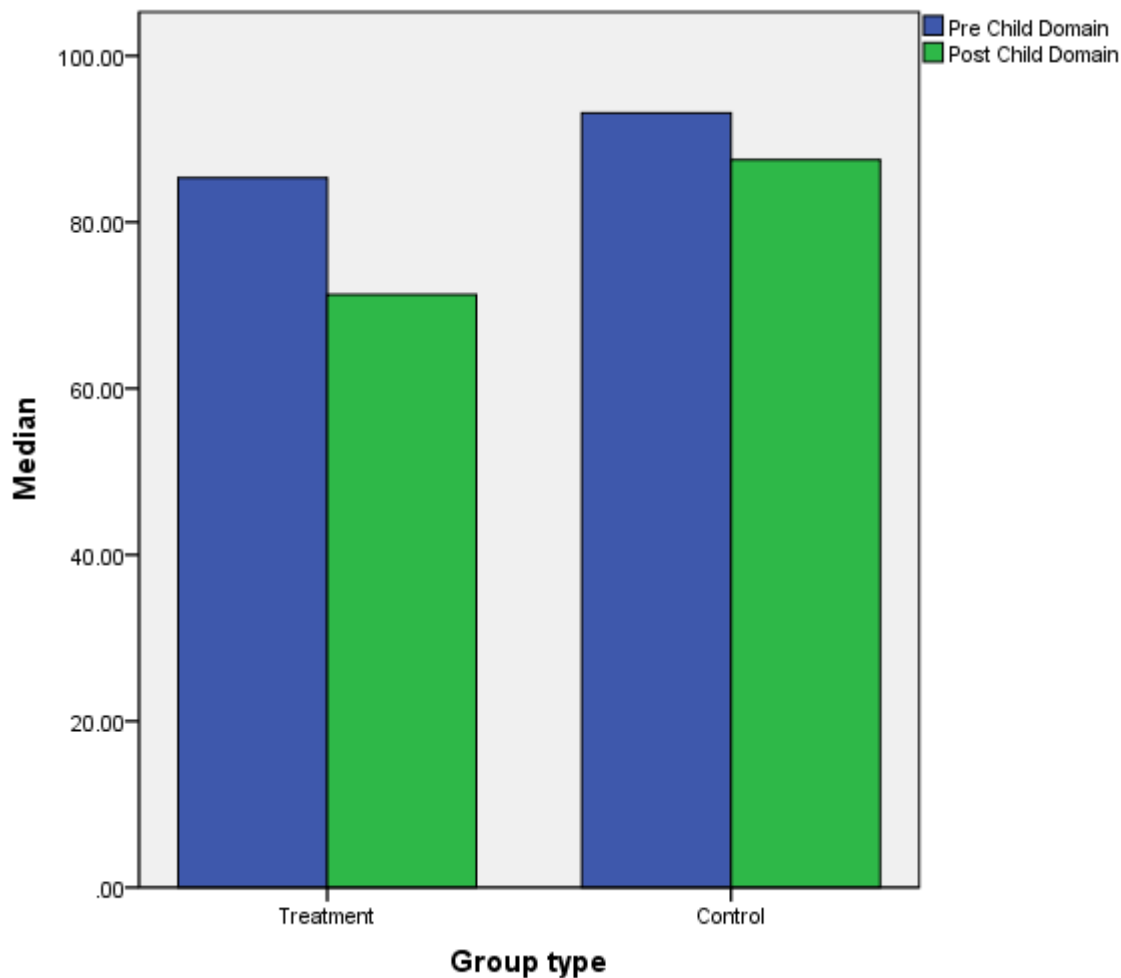
**Table 50**

**Median and Range for Mood, Child Domain, Competence, and Parent Domain from the Parenting Stress Index by Groups**

Variable Group	Pretreatment ( <i>n</i> = 9)		Posttreatment ( <i>n</i> = 9)		Relative treatment effect $\hat{p}_i$
	Median	Range	Median	Range	
<b>Mood</b>					
Experimental	90.00	25.00 - 96.00	50.00**	1.00 - 97.00	0.55
Control	98.00	75.00 - 99.00	99.00	90.00- 99.00	0.22
<b>Child Domain</b>					
Experimental	85.33	25.00 - 96.85	71.30**	33.00 - 78.33	0.50
Control	93.13	65.00 - 99.00	87.50	72.00 - 97.70	0.44
<b>Competence</b>					
Experimental	80.00	35.00 - 99.00	62.50	15.00 - 98.50	0.28
Control	98.50	45.00 - 99.00	89.60	25.00 - 98.20	0.27
<b>Parent Domain</b>					
Experimental	68.33	16.67 - 99.00	60.00**	8.00 - 97.53	0.50
Control	92.81	58.33 - 98.38	78.00**	12.86 - 97.74	0.44

*Note.* \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

The assumption of homogeneity of variance was violated for Child Domain scores from PSI and could not be corrected by arithmetic transformation of data. Nonparametric Wilcoxon test showed that the 9 out of 9 families in the experimental group experienced a decrease (no ties) in Child Domain score change over time,  $Z = -2.67$ ,  $p < .008$ ,  $r = .89$ , whereas 8 out of 9 families in the control group experienced a decrease in Child Domain score over time (0 ties),  $Z = -1.61$ ,  $p > .108$ ,  $r = .54$ . Medians and range are showed in Table 50 with a visual graph in Figure 25.



**Figure 25. Medians of Child Domain Scores at Pretreatment and Posttreatment by Group**

The assumption of homogeneity of variance was violated for Competence scores from PSI and could not be corrected by arithmetic transformation of data. Nonparametric Wilcoxon test showed that neither families in the experimental group nor families in the control group experienced significant decrease in Competence score over time (experimental group;  $Z = -1.214, p < .225$ , control group;  $Z = -1.461, p > .144$ ). Medians and range are showed in Table 50.

The ANOVA for Attachment scores did not reveal any significant group by time interaction ( $F(1, 8) = .430, p < .531$  and non-significant main effect,  $F(1, 8) = .310, p < .593$ ). Means and standard deviations are presented in Table 49.

The assumption of homogeneity of variance was violated for Parent Domain scores from PSI and could not be corrected by arithmetic transformation of data. Nonparametric Wilcoxon test showed the 9 out of 9

families in the experimental group experienced a decrease (no ties) in Parent Domain score change over time  $Z = -2.666$ ,  $p < .004$ , and 8 out of 9 families in the control group experienced a decrease in Parent Domain score over time (1 tie),  $Z = -2.521$ ,  $p > .006$ ). Medians and range are showed in Table 50.

The ANOVA for Total Stress did not reveal significant interaction between groups (group x time interaction,  $F(1, 8) = 3.576$ ,  $p < .089$ ). An examination of main effects showed that both groups changed significantly over time  $F(1, 8) = 20.53$ ,  $p < .002$ . Means and standard deviations are presented in Table 49.

Looking at the mean pre and post treatment APC scores and Mood, Child Domain and Communication for both therapists, all scores were in the presumed direction of both therapist having families that experienced positive improvement in these scores (see Table 51)

**Table 51**  
**Means and Standard Deviations on Significant Effect Scores in Experimental Group by Therapist**

Group	Variable	Pretreatment		Posttreatment	
		M	SD	M	SD
	<b>Autonomy Score</b>				
	Therapist 1 ( <i>n</i> = 5)	78.83	8.53	90.99	8.06
	Therapist 2 ( <i>n</i> = 4)	68.22	7.40	90.08	15.96
	<b>Turn Analysis Score</b>				
	Therapist 1 ( <i>n</i> = 5)	20.80	3.27	23.40	4.45
	Therapist 2 ( <i>n</i> = 4)	19.25	7.93	27.25	1.50
	<b>Parent Child Interaction in Music</b>				
	Therapist 1 ( <i>n</i> = 5)	137.03	11.13	155.19	11.57
	Therapist 2 ( <i>n</i> = 4)	123.72	19.65	159.58	19.61
	<b>Mood</b>				
	Therapist 1 ( <i>n</i> = 5)	82.00	14.83	52.00	21.39
	Therapist 2 ( <i>n</i> = 4)	76.75	34.61	58.50	40.77
	<b>Child Domain</b>				
	Therapist 1 ( <i>n</i> = 5)	82.48	7.31	56.76	21.04
	Therapist 2 ( <i>n</i> = 4)	71.50	32.08	58.73	25.78
	<b>Communication</b>				
	Therapist 1 ( <i>n</i> = 5)	43.80	5.76	46.20	3.35
	Therapist 2 ( <i>n</i> = 4)	28.00	4.24	39.50	11.62

#### 4.4.3 Post Hoc Power Calculations

Post hoc power calculations were done for Communication scores from PCRI because it was considered the most important score in the standardized questionnaires and the most comparable one to the scores of APC. The effect size for the Communication score was  $d = .82$  which yielded a power of .97 with 9 families in each group indicating that 97% probability that the effect over time experienced in the experimental group was indeed significant.

Parent Child Interaction in Music scores from APC also underwent post hoc power calculations to inform future research. The effect size for the PCIM score was  $d = 1.77$  which yielded a power of .99 with 9 families in each group indicating that 99% probability that the pre-post change observed in the experimental group was indeed significant.

# Chapter Five

## 5. Discussion

The purpose of this study was to examine whether music therapy assessment consistently and reliably could measure parenting competencies in families where children have experienced emotionally neglect. Furthermore, the study examined music therapy's effect on parenting competencies and parent-child interaction as measured by Assessment of Parenting Competencies (APC), Parenting Stress Index (PSI), and Parent-Child Relationship Inventory (PCRI). Beginning with a summary of the main findings, Chapter Five addresses the research questions and relates the findings to previous research and literature referred to in Chapter Two. Discussing the research design, the choice of method and analyses follows including the limitations of the study. The protocol and analyses of APC will be evaluated and discussed including limitations and choices of intervention style. Chapter Five also discusses recommendations for further research and, finally, it addresses recommendations for clinical applicability of both APC and the main findings of the study.

Once again the entire scenery of the bridge is in focus. The river can now be crossed, but did the bridge meet its purpose? Does it in fact reach a riverside of new knowledge, and how do the two riversides relate to each other? The bridge is complete. Or is it? Is the construction trustworthy and would the bridge builder recommend that anyone cross it? Maybe bricks or guard rails are missing in some places or maybe some bricks should have been made from a different material. How can this bridge inform the building of other bridges, and what kind of rivers would it make sense to cross next in the quest for new knowledge?

## 5.1 Summary of Main Findings

The study found it possible to measure parenting competencies and parent-child interaction by means of a music therapy assessment. The music therapy assessment tool, Assessment of Parenting Competencies (APC), provides consistent, valid, and reliable measures of parenting competencies and parent-child interaction, including the equality of autonomy relationship between parent and child (Autonomy Score, AS), the effectiveness of turn-taking and turn-giving between parent and child (Turn Analysis Score; TAS), the type of parental response to the needs of the child (Negative Response; NR & Positive Response; PR), and a total score of Parent-Child Interaction in Music (PCIM). Analysis of interrater reliability, test-retest reliability, and an internal consistency demonstrated the reliability of the APC, whereas the APC's ability to distinguish between a clinical and a nonclinical group demonstrated the concurrent validity. Correlations between APC scores and scores on standardized questionnaires on parenting competencies furthermore showed construct validity for APC. Clinical and nonclinical groups demonstrated observable and measurable differences in terms of types of behaviour and interaction-patterns. Due to poor preliminary results for one analysis in APC, the study included an in-depth microanalysis of interaction that enabled descriptions of differences between one nonclinical family and three clinical families. This resulted in an additional turn-giving analysis, which the researcher did not anticipate at the beginning of the study.

Music therapy had significant effect on parenting competencies and parent-child interaction for families with children who have experienced emotional neglect. This included the level of equality between parent and child in Autonomy Score as measured by APC, effectiveness in turn-taking and turn-giving between parent and child in TAS as measured by APC, and level of Parent-Child Interaction in Music as measured by APC. Music therapy had a significant effect on the parent's ability to talk to his or her child including the parent's level of empathy as measured by the Communication score from Parent-Child Relationship Inventory. Music therapy did not have significant effect on any other dimension as measured by the PCRI. Music therapy did have significant effect on how stressful parents perceived their children, and particularly how stressful the children's mood was to the parents as measured by the PSI. Music therapy did not have significant effect on any other dimension as measured by PSI.

For families who did not receive music therapy but only received treatment as usual, the APC was able to detect significant change in the parental response type after only six to ten weekly sessions. This indicates that APC is sensitive enough to detect change in parenting competences and parent-child interaction within a short time period also when music therapy is not a part of the family's treatment.

## **5.2 Discussion of Findings**

This section will present discussions of the findings of the study in detail. It will relate the findings of the present study to research and literature presented in Chapter Two.

### **5.2.1 Control variables for testing of APC**

In examining the control variables, the significant difference in marital status was anticipated, as it is commonly known that families at risk often are single parent families (see Section 4.1.1, Table 18; Abidin, 1995). Statistical testing showed that the two groups were significantly different in parent age, which the researcher did not anticipate (see Table 16). One could state this as a limitation of the study, because the difference in parenting competencies scores on the questionnaires could only be due to the fact that the clinical group consisted of younger parents. However, one might also consider the difference in parent age as an indicator that the sample of clinical families is representative of the population, because families at risk and neglectful parents often are younger (Abidin, 1995; Killén, 2005). The researcher recruited subjects on the basis of the child's age, and the age of the parent was not a criterion in recruiting volunteers for the study. Recruiting a sample matched for parent age might have led to a smaller sample size, and the study might not have been able to meet the criteria of the power calculations.

One might have controlled for other variables such as number of siblings or formal musical training in both children and parents. The study did not take into consideration how many other children the parent had, so all clinical parents might have had one child and all nonclinical parents might have had two or more children. However, having more children does not seem necessary in measuring parenting competences or parent-child interaction. More experience with more children might improve parenting competences or it might stress the parent more to have more children. Several siblings in the family was considered to influence the families differently, depending on other factors such as level of immaturity and psychological health (Killén, 2005).

Formal musical training in the family might skew the results of music therapy assessment, since trained families might score higher than untrained families, even though they have the same scores on the standardized questionnaires. The study did not control for this and could not examine a possible relation between formal musical training and APC scores. Formal musical training of the parent and the child might have influenced the TAS in particular, because it partly relied on the production of clear musical endings. For one particular clinical family, where the mother played the drums on an amateur level, she did consistently produce musical endings but no gestural endings. This pattern did not yield a high TAS in spite of her training as a drummer. One might also consider that the nonclinical families, who volunteered for the music therapy study, could have had an increased interest in music compared to a normal population. However, the clinical families were also volunteers, and these assumptions might apply to them as well. Controlling for formal musical training would have shed light on this discussion either way, although the



researcher did not experience indications that formal musical training was confounding variable to the APC scores.

The more important part of the analysis of control variables was the undesirable, significant difference between groups in the time interval between assessment sessions. The mean interval between assessment sessions for the clinical families was longer than that of nonclinical families (see Table 20). This might influence the results, because those in the clinical group had more time to forget how they reacted in the first assessment session. However, the direction of influence on the scores cannot be predicted. The mean interval between assessments for both groups was over seven days, which is considered enough in relation to the demands of test-retest analysis (Aarø, 2007). Since the mean time difference was not more than three days, these factors were not considered enough to eliminate families from the study who did not meet the criteria of precisely 7 day duration between assessment sessions.

When looking at correlations between the interval between assessment sessions and individual APC scores, the results do not appear consistent (see Section 4.1.1, Table 21). For all participants combined the greater the interval the lower the TAS, indicating that the families did better and remembered what to do in Exercise 2 (Ex2) in the second pretreatment assessment session, when the first session was more recent. However, this applied only to the nonclinical group. For the clinical group the interval did not correlate with any APC score, while for the nonclinical group the longer the time interval, the higher the Positive Response score. These inconsistencies between groups indicate that time interval between assessment sessions is not consistently connected to APC scores, which might be related to the vulnerability in neglectful parents as described by Killén (2005; see Section 2.2.1). It must also be noted that families at risk tend to have difficulties in attending treatment regularly due to high levels of daily stress and unstructured life situations (Abidin, 1995; Killén, 2005). Because all assessment sessions were scheduled to be 7-10 days apart, the significant difference in time interval between sessions might also be a representation of the characteristics of clinical families and their poor attendance. More importantly regarding the validity of APC, the interval between assessments did not influence the ability of the TAS (or any other APC score) to distinguish between clinical and nonclinical groups.

### **5.2.2 Developing APC Scores**

The researcher developed the APC scores on the basis of a comparison between groups of clinical and nonclinical families. It was considered relevant to try and establish norms for each score, which could indicate the severity of a potential problem or indicate how far away from or how close to the norm a family at risk might be. However, this study did not include a large, diverse, normative sample, which is necessary for establishing reliable norms. With only 34 families in the nonclinical group and 18 families in the clinical group, the presented norms are questionable (see Section 4.2.6, Table 37).

#### 5.2.2.1 Negative Response Type

The Negative Response Type score does not have a large range indicating that negative response for the nonclinical population is not very evident but varies more widely in the clinical population. Looking at the internal consistency analysis, there was high correlation between Negative Response Type and Positive Response Type (see Section 4.3.3, Table 40). The researcher did consider making a combined response score, but this would create a risk of producing a misleading score, because one parent might have both many negative responses and many positive responses, and also reduce information provided by the data. Therefore, the scores were kept separate, but the researcher did try to make minor adjustments to the negative score. Only one family scored above 0 in the rejecting response type, and the researcher suggests to change this rejecting score into a more qualitative feature in a clinical report, just as resisting behaviour in the Autonomy Analysis would only be part of the written APC report. However, this would not increase the normal range in the Negative Response score. If each or some points for negative response were doubled and the maximum still only was 24, the range might widen. However, a large normative sample seems necessary to examine consequences of such adjustments further.

#### 5.2.2.2 Positive Response Type

The development of the Positive Response Score revealed that both clinical and nonclinical parents produced positive responses. The difference was not whether the parents supported their children or not, but to what degree the parents did so. Emotional exchange was not that rare in the clinical group, but it was not obviously evident either. This indicates that emotionally neglecting parents do provide some level of support and empathy (some more than others). The question seemed to be whether there was enough positive response to build on. This is in line with previous reports of parents trying to meet the need of the child but failing, which resulted in misattunements or inconsistent responses because parents seem to prioritize their own needs (Crittenden, 1981; Oldfield, 2006a; Polansky et al., 1981; Stern, 1985, 2000).

The researcher thought of including more positive response types such as categories of imitating or guiding. However, there seemed to be too big a risk of confusion, because these categories also could be interpreted as supportive. Instead the researcher chose to measure what was more obvious and incorporate different nuances in the descriptive part of a written APC report.

#### 5.2.2.3 Autonomy Score

In developing the Autonomy Score, it was clear to the researcher that because she calculated the score based on percentages of following and leading events, the different durations of exercises in families were not an issue. This is consistent with Wigram (2004, 2007) in relation to his method of Event-Based-Analysis. However, it was also clear to the researcher that the shorter amount of time the dyad played and the fewer number of events they produced, the greater the risk of an unbalanced interaction. However, this was considered equivalent with findings, which showed significant differences between groups in terms of

duration of all exercises in the Autonomy Relationship Analysis. Nonclinical families played longer than clinical families (see Section 4.2.1, Table 26).

The researcher was puzzled by the phenomenon of either parent or child following more times than the other participant led. As explained in Section 4.2.1 the Autonomy Score may exceed 100 due to this phenomenon. It might have occurred because one of the participants followed the music therapist, even though one should not score this according to the step by step analysis. More likely, this might be due to either oversensitive decoders or very attentive participants (Knapp & Hall, 2009; Killén 2005). The phenomenon was found both in the clinical and in the nonclinical groups of families. One of the clinical families had a son following his mother more than she led. He played the drums in a traditional manner (bass drum, snare, and cymbal) and this might have influenced the counting of the events, as he might have been searching for patterns of rhythms to follow in the mother's play, even though she did not intend to lead.

In three of the nonclinical families, the AS was also above 100. In the first case, the child followed more than the parent led. In the second case, the parent followed more than the child led, and in the third case both parent and child followed more than the other one led. The researcher considered the phenomenon to contain important information, as it might help identify over-adjusted children or dependent children, which are typical characteristics of neglected children (Killén, 2005). It might however also be an indication of very healthy attentive and contact-seeking children, and therefore this should be a part of the qualitative description of an APC report.

The researcher considered developing another autonomy score similar to the TAS with points to be subtracted and added depending on several different factors, such as resisting behaviour, equality, duration of exercises, or following more than leading. However, this score would be very complex to interpret, where one type of high score might mean something very different than another similar high score.

#### 5.2.2.4 Turn Analysis Score

Building on this critique of complex scoring, the TAS could be considered to be in danger of producing scores that are difficult to compare between families. However, as the features included in this score all revolve around turn organisation and effective communication in terms of providing clear signals, the danger was not considered to be critical. The psychometric properties of the TAS showed that it is the strongest of the four sub domains of the APC. One might consider whether the embedded flexible design and the thorough investigation of differences between clinical and nonclinical groups is the reason for the strong reliability and validity of the TAS score. It would be interesting to see how an in-depth investigation of the other parts of APC would influence the calculation or development of scores.

In setting the specific limits for when to add or subtract points in the TAS, the researcher used the lower and higher percentiles of raw scores from Ex2 in the nonclinical families, as these scores were assumed to be healthy or good enough. It took more consideration to decide on how many limits to include, and how many

points were to be added or subtracted, when these limits were crossed. Balancing keeping the administration simple and maintaining a high level of detailed information was the challenge. One could have had more limits within each raw score. Or one could have combined raw scores for parent and child before even setting a limit. One also could have added more scores like the TAS based on the interaction microanalysis, such as analysis of timing with measurements of pauses between the parent's and the child's individual turns including turn-requesting cues and repairs (Knapp & Hall, 2009). One also could have addressed the categories of monologues vs. dialogues and mechanical vs. dynamical. However, in considering using the APC within a daily clinical setting, the researcher chose not to complicate the assessment model further, as she also believed that these features already to some degree were incorporated within the TAS and would be placed best in a written APC report.

It is worth noticing that most of the raw scores in TAS are based on percentage of either total turns or total turn-givings. Descriptive information makes the analysis simple to administer and fairly easy to understand but only because of comparing with the scores of the nonclinical group. The descriptive information only makes sense if the normal range is clear to the assessor. Without the knowledge of the normal range the assessor can only speculate or interpret what the descriptive information means. In some cases it might be clear. For example, it may be obvious that it is not normal for only 10% of the total turns of the parent to be turn-givings. But in other cases it is not so obvious. For example, is it normal that 12% of the child's turn-givings were confusing? The results from the nonclinical families suggest that the answer is yes.

Comparing with a nonclinical group enables the assessor to be more confident in reporting the results of the APC and in providing valuable descriptions to follow the quantitative scores.

#### 5.2.2.5 Other Possible Analyses of APC

The different levels of directed and undirected exercises in the APC protocol were considered crucial in collecting diverse and representative data of the parenting competencies and the parent-child interaction. One might have investigated this by analysing results by groups of directed and undirected exercises. As part of the results, one also could have included an analysis of relationships between specific elements in the APC, such as the relation between turn-takings or turn-givings and time, looking for a possible linear relationship and, of course, whether any relation were true for both clinical and nonclinical groups. One might also have examined the relation between events and time, looking for a possible linear relationship despite the fact that the autonomy relationship analysis excluded focus on the duration of events. However, as this study also had an embedded flexible design with lengthy and time consuming descriptions and analyses, these further questions were considered less important, although still relevant.

### 5.2.3 Interrater Reliability

Looking at the results and the scoring of the second rater, it becomes clear that despite the overall high level of reliability, some of the analyses in APC were better administered than others or easier to follow for the second rater. The second rater took notes during the scoring of families (see Appendix N) which will be referred to when relevant in the following discussion.

Interrater agreement for the Autonomy Score (see Section 4.3.1.1, Figure 12), the highest level of agreement between raters was for the nonclinical families. While the two raters generally agreed that the clinical families were outside the normal range, the two raters agreed to a lesser degree on the severity of this divergence. The single outlying family for agreement between the raters was a clinical family in the post treatment assessment session. The first rater counted events that yielded an AS of 74, while the second rater counted events that yielded a score of 57. This was the first analysis in the first family that the second rater analysed and this may have influenced the result. The first rater unconsciously might have counted events in favour of positive effect. However, the score was still low and under the assumed normal range. The level of agreement between the two raters for other families in the post treatment assessment session was high, and as the interrater reliability for AS was considered good, this was not pursued further.

On the TAS, the raters' agreement was not related to the different groups of clinical or nonclinical families, and there were no outliers. The interrater reliability of TAS was considered good. This might be due to the fact that the second rater did the turn-giving analysis 3 months after the analysis of autonomy and the response type analyses. The second rater might have been more familiar with the population, or she might have had a clearer idea of which group each family was in due to surroundings and specific clinical features. The second rater also was trained again for the turn-giving analysis, and thus was more experienced than when scoring analysis of autonomy and response type analysis.

In scoring the Negative Response Type, the two raters again agreed more on nonclinical families than on clinical families. The difference in agreement was based on how evident the negative behaviour was and whether the parent seemed passive or not. The reliability was still considered acceptable, but it seemed that more training in scoring the response types might have improved the results of interrater reliability.

Interrater agreement for Negative Response showed one outlying clinical family. The first rater scored two dominating responses and the second scorer did not score any negative responses. The second scorer commented that she was puzzled by the physical appearance of the mother (see Appendix N, family 7). She thought the parent might be medicated, and wondered how this might affect her vitality. She further stated that she thought the daughter needed her mother to lead, and that the mother met this need. Looking at the operational definitions of dominating and supportive in the Response Type Analysis, there is a distinction between guiding and controlling. But it can be misleading to label a controlling response "dominating", because the child might actually need the parent to take control. However, this is still a dominating response,

as it also reveals how dependent the child is. Of course a controlling parent who controls when the child does not need this kind of response seems to be inappropriate, and this should be a part of the descriptive APC report. This differentiation was not emphasized enough in the training of the second scorer and is believed to be the main reason for the outlier score. This also implies that operational definitions for dominating response must be clearer.

It should also be noted that the mother in this particular family had rheumatism to a degree that it did affect her movements and ability to interact with her child. She was also an amateur drummer and had a quite strong musical expression that appeared as a contrast to her regular verbal and physically dimmed appearance. One might consider this a good example of how being formally trained in music and being able to play the drums fairly well does not necessarily mean that one will possess a high level communicative musicality (Section 1.7.1; Malloch & Trevarthen, 2009).

This knowledge would have been valuable to the second scorer, but in this particular case it might still be confusing to score the response types without knowing more about the family. Poor video might also have caused the first rater to interpret supportive (guiding) response as dominating response, or the second rater may not have been able to see a subtle dominating response from the mother. Although the researcher intended to let the second rater know as little as possible before scoring the family in order to have a blinded rating, it also seems unrealistic for a music therapist to score a family he or she does not know. In a clinical setting the music therapist scoring the APC most likely would also be the music therapist working with the family.

The interrater reliability for scoring the Positive Response Type was considered good and the raters agreed more on nonclinical families than clinical families. There was one outlying clinical family, and it was the same family with the drummer mother with rheumatism that was the outlying family for the Negative Response Type. The main difference was in how evident the supportive response was in the four different exercises, and whether the mother was emotionally exchanging with her daughter. The second rater might have given this family the benefit of the doubt, since she noticed the fragility and the subdued appearance of the mother. Or maybe she interpreted the strong musical expression as a healthy and supportive response, while the first scorer interpreted this as a dominating type of response. Poor video recording might have caused the first rater not to see a subtle emotional exchanging response from the mother.

Overall, the second scorer was trained sufficiently with step-by-step instructions and to a lesser degree operational definitions clearly enough to achieve good interrater reliability. It seems that the predominantly musical scores, AS and TAS, were more reliable and precise than the behavioural scores of NR and PR. The operational definitions were considered more accessible for musical parameters and musical behaviour than for definitions of behaviour and responses.

#### **5.2.4 Test-Retest Reliability**

The researcher did not know what to expect from the results of the test-retest analysis. The researcher initially carried out two identical pretreatment assessment sessions due to respect for the family, giving them a fair chance of adapting to the music therapy setting before analysing their behaviour and interaction. The researcher was not able to find publications of other music therapists using this kind of analysis and was unable to find guidance within music therapy research. However, in learning more about test theory and statistical analysis test-retest analysis, it seemed to be a clear way of trying to achieve a high level of consistency and reliability.

In comparing results from two assessment sessions with fixed exercises, there seemed to be several factors that could affect the scoring and the results. This included length of exercises, choice of instrument and potential expressiveness, misunderstanding the instructions, and maybe more importantly directiveness of the therapist. One possibility was that the therapist would be more directive in the Free Play exercise in the first pretreatment assessment session than in the Free Play exercise in the second pretreatment assessment session, although still very subtle. In spite of these anticipated problems, the APC did have good test-retest reliability. With sufficient test-retest reliability, the APC can presumably be used in music therapy outcome studies of families and possibly of therapist-child interaction assessment as well.

On AS, both groups scored lower in the first pretreatment assessment session with the nonclinical group being a bit more consistent than the clinical group. There were three outlying families, including two clinical and one nonclinical. One clinical and one nonclinical family scored over 100 (indicating that one followed more than the other led) in either the first or the second pretreatment assessment session, and this skewed the results due to the way the score is calculated. The last clinical family scored only 66 in the first assessment session and 87 in the second assessment session. This particular family had a mother who expressed much anxiety about the video recordings, but who wanted to try and see how it felt, as she wanted to participate in the study. The positive change in AS between the two assessment sessions might be an indicator of her becoming more familiar and comfortable with the video camera in the room and the family getting acquainted with the music therapy setting. Or the family might be more engaged in the second session, because they were more familiar with the setting. The mother expressed verbally after the first assessment session that it was quite fun, and not as bad as she anticipated.

In TAS, the clinical group scored lower in the second pretreatment assessment session than in the first assessment session. The nonclinical group did not differ much in mean, but varied more in the individual scores between sessions. There were two outlying nonclinical families and one outlying clinical family. Two of the families had a large difference in scores between sessions because they had a large number of turn-givings in the second assessment sessions and not in the first assessment session. The last nonclinical family seemed to misunderstand the instructions for Ex2 in the first assessment session and only played once each,

which influenced the TAS a great deal, as the 6-year-old daughter made a confusing turn-giving. In the second assessment session the family scored much higher, probably due to a better understanding of the task.

For scores of Negative Response, the groups scored much the same in both sessions. Out of 46 families only three families did not score the same. All three families (one clinical and two nonclinical) demonstrated a less passive response (higher NR score) in the second assessment session. The reliability for Negative Response was good, indicating that the Negative Response Type for the same parent did not change much between the two sessions, and that APC was able to detect this. The positive decrease of passive response in the second session might be interpreted as an indicator of potential profit of music therapy, or it might indicate that the families were more familiar with the music therapy setting, since both groups followed the same pattern.

Looking at the scores of Positive Response in the two groups, a different pattern emerges. The nonclinical group demonstrated only a small increase in the second assessment session, while the clinical group had a higher score in the first assessment session than in the second assessment session, leaving the test-retest reliability barely acceptable. The level of test-retest reliability only for the nonclinical group was much stronger. There might be several reasons for this difference between the Positive Response scores of the clinical group and not for the nonclinical group. The novelty effect of a new and exciting experience might have worn off in the second pretreatment assessment session, letting the family fall into their more usual way of interacting. But since this was not the case for the nonclinical group, the finding suggests that the parents of the clinical families were more fragile and unsure of themselves, which results in inconsistent behaviour or lack of confidence that is common for neglectful parents as described by Killén (2005). The situation of being at a family care centre because of possible child neglect might also affect the parent's ability to relax in a parent-child interaction. The parent might have tried to act more positively towards his or her child in the first assessment session, but in the second assessment session relaxed more and acted in their usual way. The decrease in positive response might also indicate unconsciously building against engaging in music therapy, even though there was no increase in negative response. This finding is consistent with that of Oldfield (2006a), who also reported that two assessment sessions were necessary, as the families showed significantly poorer results in the second assessment session.

The researcher initially performed two assessment sessions to give the family a fair chance. Looking at the test-retest reliability results for the Positive Response, one might reconsider this assumption as 6 out of 18 of the clinical families scored within the healthy range in the first pretreatment assessment session and within the clinical range in the second pretreatment assessment session.



The observation that nonclinical families played different instruments in the two sessions more often than the clinical families (see Section 4.3.2.3, Table 38) is in line with the descriptions of inhibited play among neglected children or children with emotional disorders and depressed children (Irgens-Møller & Bjerg, 2004; Killén, 2005, Oldfield, 2000). These findings could also indicate that clinical families are less likely to choose instruments, they do not know due to their high level of vulnerability and low level of confidence (Killén, 2005). The variety of instruments played might therefore also be a part of the APC written report to inform about the level of the family's creativity and vulnerability.

The researcher recommends conducting two identical assessment sessions. For most families, one might be enough as the families would act much the same in the two sessions. For others who are more fragile, more inconsistent, or families with young children, two assessment sessions would give a clearer picture of the potentials, weaknesses, and strengths of the parent-child interaction and of the parenting competencies. One might consider calculating the mean of scores between the first and second assessment sessions, or at least describing large differences between sessions in the APC written report.

### **5.2.5 Internal Consistency and Construct Validity**

Looking at the intercorrelations between APC scores and different level of correlations with the scores from the self-report questionnaires, it seemed that the scores might be independent of each other and might be used separately or outside the context of the total score (see Section 4.3.3, Table 40, 42 & 43). Negative Response and Positive Response correlated strongly, while AS and TAS correlated to a lesser degree with all other scores. The strong correlation between Negative Response and Positive Response indicated that one score might be sufficient, but both aspects were considered important in assessing parent-child relationship, and therefore, the two scores were not transformed into one (see Section 5.2.2.1). However, more research with larger sample size is necessary to evaluate this assumption of independent APC scores. The total score of PCIM yielded a strong internal consistency and underpinned the consistency and reliability of the APC psychometric properties. Besides being able to distinguish between a clinical and a nonclinical group in all scores, the study also reviewed construct validity by comparing with subscales and total scales of Parenting Stress Index (PSI) and Parent-Child Relationship Inventory (PCRI). There was significant correlations between many APC scores and the standardized questionnaires, indicating that the APC does measure a construct that is related to parent-child relationship and level of parental stress (see Tables 42 and 43). The most relevant and interesting correlations are discussed below.

Surprisingly, the correlation between Autonomy from the Parent-Child Relationship Inventory and Autonomy Score from APC was significant but not very strongly compared to the other APC scores. In fact, Positive Response correlated more with Autonomy indicating that a high Positive Response score might predict a high level of Autonomy. It does make sense that positive parental response increases the

probability of a healthy and independent child, but why is this not the case for the Autonomy Score? The Autonomy Score revolves more around the actual equality between parent and child than the parent's thoughts about his or her child's independency development, which is measured by the questionnaire. The Autonomy Score is not a measure of independence or attachment behaviour, although qualitative descriptions inform on tendencies to lead and follow in healthy or unhealthy ways (see Section 5.4.1). One of the main reasons why the correlations between APC and these questionnaires are not strong is that they compare an observational analysis score with score from a self-report questionnaire. The parent's own answers of his or her abilities as a parent might be very different from what is actually observed by professionals. This does not refer to whether the self-report person is answering truthfully or not, as the questionnaires intend to control for this. The parent might not really have a clear picture of how he or she interacts, and thus might influence correlations in either direction. A very strong correlation also would make the APC redundant, indicating that the APC is measuring something that other instruments already are measuring.

The somewhat weak correlation between APC scores and the Involvement score from the PCRI indicates that a parent might believe that he or she is involved in the child (and might also be so), but this does not necessarily mean that the parent responds positively toward the child, communicates effectively, or has an equal autonomy relationship.

The lowest correlation between APC scores and Parenting Stress Index subscale scores is between the Positive Response score and the Parent Domain score indicating that the parent might be very stressed, without this necessarily influencing their level of positive response. Interestingly, the highest correlation between APC and PSI is between the TAS score of APC and the Child Domain score in the PSI. This indicates that a high level of effective communication between parent and child might predict a lower level of stressful behaviour and characteristics of the child. This is in line with Knapp and Hall's (2009) descriptions of how important clear nonverbal communication is for the child's social and emotional development.

#### 5.2.5.1 Summary

The study has found that the assessment tool is administered in a consistent and stable manner with standard procedures and good psychometric properties. This moves the APC one step closer to standardization. Since the researcher started her study in 2008, there has been an increasing interest in developing standardized music therapy assessment models with high levels of reliability and validity (Daverson et al., 2007; Hald, 2012; Storm, 2012). Still, there is no other published research on music therapy assessment that compared results with those of a nonclinical group or with test-retest reliability, which is highly necessary if the assessment tool is to be used in music therapy outcome studies.

It seems that music therapy assessment in this form of only two assessment sessions might have some

valuable cost benefits for social services as it might help reduce expenses of evaluating parenting competencies. APC may contribute to the assessment process by providing quick and valuable information to a multidisciplinary team in situations, where it can be difficult to obtain in-depth detail on the parent-child interaction within a short period of time (Iwanic, 1995). The APC enables evaluating structured observations in a manner that the family may enjoy, and where joint play is the main focus of the activities. It is worth mentioning that for one clinical family, filling out questionnaires even though supported by a trained psychologist was too daunting, and the family chose only to participate in music therapy assessment in the posttreatment assessment phase. This is in line with prior publications reporting how music therapy seems nonthreatening and joyful to families (Abad & Williams, 2007; Davies, 2008; Drake, 2008; Howden, 2008; Layman et al., 2002a)

### **5.2.6 Effect of Music Therapy**

The analysis of the control variables for the effect study were satisfactory as there were no significant differences in child gender and age, parent gender and age, marital status or days between second pretreatment assessment session and posttreatment assessment session. For families with children who had experienced emotional neglect, the study found that music therapy had a positive effect on parent-child interaction as measured by the Autonomy Score, Turn Analysis Score, and Parent Child Interaction in Music. Effect sizes for the music therapy condition for AS, TAS and PCIM were large and met the demands of the power calculations leaving the probability of types 1 and 2 error at a minimum. There were no shifts in the predominate attitude of the parents who experienced music therapy, and therefore the null hypotheses 2 and 3 were retained. The hypotheses 5 and 6 of parents receiving music therapy shifting in their response with increasing positive response, and decreasing negative were rejected as both the treatment and control groups experienced significant change over time in NR and PR scores. This indicates that parents receiving treatment as usual also improve their response type toward their child on the same level that parents receiving music therapy, although they did not improve the musical interaction scores, AS, and TAS, significantly over time. One might wonder whether the improvement in AS and TAS only were due to getting more familiar with the music therapy setting, and whether there was any carry-over effect to other areas of the daily life of the families.

Looking at the remaining hypotheses of families receiving music therapy improving their Parenting Stress Index and Parent-Child Relationship Inventory scores, only hypothesis 8 for Communication, and hypothesis 12 for Child Domain, were true. Furthermore, the families experiencing music therapy also significantly decreased their level of stress related to the mood of the child, while those receiving treatment as usual did not. Effect size for the music therapy condition in the Communication score was large, while the relative treatment effect of Mood and Child Domain scores also indicated a large effect for the experimental group. This indicates that families with emotionally neglected children receiving music therapy improve their level

of equality and effective communication and that this might positively affect how stressful the parents perceive the child to be, especially qualities related to the mood of the child, and affect the general communication between parent and child. These findings support earlier research where parents tended to view their child in a more positive light and were able to read the emotional state of the child more easily (Abad et al., 2008; Oldfield, 2006a; Trolldalen, 1997a; Müller & Warwick, 1993). The level of communication for the control group decreased (not significantly) over time. This might be due to development of greater awareness of how their communication was lacking as a result of treatment as usual, but they did not receive sufficient or the right kind of intervention to give them confidence in their actual communication with the child.

Whether or not the parent's perception of how stressful the child was is related to any change in the child, is not clear from this study. The child improved his or her ability to effectively communicate with his or her mother or father in music therapy and developed a more equal relationship with the parent, but the actual carry-over effect for the child is not clearly addressed in this study. One might consider evaluating child feedback as described by Iwaniec (1995) and Crittenden (1981) with different levels of interaction patterns such as level of cooperation, passiveness, and resistance. This would also inform the results of the response type analysis for parents and produce more valuable information.

The improvement in equality and effective communication also supports earlier research findings of parent and child improving their way of interacting through music therapy (Abad & Williams, 2007; Larsen, 2011; Oldfield, 2006b, Trolldalen, 1997a).

Both groups changed significantly over time in terms of how stressed the parents were due to parents general functioning and in terms of how stressful the parent-child systems in general was, indicating that music therapy treatment only added positive effect to families and did not deprive them of any positive effect. There was no interference by child age in any of the effect results.

Hypothesis 15 for the effect analysis concerned the differences in results of effect between therapists. With two therapists, two conditions in a repeated measures design, and only 18 subjects it seemed difficult to analyse for differences between 4 groups with 4 or 5 families in each. Performing MANOVA analysis requires a minimum of 10 in each condition or groups (Field, 2011), and therefore the researcher did not analyse hypothesis 15 with statistical analyses. A larger sample size is necessary in order to examine hypotheses 15. Looking at the mean score for the experimental and control group in pre and post treatment assessment session for both therapists, however, all scores were in the predicted direction. Both therapists had families that experienced positive improvement in all significant results of the effect study (see Section 4.4.2, Table 51).

### **5.3 Discussion of Research Design, Method, and Analysis**

Discussion of design, method and choice of analysis follows. This includes clarification on the limitations of the study and recommendation for further research.

The first part of the study had a between and within groups design with a clinical group of families with emotionally neglected children and a nonclinical group of families with non-neglected children. The groups were controlled for demographic issues not related to poor parenting competencies, and the study was able to include clear clinical and nonclinical samples by use of standardized questionnaires concerning parent-child relationships and level of parental stress. This enabled comparisons across groups to examine healthy parent-child interaction and parenting competences in music therapy compared with poor parenting competences and weak parent-child interaction as measured by APC, which included a fixed protocol with specific exercises to be followed.

The analysis methods of APC relied on analyses of clear operational definition of the quality of musical events, turn-givings, and parental response types. Definitions and clear step-by step instructions were considered crucial in training the other rater to evaluate in a similar way and thus achieve a high level of reliability and validity.

The method of comparing measurements of clinical and nonclinical groups was of great help in developing scores of equality of autonomy relationship, including qualitative descriptors of dependent and independent tendencies in the child, effective communication, parental response type, and a total score of the Parent-Child Interaction in Music. The researcher chose to further compare clinical and nonclinical groups due to poor validity in Turn Analysis Score of the APC and, thus, performed an unanticipated interaction microanalysis, which led to additional quantitative analysis. This resulted in established concurrent validity for the TAS. The epistemology behind going from statistical analysis to descriptions of interaction is explained in Chapter Three, Section 3.1. The pragmatic worldview and choosing a multiple strategy design revealed some advantages including helping the researcher to pinpoint relevant features in the APC to be investigated, and thus ensured that the results would contribute to music therapy assessment research by providing strong reliability and validity. However, the design did not compensate for the mainly subjective decisions and interpretations involved in reaching the APC scores despite of results being supported by reliability and validity analyses. Furthermore, the design did not compensate for the arguments against comparing observed behaviour with self-report questionnaires or a combination of methods. The style of reporting results may not be accepted by evaluators, reviewers, and editors (Robson, 2011).

The second part of the study was an experimental design with a randomized controlled trial with music therapy as the experimental condition and treatment as usual as the control condition. There were two therapists performing treatment. The study examined the effects of music therapy by means of established APC scores and the scores of self-report questionnaires. The mix of dependent variables from both APC and

standardized questionnaires was useful in informing on the APC's ability to evaluate possible change over time for families, who did not receive music therapy as part of their treatment. Furthermore, the study was able to address the carry-over effect of improvement in Parent-Child Interaction in Music. The design and method of the study were able to suggest that a standardized music therapy assessment model is within reach and encourages current music therapy assessment research to keep striving for high levels of reliability and validity (Davieson et al., 2007; Hald, 2012; Storm, 2012).

### **5.3.1 Evaluation of the APC Protocol**

In the following the APC protocol is evaluated. The evaluation examines limitations of procedures, clinical recommendations for conducting the sessions, and some thoughts on treatment guide and intervention style. The APC was built on adapted assessment models and microanalysis in music therapy, although all clinical guidelines were kept (Bruscia 1987; Holck, 2007; Wigram, 2007). The APC was further based on relevant literature and research on parental response types (Alvin & Warwick, 1991; Crittenden, 1981; Main, 2000; Oldfield, 2006b; Polansky et al., 1996; Polansky et al. 1981; Stern 1985; Trolldalen, 1997a; Winnicott, 1971). The study focused on producing systematic instructions and clear, operational definitions for the APC.

### **Instruments**

As discussed earlier the free choice of instrument might have influenced the results of the APC scores. One might argue that different instruments could yield different opportunities of making musical expressions. However, the researcher did not want to force the participants to choose specific instruments when almost everything else was fixed for the families. She chose instead to be true to the clinical guidelines for the IAP and kept the free choice of instrument (Bruscia, 1987). The sense of freedom was considered essential for the families to have a good experience of being together and interacting, as several music therapists working with families have suggested (Oldfield, 2006a; Oldfield et al., 2008). Furthermore, the number of instruments played by each participant could inform the assessor of the level of creativity or vulnerability. One might examine the choice of instruments with APC scores, but it seems redundant to do so with the established high level of reliability and validity.

### **Facilitator and Assessor**

Several music therapy assessment models include specific exercises for the clients to perform in order to measure the variables of interest (Baxter et al. 2007; Hald, 2012; Layman et al. 2002b; Oldfield, 2006b; Storm, 2012). However, as explained in Chapter Two, few music therapy assessment models provide specific instruction for the exercises, and the reader is left to wonder whether each client gets the same instruction and whether scores then are actually comparable or not. The issue of being fixed and very

structured in instructions combined with being supportive and accommodating in meeting the clients is also seldom addressed. The issue of being a facilitator for relationship (regardless of whether it is between clients or between therapist and client) and an assessor is also not commonly addressed. The therapist might feel inhibited by following strict guidelines. This inhibition may result in an anxious facilitator and the therapist's anxiety might negatively influence the results of assessment. This study did not include evaluation of this dilemma, but the researcher still would like to share some thoughts on this based on her own experiences. Being authentic as a therapist seems to be the key factor in combining an assessor with a facilitator. Allowing the individuality of each therapist to emerge, while still offering consistent instructions, seems to prevent feeling inhibited. If the therapist does not believe the protocol to be of any value, it might be difficult for this therapist to be authentic when conducting it. Furthermore, the therapist conducting the assessment protocol should try not to intervene therapeutically with the clients, as this would most likely influence the results. As described by Stern (2010a), even matching in musical improvisation can be characterized as affect attunement and is a key feature in the therapeutic relationship. It should be considered quite a challenge not to influence and intervene when assessing. In addition, it seems unethical to intervene without any prior agreement or working alliance. Being supportive and affirming to meet anxious clients is still possible, but the main goal for conducting the assessment is to collect information and secondly to provide a welcoming atmosphere of creativity and joy. In Free Play in the APC protocol, the therapist participated partly to gain awareness of, insight into, and sensitivity towards the interaction between parent and child from being "on the inside" of the musical experience (see Section 3.2.3.1). While this experience might be what the second rater was missing in rating 30 % of all analysed scores, and while this experience is considered valuable in producing respectful and nuanced descriptions in an APC written report, participating musically with the parent and child does not imply intervening with them with clinical goals in mind. The researcher, however, experienced some difficulties in conducting the protocol including keeping a passive but supportive role in the Free Play exercise, especially for families who needed much guidance and affirmation. One can speculate how this influenced the Autonomy Score for these families, even though the autonomy relationship analysis procedure takes this into account. On the other hand, as insecurity is a common feature for neglectful parents and emotionally neglected children in music therapy (Drake, 2008; Irgens-Møller & Bjerg, 2004; Kolind 2008; Layman, Hussay & Laing, 2002b; Layman & Hussay, 2003; Oldfield 2000; Oldfield, 2006b), families who need much guidance might inform the assessor additionally and the level of support required, could be a part of the written APC report. Conducting the last posttreatment assessment session for the experimental group was difficult with some of the families. The drastic change of going back to this type of structured session with much less emphasis on client need than during treatment, made the researcher consider alternatives for conducting the assessment session. When ethically relevant, the therapist might choose to call the assessment session a regular session with a new first part incorporating the APC, and have the last part of the session in the usual style of

treatment. Closing the relationship with the family or the clients in a very structured way and more importantly a very different way than usual might not be ethical or consistent with the need or expectations of the family. Therefore it is recommended to adjust to the individual need of the family and possibly add one more closing session after the APC assessment session.

It was also difficult in cases with anxious families to conduct the Beginning Exercise with the low level of structure and directiveness. In some of the first pretreatment sessions, the therapist forgot to give instructions for it, maybe because of inexperience, and because of the unnatural way that some families enter the room. However, many of the difficulties that the therapist experienced in the beginning of data collection were not as profound toward the end of data collection, indicating that training and authenticity goes hand in hand. Authenticity also was a key feature in the intervention style during treatment. It was important that the child was able to express him- or herself, so needs and hopes would be clearer to the parent, and the parent was more motivated to invest in the child. Being an authentic role model for a good enough parent and showing both the child and the parent what kind of response was needed and appropriate, was considered to motivate the parent's investment in the child. However, the therapist needed to do so within the music to prevent overshadowing the parent's opportunity to interact with the child, and to be a facilitator of the parent-child relationship without taking over and interacting only with the child.

### **5.3.1 Limitations of the Study**

As in any research, the results and indications of this study are all influenced by different limitations that need to be reviewed carefully. This study did not include trials with large diversity and large, diverse samples, and this is a limitation for many reasons. A larger sample size would enable more valid normal range calculation and would enable an examination of effect across therapists. However, the study did try to meet the demands of reliability by having a sample of 34 nonclinical families and 18 clinical families. The study sought to strive for reliability by conducting several analyses of reliability including interrater reliability, test-retest reliability, and internal consistency. Both in the interrater reliability and test-retest reliability analyses the comparisons of the two different sets of data should preferably have been done by a third person, but this was unfortunately not possible due to the limited resources of this research project, and the excessive amount of time this would have demanded.

Due to the unanticipated embedded design, the training and scoring of the second rater was not done at the same time-point, because a delay split the second rater's scoring process into two halves, which might have influenced the results of the interrater reliability analysis. Due to poor quality of some video recordings, some families were not included in the interrater reliability analysis. Thus, the randomization of families for the interrater reliability analysis was less powerful, as some families were eliminated from the randomization. All in all, poor video quality was a limitation for the results of this study both in testing the assessment model and in analysing possible effect. Poor video recordings might have made it difficult to



interpret the response type of the parent, or might have made it difficult to see subtle gestural cues and turn-givings. However, as the Autonomy Analysis was primarily based on musical following and leading behaviour, poor video recordings seemed less likely to influence this analysis. Instead poor audio recordings might have influenced all analyses, as it might have been difficult to hear the music properly. It was considered difficult to ensure good video and audio quality without the placement of the video camera influencing the parent-child interaction, especially considering the vulnerability of the clinical families. Using the family care centre's video equipment did aid this problem. But as the music therapy room was moved many times during data collection, a consistent use of video recording was not possible. Furthermore, the researcher was also a clinical music therapist in the study, and this also is considered a limitation for the study, as it increases the possibility of biases of the therapist, potentially influencing rating and calculations of APC scores and of the researcher influencing clinical decisions in music therapy. The researcher tried to diminish this by providing a clear audit trail both in clinical and research aspects of the study.

### **5.3.2 Recommendations for Further Research**

Tendencies in music therapy assessment research seem to be either on reliability or validity while both rarely are represented equally (Daveson et al., 2007; Hald, 2012; Oldfield, 2006a). Future assessment research should try to incorporate both, as validity without reliability and reliability without validity in assessing diagnostic features seem to risk findings without meaning.

Oldfield (2006a) systematically and thoroughly analysed how much the MTDA agreed with ADOS trying to establish both reliability and construct validity, but she did not report correlations between MTDA and ADOS, which would have informed additionally on the psychometric abilities of the MTDA. There seems to be a lack of consistency in music therapy research and the different ways of interpreting correlations between music therapy assessment tools and other tests or questionnaires. General guidelines for testing assessment models in music therapy would be beneficial for the field.

For the APC, there were sufficient systematic instructions, which are counter to the tendency reported in several reviews of music therapy and art therapy assessments (Gantt, 2000; Sabbatella, 2004; Wigram & Wosch, 2007; Wilson & Smith, 2000). However, clearer operational definitions would have improved the reliability and validity of the APC. The researcher acknowledges the complex and challenging task it is to develop a standardized assessment model, but urges that assessment research continue to strive for good psychometric properties, even though it will evidently take decades to achieve.

To establish reliable norms for the APC, future research should strive for a normative sample consisting of at least 50 families randomly recruited at public schools with no inclusion criteria for clinical or nonclinical features. A genuine normative sample, looking at different kinds of profiles or patterns of relationships between the individual scores within the APC, would aid the evaluation of parenting competences and

parent-child interaction further. Looking at differences in response between mothers and father would be relevant in enhancing the reliability of APC.

As explained by Killén (2010), the weakening of neural pathways for neglected children is more crucial the earlier the child experiences neglect. The APC is only designed to assess families with emotionally neglected children as young as 5 years old. It would be relevant to develop a revised version for even younger children and physically abused children so that such an assessment could aid early intervention in families at risk. Minor adjustment for Negative Response score seems necessary, while further correlations with similar observation of interaction tests could enhance the construct validity of the. It also would be relevant to include measurements of child feedback.

In research regarding music therapy with families at risk, it seems highly relevant to explore the process of treatment. One might examine different aspects of improvisations or spontaneous turn-takings/-givings between therapist, parent, and child, or one might explore the experiences of the families and let their voices be heard. Similarly, it would be interesting to let the voices of staff at family care centres be heard in an investigation of the benefits of the APC within a multidisciplinary team.

As stated in Section 1.7.2, the music culture of the families, and how the family usually use music in everyday life might be connected to or have influenced results of the study. This could be examined by in-depth interviews and exploration of the individual music culture in the family. Furthermore, one could investigate the individual formal musical training of participants. With the right data on this issue, one could conduct simple statistical analyses to know more about whether formal musical training is a confounding variable. However, the level of musical training is not considered easy to measure. The researcher did consider including a small set of questions in the questionnaires regarding previous formal musical experience in order to be able to control for formal musical training. But years of experience in formal training or self-taught instrumental mastery does not seem sufficient for measuring the level of formal musical training or competence, since some quickly learn to follow notes and master an instrument while others take longer. This would make correlations with the APC scores difficult. Nevertheless, finding a way to measure formal musical training could aid an examination of its relationship to communicative musicality. Several music therapists argue that musical interaction in improvisation can be understood as analogies to interpersonal interaction outside musical communication (Bruscia, 1987; Pavlicevic, 1997; Smejsters, 2003; Trolldalen, 1997b; Trolldalen & Skåderud, 2007; Wigram et al., 2002). One could interpret the APC as measuring parts of communicative musicality, as it measures nonverbal communication. Music therapists also report how music therapy treatment with families provides opportunities for shared experiences of timing, pulse, rhythm, etc. and affect attunement between parent and child, which should have occurred in early, natural bonding phases (Davies, 2008; Drake, 2008; Salkeld, 2008). Future research that focuses on the connection between communicative musicality and trained musicality would contribute not only to the

field of music therapy but also to related fields of musicology and musical training.

## **5.4 Clinical Applicability**

Assessment of Parenting Competencies seems highly relevant to use when evaluating parental capacity and parent-child interaction possibly also in child custody cases. However, as is true for any standardized test or clinical assessment, the APC must not be used as the sole basis for any clinical decisions regarding management or treatment of parents or families. It is designed to be performed by a trained music therapist and to assist social services or any other institution or system in giving the right kind of assistance to a family in need of help.

### **5.4.1 APC within a Multidisciplinary Team**

Working within a multidisciplinary team of psychologists, social workers and pedagogues, the APC may be of high value. It does not cover areas such as personality traits, social status, structure in everyday life, etc., but with its focus on parent-child interaction, it can guide professionals in these areas in how to approach the family and to build on the strengths of the family. With only two assessment sessions, the APC provides quick and valuable information both to staff and to the family. Time is not only beneficial for society costs, but also for the welfare of the child. The sooner the intervention can begin the sooner the child's development can begin moving in the right direction. With clear video examples, the parent might understand abstract concepts like clear communication better, which might motivate him or her to further work with other professionals, as described by several music therapists working with families (Abad & Williams, 2007; Drake, 2008; Molyneux, 2008)

In an APC report, it is relevant to both report quantitative scores and qualitative descriptors, as also recommended by Deacon and Piercy (2001; see Appendix L and M). Graphs and norms will help readers of the report as will concise descriptions. The key is to make the information relevant and comprehensible to the non-music therapist. Letting the parent read the draft report may produce valuable information, too. This is done partly for ethical reasons, because the parent must be given a chance to protest, agree, or question the content, as such reports might follow the family for a long time. Including the voice of the parent is generally recommended in family assessment (Wolf & Peregoy, 2003). Allowing the parent to read the draft report is considered highly relevant, also because it aids decisions for further treatment, since acknowledgement of problems by the parent is crucial for possible improvement in parenting competencies. According to Stern (1995), letting the parent tell his or her story also may help organize his or her capacity and insight. The parent might express valuable personal experiences, such as explaining how trying on different characters in music therapy was helpful (see Appendix M), as other music therapists also have reported when working with families (Abad & Williams, 2007; Howden, 2008).

An overall strong working alliance with the parent is highly recommended due to the complex aetiology of neglectful parents. Music therapists working with families must address the needs of the parent, even though the child's welfare is at stake. Previous researchers have recognized that the parent is likely to need much support (Killén, 2005; Davies, 2008; Drake, 2008). Building on this, it is relevant even for the evaluations of families with poor APC scores to include descriptions of strengths and potentials and provide positive feedback in the qualitative descriptions. This might help motivate the vulnerable parent as indicated by several music therapists working with families (Davies, 2008; Howden, 2008; Layman et al., 2002a). Certain strengths in the family might only be evident in a music therapy setting and acknowledging these can be highly valuable to other professionals, such as strong musical expressions in spite of subdued and subtle behaviour in everyday life, as Molyneux (2008) also encountered in her assessment of families.

Examples of APC reports provided in Appendix L and M is from the same family prior to and after music therapy treatment. It is the same family as the Clinical Case 3 in the microanalysis interaction. The reports show that a low Turn Analysis Score is evident in both reports, even though some improvement occurs over time in this score. Building on this, is it important to separate the different analyses of parent-child interaction in the qualitative descriptions, also. One might also consider plotting in prior APC assessments to enable a quick overview of progress.

The qualitative descriptors of the Autonomy Analysis provide information about possible attachment behaviour of the child (Ainsworth et al., 1978) such as being unhealthily independent or dependent as shown through tendencies in leading and following in the music. One might consider cautiously interpreting coping strategies of the child based on these descriptions, but it is considered ethically correct to consult both the multidisciplinary team and the parent about these interpretations, since coping strategies for neglected children might not be consistent (Gray & Kempe, 1976; Killén, 2005).

#### **5.4.2 APC in other Music Therapy Settings**

APC might be characterized as measuring parts of communicative musicality and one might consider using the assessment tool more generally to evaluate the interaction between therapist and client in populations other than families at risk. In a revised form, it seems possible to look at effective nonverbal communication in individuals either for measuring effect over time or for evaluating an approach and setting goals for music therapy treatment. APC has sufficient test-retest reliability to measure effect in a pre-post setting, but has not yet been clinically used to assess therapist-client relationship or interaction. The analysis of autonomy relationship builds on the Event Based Analysis as used by Wigram (2004, 2007), the clinical use of which has been documented thoroughly. Furthermore, Holck (2004, 2007) previously has implied the clinical value of analysis of turn transfer between client and therapist. Using the APC within a group music therapy setting seems plausible, but would also require a revised form with scores for each individual participant.

### **5.4.3 Training is Necessary**

The use of APC requires a trained music therapist. He or she must be trained to conduct the assessment protocol and learn to conduct the exercises in an authentic and supportive way without influencing the parent-child interaction. This could be taught through a training video that includes examples of things that can go wrong or dilemmas one might encounter. Performing the different analyses of counting events, analysing turn-givings, and parental response types might call for more intense training, where the trainee should rate videos in a class with others, enabling discussions and multiple perspectives. The researcher has not yet produced either training video or analysis courses but aims to do so prior to any further investigation of the psychometric properties of APC, which would require more music therapists and more raters as well as more families.

## **5.5 Conclusion**

In the first part of the study concerning testing a music therapy assessment tool, the study found through comparison with a non-clinical group and standardized questionnaires that it is possible to measure parenting competencies and parent child interaction by means of the Assessment of Parenting Competencies: A Music Therapy Analysis of Parent-Child Interaction (APC). Parent-child interaction scores of equality of autonomy relationship (Autonomy Score, AS), the effectiveness of communication including turn-taking and turn-giving (Turn Analysis Score; TAS), the type of parental response (Negative Response; NR & Positive Response; PR), and a total score of Parent-Child Interaction in Music (PCIM) were developed. Analysis of interrater reliability, test-retest reliability, and an internal consistency demonstrated acceptable and good reliability, whereas the APC's ability to distinguish between a clinical and a nonclinical group demonstrated good concurrent validity for the APC. Correlations between the APC scores and scores on standardized questionnaires on parenting competencies further showed sufficient construct validity for the APC. By means of microanalysis of interaction descriptions, comparison of clinical and nonclinical groups demonstrated observable and measurable differences in terms of turn organisation, and it enabled an additional turn-giving analysis, which yielded concurrent validity for the APC.

The second part of the study included an experimental design with a randomised controlled trial. In families with children who had experienced emotional neglect, music therapy did have significant effect on parenting competencies and parent-child interaction in terms of level of equality between parent and child in Autonomy Score as measured by APC, effectiveness in turn-taking and turn-giving between parent and child in TAS as measured by APC, and level of Parent-Child Interaction in Music as measured by APC. Music therapy had a significant effect on the parent's ability to talk to his or her child including the parent's level of empathy as measured by Communication score from the Parent-Child Relationship Inventory. Music therapy also significantly decreased how stressful parents perceived their children and in particular, how stressful the

child's mood was to the parents as measured by the Parenting Stress Index. Furthermore, the APC was found to be sensitive enough to detect change in parenting competences and parent-child interaction within a short time period, also when the family only received treatment as usual.

The APC can be characterized as being administered in a consistent and stable manner, and seems to be one step closer to standardization. Adjustments to some sub domains are needed and clearer operational definitions must be made before any further research is conducted. The APC is designed to be performed by a trained music therapist and to assist social services in evaluating parental capacity and parent-child interaction. With only two assessment sessions, the APC may provide quick and valuable information both to staff and to the individual family. Time is considered crucial for the welfare of the child, as well as important for containing costs to society.

## **5.6 Postscript: The Process of Building the Bridge**

In many ways, I have been building this bridge since 2005 when I first started working at a family care centre. Quite soon it became clear to me that these families acted differently and were more at ease in music therapy settings and that I was able to inform both families and colleagues about the emotional and communicative part of the parent-child interaction. Luckily, I was able to persuade Tony Wigram to be the supervisor for my master's thesis, as I knew I would want to examine music therapy assessment. Wigram guided me towards relevant structural ways of measuring including his own assessment tool, Event Based Analysis. This was always done with the most profound respect for my own point of view, as he let me make my own mistakes to experience the feeling of success when correcting them myself as well, I am sure. He valued my clinical experience, even though it was no match for his extensive amount of clinical experience. After finishing my master's thesis and after working clinically for two years, Wigram persuaded me to apply for a PhD scholarship at Aalborg University. I agreed with him that much research needed to be done within the area of working with families at risk. I must admit that I had my doubts whether my skills would be of any value to the internationally acknowledged Doctoral Programme in Music Therapy. I was only 27 at the time with little to show for it. However, soon I was fully engaged and found the research environment very exciting. I wanted to test the APC further and examine effect, and I wanted to compare results with a non-clinical group, as this seemed to be the most logical way to know how healthy parent-child interaction unfolds in a music therapy setting. What I did not anticipate, was how much the non-clinical experience informed me as a clinician. Having experienced how freely and joyfully parent and child can interact in a music therapy setting has underpinned my belief that music therapy really can make a difference for families in need of help. I would recommend to any music therapist regardless of their clinical area to try and work with healthy individuals in order to get a feeling of what one is aiming for and to have a sense of what is a healthy reaction in music therapy.

Many ideas of different ways to measure effect and parenting competencies have been discussed and left behind, and I have found that doing research is often about making decisions based on what you know more than what you would like to know. This will make it easier to trust your decisions and stick to them. When I encountered the unanticipated poor initial results for the APC, it was of course very disappointing. I questioned my clinical experience, as this was one of the bases for examining only the turn-taking. But I knew there was something more there, and I really felt like a phoenix flying from the ashes when the embedded design let me figure out what it was. The additional quantitative analysis of turn-givings was pure joy to conduct, even though it was quite time consuming.

In my doctoral study, I have gained many new skills of quantitative traditions, methods, and complicated statistical analyses. It feels good to have performed all statistical analyses myself and not to have let a trained, professional statistician do it. I am aware that a professional statistician might have produced a more rigorous reporting style and to some degree would have eliminated limitations of the researcher being

therapist, rater, scorer, and analyzer all at the same time. Nevertheless, I now feel confident in continuing to do research with both quantitative and qualitative methods. I have gained much new knowledge of the field of working with families and doing multiple strategy research including testing assessment tools by using a non-clinical sample and by doing microanalysis of interactions.

Writing in my second language was, of course, a challenge for me and writing mathematical English was particularly difficult, most likely due to the newly acquired statistical skills not yet being fully anchored as part of my academic skills. I must admit that I thought I was fairly structured in my writing, but using the style and consistency of APA has opened a new door to me. I like boxed and strict rules, but am still learning and hope to have left much of my quick and imprecise writing behind. Unfortunately, long sentences seem to still be part of my personal writing style.



# English Summary

## Background

Social services are notified when it is suspected that parents neglect their children. The task for social services is then to evaluate parental capacity in order to help the family in the best possible way. The task includes examining the quality of parent-child interaction, examining the parents' resources and potential and trying to strengthen these, and examining the parents' weaknesses and inappropriate interaction patterns and trying to diminish them. These tasks are time-consuming and complex, because there are many factors to consider. To observe the family without influencing the interaction between parent and child is difficult. To make parents feel secure enough to react in their normal way when being observed is difficult. To get a nuanced picture in a short period of time is difficult, and time is an important factor considering the special needs of neglected children.

## Purpose

In trying to aid these difficulties within social services of assessing families at risk, the thesis set out to strengthen, further develop, and test a music therapy assessment tool, Assessment of Parenting Competencies (APC). Music therapists around the globe argue that music therapy can contribute much in assessing strengths and needs in many different client populations. When it comes to evaluating interaction and quality of relationship, it seems that music therapy has some experience in research studies and certainly in clinical practice. Music therapy assessment varies much both within and between different models of treatment and clinical populations. Very few general and standardized models of assessment are taught and used by a majority of music therapists in clinical practice (Wigram & Wosch, 2007). This in itself poses a problem in music therapy research and clinical practice. If music therapy assessment is as valuable as we argue, why is it so difficult for us to provide the necessary levels of reliability and validity to match the assessment tools and tests of other professions like psychology and art therapy? If music therapy assessment should contribute to evaluation of parental capacity and parent-child relationship, a high level of reliability and validity certainly seems relevant, especially when the outcome might influence the decision of whether a child should be taken into custody or not. Only in the last decade has the use of music therapy with families in different settings and client populations increased. There have been a few publications mostly about clinical practice. Research publications, however, are lacking within this new, developing field. For music therapy assessment to be more relevant, it also seems necessary to know more about the possible outcome of music therapy treatment with families.

## Literature

The world of the emotionally neglected child is a sad and anxious place filled with unmet needs and unsafe feelings. These children try to survive by developing coping strategies including specific behavioural

features containing aspects of autonomy. A neglected child can be very dependent or excessively independent both to the parent and the surrounding world. Literature presented in the thesis suggested that this is connected with attachment behaviour, but that autonomy aspects are separated from attachment (Ainsworth et al., 1978; Bowlby, 1980). Attachment is not an easy phenomenon to measure, but autonomy aspects of a relationship seem to be more accessible for assessing parent-child interaction.

In case of emotionally neglected children, it is essential for assessing parenting competencies to understand and acknowledge the multilayered problems, struggles, and inner conflicts in a neglectful parent. The parents may not consciously be neglectful, and they may not know any other way. Their problems may be situation based with a fairly good chance of improving for the better, or the problems may be more severe, emanating from their own childhood (Killén, 2005). This leads to the question: When is parenting non-neglectful and good enough? What are we expecting from parents for them to meet the emotional need of their children? What is a healthy parent-child interaction like, and what does a healthy parental response consist of?

Developmental psychology involves many different theories of good parenting in relation to the emotional/social need of the child. In this study theories of Winnicott (1971) and Stern (1985, 1995, 2000, 2010a) are chosen above others because they have music and play as important features and are commonly used in music therapy literature and research. Music therapists especially elaborated on affect attunement in music therapy, because it is described as a nonverbal communication with parameters such as rhythm, pitch, and dynamics. Conversation analysis and descriptions of nonverbal healthy communication between mothers and infants were also included to build a theory and an understanding of interplay of turns between parent and child as a part of parent-child interaction in music therapy (Holck, 2004; Knapp & Hall, 2009).

The study presented how music therapy with families focus on either special needs children in the context of their families or focus on the parent-child relationship where there is no obvious pathological problem. Regardless of this focus, music therapy with families tend to use common clinical approaches such as providing a positive experience of interacting for the parent and child and providing the possibility of trying on new ways of relating to each other. Both child and parent are vulnerable and need much guidance and modelling. Due to the nonverbal focus, the music therapy setting seems nonthreatening for families and enables creativity and ongoing motivation, and a musical interaction can recover parts of a lost, healthy, early interaction between parent and infant. Both case stories and research findings presented in the study show that music therapy with families has positive results regardless of focus. Parents gain new insight into their own capacity, read their children's emotional states more easily, and seem to have a more positive view of their children. Parents and children learn new, healthier ways of interacting, and some parents use music consciously in raising their children (Oldfield et al., 2008). Research findings and clinical descriptions have

suggested that specific types of parents are present within the music therapy setting that has a focus on the special needs child (Oldfield, 2006a; Alvin & Warwick, 1991).

As presented by the study, general music therapy assessment seems to be evolving from more clinically based to more research based in construction. There are both focus on detailed descriptions and a striving for high levels of reliability and validity. There is much variety in purpose, dependent measures, analysis methods, and clinical populations, but the purpose of diagnostics tends to involve a research-based construction with a few attempts on standardization. This seems appropriate because diagnostics should involve high levels of reliability and validity and be based on objective analysis as much as possible, while trying to be very accurate with deep respect for the client. There seems to be the same development within art therapy, but art therapists have started using nonclinical samples to have a more solid comparison point. The current study seems to be the first to incorporate this within a music therapy setting (Gantt 2000; Sabbatella, 2004; Wigram & Wosch, 2007).

### **Research Questions**

Building on the presented literature, how can music therapy contribute to the assessment of possible child custody cases? Is it possible to minimise subjective interpretations in a music therapy assessment model? What is the effect of working with neglectful parents and their neglected children?

This leads to the following research questions:

- 1) Can music therapy assessment measure parenting competences in cases of emotionally neglected children?
  - a. Can the APC consistently and reliably measure parent-child interaction including autonomy relationship, interplay with turns between parent and child, and parental response type?
  - b. Do clinical and nonclinical groups demonstrate different parent-child interaction as measured by the APC?
  - c. Can the APC differentiate between clinical and nonclinical groups as clearly and consistently as standardized psychological tests used for this purpose?
- 2) Can music therapy treatment with a parent and his/her emotionally neglected child improve or develop better parenting competences over time?
  - a. Can APC measure possible change over time for families receiving music therapy and for families receiving regular treatment?
  - b. Can music therapy treatment improve parenting competencies as measured by standardized psychological tests?

## **Design and Method**

The epistemological and ontological rationale behind the study rested on pragmatism. Pragmatism has its focus on the empirical and practical consequences of research ideas. It approaches research method, and concept selection according to need, and embraces unforeseen factors.

Testing the reliability and validity of a music therapy assessment tool using clinical and nonclinical samples and looking at possible outcome over time with treatment and control groups, the study mainly used a fixed design with quantitative data and statistical analysis (Robson, 2011). However, because one preliminary quantitative analysis of parent-child interaction in the APC showed unexpected poor concurrent validity, a secondary embedded flexible design with descriptive interaction analysis was conducted. This included going into depth and examining the complexity of parenting competencies and differences between clinical and nonclinical families in music therapy assessment trying to adjust the following continuing quantitative analysis. The researcher thus combined multiple research strategies by having an embedded flexible and qualitative phase nested into an overall pragmatic sequential design with the fixed and quantitative design as the main feature. The fixed design was a between- and within-groups design to test the reliability and validity of the APC in a clinical group of 18 parents with neglected children and a nonclinical group of 34 parents with non-neglected children. To examine concurrent validity and construct validity, two standardized questionnaires of parent-child interaction and level of parental stress were used to correlate with developed APC scores.

The study also included an experimental design with a randomized controlled trial only applied to the clinical group. In the experimental design there were two conditions: a music therapy treatment condition ( $n = 9$ ) and a control condition ( $n = 9$ ) consisting of treatment as usual. Furthermore, the families were randomly assigned to two music therapists. The study sought to examine the effect of music therapy as measured by APC scores on the equality in autonomy relationship, effectiveness of turn-taking and turn-giving, and level of parental response type. Furthermore, the study looked at the effect of music therapy as measured by subscales and total scales of the two standardized questionnaires that were used to examine the construct validity of APC: the Parent-Child Relationship Inventory and Parenting Stress Index.

## **Data Collection and Analysis**

Subjects in the study were 53 families, each with at least one child, aged 5-12. Parents with neglected children were recruited in collaboration with a family care centre in Denmark. The families were recruited at the beginning of their stay at the family care centre as a part of their initial assessment period. It was considered very important to ensure the welfare of all children and adults participating in the study. The clinical families were considered to be in a fragile state, as they had been referred to a family care centre. Therefore, they were treated with a high degree of respect and informed as much as possible without overwhelming them with too much or too complex information.

Parents with non-neglected children were recruited at public schools in four different cities of different sizes in Denmark. The head of each school gave permission for the researcher to ask families for participation.

APC consisted of a specific assessment protocol where the video recorded exercises were designed and chosen primarily in order to be able to investigate the autonomy relationship and the communication between parent and child, and to evaluate the parent's response to the child. The APC also consisted of a 3-step analysis derived from adapted assessment models and microanalysis in music therapy (Bruscia 1987; Holck, 2007; Wigram, 2007). The APC was further based on relevant literature and research on parental response types (Alvin & Warwick, 1991; Crittenden, 1981; Main, 2000; Oldfield, 2006b; Polansky et al., 1996; Polansky et al., 1981; Stern 1985; Trolldalen, 1997a; Winnicott, 1971). The study focused on producing systematic instructions and clear, operational definitions for the APC.

The ten music therapy sessions in the experimental design took place once a week. They lasted around 45-50 minutes, and they were video-recorded. Based on presented literature and clinical experience, the researcher provided a treatment guide with descriptions such as; The Role of the Music Therapist, Goals, Working Alliance, and Methods and Techniques. Statistical analyses in testing the psychometric properties of APC consisted of interrater reliability, test-retests reliability, internal consistency and correlation with standardized questionnaires. A second rater scored 30 % of all analysed data, and the two identical APC assessment sessions one week apart were compared. In the experimental design the researcher explored stated statistical hypotheses for possible positive effects of music therapy using a between- and within-groups design and analysis of simple effects.

## **Results**

The study found that it was possible to measure parenting competencies and parent child interaction by means of a music therapy assessment. The music therapy assessment provided consistent, valid, and reliable measures of parenting competencies and parent-child interaction, including the equality of autonomy relationship (Autonomy Score, AS) between parent and child, the effectiveness of turn-taking and turn-giving (Turn Analysis Score; TAS) between parent and child, the type of parental response to the needs of the child (Negative Response; NR & Positive Response; PR), and a total score of Parent-Child Interaction in Music (PCIM).

Results showed that APC had a high level of reliability and was administered and scored in a consistent and stable manner. Interrater reliability for APC scores ranged from .73 to .89; Test-retest reliability ranged from .70 to .89. Internal consistency had an alpha level of .93. Correlations between APC scores ranged from .57 to .91, whereas APCs ability to distinguish between a clinical and a nonclinical group demonstrated the

concurrent validity of the APC. Correlations between APC scores and scores on standardized questionnaires on parenting competencies furthermore showed construct validity for APC.

Clinical and nonclinical groups demonstrated observable and measurable differences in terms of types of behaviour and interaction-patterns. Due to poor preliminary results for one analysis in APC, the study included an in-depth microanalysis of interaction that created descriptions of differences between one nonclinical family and three clinical families. This resulted in an additional turn-giving analysis, which the researcher did not anticipate at the beginning of the study.

For families with children who had experienced emotional neglect, music therapy had significant effect on parenting competencies and parent-child interaction in terms of level of equality between parent and child in Autonomy Score as measured by APC, effectiveness in turn-taking and turn-giving between parent and child in TAS as measured by APC, and level of Parent-Child Interaction in Music as measured by APC. Music therapy had a significant effect on the parent's ability to talk to his or her child including the parent's level of empathy as measured by the Communication score from the Parent-Child Relationship Inventory. Music therapy did have significant effect on how stressful parents perceived their children and particular how stressful the child's mood was to the parent as measured by the PSI.

For families, who did not receive music therapy, the APC was able to detect significant change in the type of response the parent gave the child after only four months. This indicates that APC is sensitive enough to detect change in parenting competences and parent-child interaction within a short time period also when music therapy is not a part of the family's treatment.

## **Discussion**

The study found that the assessment tool was administered in a consistent and stable manner with standard procedures and good psychometric properties. This moves the APC one step closer to standardization. Since the researcher started her study in 2008, there has been an increasing interest in developing standardized music therapy assessment models with high levels of reliability and validity (Daveson et al., 2007; Hald, 2012; Storm, 2012). Still, there is no other published research on music therapy assessment that compared results with those of a nonclinical group or with test-retest reliability, which is highly necessary if the assessment tool is to be used in music therapy outcome studies.

It seems that music therapy assessment in this form of only two assessment sessions might have some valuable cost benefits for social services as it might help reduce expenses of evaluating parenting competences. APC may contribute to the assessment process by providing quick and valuable information to a multidisciplinary team in situations where it can be difficult to obtain in-depth detail on the parent-child interaction within a short period of time (Iwanic, 1995). The APC provides a means for evaluating structured observations in a manner that the family may enjoy and where joint play is the main focus of the activities.

The results of positive effect of music therapy support earlier research where parents tended to view their child in a more positive light and were able to read the emotional state of the child more easily (Abad et al., 2008; Oldfield, 2006a; Trolldalen, 1997a; Müller & Warwick, 1993).

### Limitations

This study did not include trials with large, diverse samples, and this is a limitation for many reasons. A larger sample size would enable more valid normal range calculation and would enable an examination of effect across therapists

Both in the interrater reliability and test-retest reliability analyses the comparisons of the two different sets of data should preferably have been done by a third person, but this was unfortunately not possible due to the limited resources of this research project and the excessive amount of time this would have demanded.

Poor video quality was a limitation for the results of this study both in testing the assessment model and in analysing possible effect. Poor video recordings might have made it difficult to interpret the response type of the parent or might have made it difficult to see subtle gestural cues and turn-givings. However, as the Autonomy Analysis was based on musical following and leading behaviour, and as the poor video recordings did not influence the audio recording, poor video recording seemed less likely to influence this analysis

### Recommendations for Further Research

There seems to a lack of consistency in music therapy research and the different ways of interpreting correlations between music therapy assessment tools and other tests or questionnaires. General guidelines for testing assessment models in music therapy would be beneficial for the field.

For APC, there were sufficient systematic instructions, which are counter to the tendency reported in several reviews of music therapy and art therapy assessments (Gantt, 2000; Sabbatella, 2004; Wigram & Wosch, 2007; Wilson & Smith, 2000). However, clearer operational definitions would have improved the reliability and validity of the APC.

To establish reliable norms for the APC, future research should strive for a normative sample consisting of at least 50 families randomly recruited at public schools with no inclusion criteria for clinical or nonclinical features. A genuine normative sample looking at different kinds of profiles or patterns of relationships between the individual scores within the APC would aid the evaluation of parenting competences and parent-child interaction further. Looking at differences in response between mothers and father would be relevant in enhancing the reliability of APC.

In research regarding music therapy with families at risk, it seems highly relevant to explore the process of treatment. One might examine different aspects of improvisations or spontaneous turn-takings/-givings between therapist, parent, and child or one might explore the experiences of the families and let their voices

be heard. Similarly it would be interesting to let the voices of staff at family care centre be heard in an examination of the benefits of APC within a multidisciplinary team.

### Clinical Application

The APC is designed to be performed by a trained music therapist and to assist social services in evaluating parental capacity and parent-child interaction. Working within a multidisciplinary team of a psychologist, social workers, and pedagogues the APC may be of high value. It does not cover areas such as personality traits, social status, structure in everyday life, etc., but with its focus on parent-child interaction it can guide professionals in these areas as to how to approach the family and to build on the strengths of the family. In an APC report it is relevant to both report quantitative scores and qualitative descriptors. Graphs and norms will help readers of the report as will concise descriptions. The key is to make the information relevant and comprehensible to the non-music therapist. An overall strong working alliance with the parent is highly recommended due to the complex aetiology of neglectful parents. Music therapists working with families must address the needs of the parent, even though the child's welfare is at stake

### Conclusion

In the first part of the study concerning testing a music therapy assessment tool, the study found through comparison with a non-clinical group and standardized questionnaires that it is possible to measure parenting competencies and parent child interaction by means of the Assessment of Parenting Competencies: A Music Therapy Analysis of Parent-Child Interaction (APC).

Analysis of interrater reliability, test-retest reliability, and an internal consistency demonstrated acceptable and good reliability, whereas APCs ability to distinguish between a clinical and a nonclinical group demonstrated good concurrent validity for the APC. Correlations between APC scores and scores on standardized questionnaires on parenting competencies further showed sufficient construct validity for the APC. By means of microanalysis of interaction descriptions, comparison of clinical and nonclinical groups demonstrated observable and measurable differences in terms of turn organisation and enabled an additional turn-giving analysis. The second part of the study included an experimental design with a randomised controlled trial. In families with children who had experienced emotional neglect, music therapy did have significant effect on parenting competencies and parent-child interaction including equality in autonomy relationship, effective communication and parent-child interaction in music as measured by APC.

Furthermore, significant effect was in Communication score from Parent-Child Relationship Inventory. Music therapy also significantly decreased how stressful parents perceived their children and in particular the mood of the child. APC was found to be sensitive enough to detect change in parenting competences and parent-child interaction within a short time period, also when the family only received treatment as usual.



# Dansk Resume

## Baggrund

Sociale myndigheder får besked, når der er mistanke om, at forældre forsømmer deres børn. Kommunens opgave er derefter at evaluere forældrenes kapacitet med henblik på at hjælpe familien på den bedst mulige måde. Opgaven omfatter bl.a. undersøgelse af kvaliteten af forældre-barn interaktion, at klargøre forældrenes ressourcer og potentiale og forsøge at styrke disse samt at undersøge forældrenes svagheder og uhensigtsmæssige interaktionsmønstre og forsøge at mindske dem. Disse opgaver er tidskrævende og komplekse, fordi der er mange faktorer at overveje. At observere familien uden at påvirke samspillet mellem forælder og barn er vanskeligt. At sørge for at forældrene føler sig trygge nok til at reagere på normal vis under observation er vanskeligt. At få et nuanceret billede på kort tid er vanskeligt, og tiden er en vigtig faktor for det omsorgssvigtede barns særlige behov.

## Formål

I forsøget på at mindske disse vanskeligheder er der i afhandlingen fokus på at styrke, videreudvikle og afprøve en musikterapeutisk assessment model; Assessment of Parenting Competencies (APC). Internationalt hævder musikterapeuter, at musikterapi assessment har værdifulde bidrag i vurderingen af flere forskellige klientgrupper. Musikterapeutisk forskning samt klinisk praksis har en del erfaring i assessment af interaktion og kvaliteten af relationen, men varierer meget både i valg af modeller, fokus og kliniske populationer. Der bliver undervist i meget få generelle og standardiserede musikterapeutiske modeller, og dette i sig selv udgør et problem for musikterapiforskning og klinisk praksis (Wigram & Wosch, 2007). Hvis musikterapi assessment er så værdifuldt, som vi argumenterer for, hvorfor er det så svært for os at fremskaffe den fornødne grad af pålidelighed og validitet, der kan matche assessment og tests i andre tværfaglige professioner såsom psykologi og kunstterapi? En høj grad af pålidelighed og validitet synes at være yderst relevant, hvis musikterapi assessment skal bidrage til evaluering af forældrekompetence og forældre-barn relation, især når resultatet kan få indflydelse på beslutningen om, hvorvidt et barn skal anbringes eller ej. I det sidste årti er interessen omkring musikterapi med familier vokset. Der har været et par publikationer mest om klinisk praksis. Forskningspublikationer er dog en mangelvare inden for dette nye felt i musikterapien. Det synes desuden at være nødvendigt at vide mere om effekten af musikterapi med udsatte familier også for at øge relevansen for musikterapi assessment af familier.

## Litteratur

Det omsorgssvigtede barns verden er et trist og ængsteligt sted fyldt med umødte behov og usikkerhed. Disse børn forsøger at overleve ved at udvikle mestrings-strategier, herunder særlige adfærdsmæssige træk, som indeholder aspekter af autonomi. Et forsømt barn kan være meget afhængigt eller uforholdsmæssigt

uafhængig i forhold til forældre og den omgivende verden. Teorier præsenteret i afhandlingen indikerer, at dette er forbundet med tilknytningsadfærd, men at autonomi aspekter er adskilt fra tilknytningsadfærd (Ainsworth et al., 1976; Bowlby, 1980). Tilknytningsadfærd er ikke et let fænomen at måle, men autonomi aspekter i en relation synes at være mere tilgængelig i assessment af forældre-barn interaktion.

I arbejdet med omsorgssvigtede børn er det afgørende for assessment af forældrekompetencer at forstå og anerkende kampe og indre konflikter i disse forældre. Forældrene er højst sandsynligt ikke intentionelt omsorgssvigtende, men ved ofte ikke bedre. Deres problemer kan være situationsbaserede med rimelige gode chancer for at forbedre sig, men problemerne kan også være mere alvorlige og stamme fra deres egen barndom (Killén, 2005). Dette fører til spørgsmålet: Hvornår er omsorg godt nok? Hvad er det, vi forventer fra forældre, når de skal opfylde deres børns følelsesmæssige behov? Hvad er en sund forældre-barn interaktion, og hvad består en sund forældrerespons af?

Udviklingspsykologi involverer mange forskellige teorier om ”god nok” omsorg i forhold til barnets følelsesmæssige og sociale behov. I denne undersøgelse er Winnicott (1971) og Stern (1985, 1995, 2000, 2010) og deres teorier udvalgt frem for andre, fordi de inkluderer musik og leg som vigtige funktioner, og fordi disse er almindeligt anvendt i musikterapi litteratur og forskning. Musikterapeuter benytter sig i høj grad af begrebet affect attunement, fordi det er beskrevet som en nonverbal kommunikation med parametre som rytme, tonehøjde og dynamik. Konversationsanalyse og beskrivelser af nonverbal sund kommunikation mellem mødre og spædbørn er og så inddraget i afhandlingen for at opbygge en forståelse af tur-samspil mellem forælder og barn som en del af forældre-barn interaktion i musikterapi (Holck, 2004; Knapp & Hall, 2009).

Undersøgelsen præsenterer, hvordan litteratur om musikterapi med familier enten har fokus på børn med særlige behov i relation til deres familier eller har fokus på forældre-barn relation, hvor der ikke er noget oplagt patologisk problem. Musikterapi med familier har uanset dette fokus tendens til at bruge kliniske tilgange, såsom at give en positiv oplevelse af interaktion for forælder og barn samt at give familien mulighed for at prøve nye måder at forholde sig til hinanden på. Både barn og forældre er sårbare og har brug for megen vejledning og rollemodellering. På grund af det nonverbale fokus virker musikterapien afvæbnende overfor familierne og muliggør derved kreativitet og motivation. En musikalsk interaktion kan genvinde dele af en tabt tidlig interaktion mellem forældre og spædbarn. Både case historier og forskningsresultater præsenteret i afhandlingen viser, at musikterapi med familier har positive resultater. Forældrene får ny indsigt i deres egen kapacitet, læser deres børns følelsesmæssige tilstande lettere og synes at have et mere positivt syn på deres børn. Forældre og børn lærer nye, sundere måder at interagere på, og nogle forældre bruger også musikken bevidst i opdragelsen af deres børn (Oldfield et al., 2008).

Musikterapi assessment synes generelt at udvikle sig fra at være mere klinisk baseret til at være mere forskningsbaseret. Der er både fokus på detaljerede beskrivelser og en stræben efter høj grad af pålidelighed og validitet. Variationen er stor i forhold til analysemetoder og kliniske populationer, og særligt i diagnostisk

assessment er der tendens til at involvere en forskningsbaseret konstruktion med få forsøg på at udvikle et standardiseret redskab.

### **Forskningsspørgsmål**

Den præsenterede litteratur resulterer i en undren omkring, hvordan musikterapi kan bidrage til komplekse anbringelsessager. Er det muligt at minimere subjektive fortolkninger i en musikterapeutisk assessment model? Hvad er effekten af at arbejde musikterapeutisk med omsorgssvigtende forældre og deres børn?

Følgende spørgsmål blev sammensat;

- 1) Kan musikterapi assessment måle forældrenes kompetencer i tilfælde af omsorgssvigtede børn?
  - a. Kan APC konsekvent og pålideligt måle forældre-barn interaktion, herunder autonomiforhold, tur-samspil mellem forælder og barn, og forældre respons?
  - b. Kan kliniske og ikke-kliniske grupper demonstrere forskellige forældre-barn interaktioner målt gennem APC?
  - c. Kan APC klart og konsekvent skelne mellem kliniske og ikke-kliniske grupper ligesom standardiserede psykologiske tests anvendt til dette formål?
- 2) Kan musikterapi behandling med en omsorgssvigtende forælder og hans / hendes barn, forbedre eller udvikle bedre forældrekompetencer over tid?
  - a. Kan APC måle forandring over tid for familien, der har modtaget musikterapi og for familier, der modtager standard behandling?
  - b. Kan musikterapi behandling øge forældrekompetencer målt gennem standardiserede psykologiske tests?

### **Design og metode**

Det epistemologiske og ontologiske rationale bag undersøgelsen hviler på pragmatisme. Pragmatisme har sit fokus på de empiriske og praktiske konsekvenser af forskningens ideer, tilgår forskningsmetode og konceptvalg efter behov og kan håndtere uforudsete faktorer.

Test af pålidelighed og validitet af musikterapi assessment redskabet APC blev analyseret ved hjælp af kliniske og ikke-kliniske grupper og indeholdt desuden et effektstudie med en eksperimentel gruppe og en kontrol gruppe. Herved brugte undersøgelsen primært et fixed design med kvantitative data og statistisk analyse (Robson, 2011). Men da de første kvantitative analyser af forældre-barn tur-samspil viste uventet dårlig parallel (concurrent) validitet, blev et sekundært fleksibelt design indlejret med beskrivende interaktionsanalyse. Dette omfattede en dybdegående undersøgelse af forskelle mellem kliniske og ikke-kliniske familier i musikterapi assessment, hvilket resulterede i en justeret turgivningsanalyse, og den kvantitative analyse kunne fortsætte. Forskeren kombinerede således flere forskningsstrategier ved at have en

'embedded' fleksibel og kvalitativ fase indlejret i et overordnet pragmatisk sekventiel design med et fixed og kvantitativt design. Between og within-groups design blev brugt til at teste pålideligheden af APC med en klinisk gruppe på 18 forældre med omsorgssvigtede børn og en ikke-kliniske gruppe med 34 forældre med ikke-omsorgssvigtede børn. For at undersøge parallel (concurrent) validitet og konstruktionsvaliditet blev to standardiserede spørgeskemaer om forældre-barn relation og stress relateret til forældreskab korreleret med APC scores.

Undersøgelsen indeholdt også et eksperimentelt design med et randomiseret kontrolleret forsøg kun foretaget med den kliniske gruppe. Det eksperimentelle design indeholdt to grupper herunder en musikterapi behandlingsgruppe (n = 9) og en kontrolgruppe (n = 9), der modtog standard familiebehandling.

Undersøgelsen havde til formål at undersøge effekten af musikterapi som målt af APC scores. Herunder ligeværdighed i autonomi forhold, effektiviteten af turtagning og turgivning samt niveauet for forældrenes respons type. Desuden inddrog undersøgelsen også scores fra Parent-Child Relationship Inventory og Parenting Stress Index i måling af effekten af musikterapi.

### **Dataindsamling og analyse**

Undersøgelsens deltagere bestod af 53 familier med mindst ét barn hver i alderen 5-12. Forældre med omsorgssvigtede børn blev rekrutteret i samarbejde med en familieinstitution i Danmark. Familierne blev rekrutteret som en integreret del af indskrivningsperioden på familieinstitutionen. Forskeren anså det for meget vigtigt at sikre velfærd for alle børn og voksne, der deltog i undersøgelsen. De kliniske familier blev anset for at være i en særlig skrøbelig situation, og derfor blev de behandlet med en høj grad af respekt og blev informeret så meget som muligt om undersøgelsen uden at blive overbelastet med for meget eller for komplekse oplysninger. Forældre med ikke-omsorgssvigtede børn blev rekrutteret på offentlige folkeskoler i fire forskellige byer i Danmark. Skoleinspektøren for den enkelte skole gav sin tilladelse til, at forskeren kunne invitere familierne til at deltage.

APC består af en specifik assessment protokol, hvor videooptagede øvelser er designet og udvalgt med henblik på at kunne undersøge autonomiforholdet og tur-sampil mellem forælder og barn samt at evaluere forældrenes respons på barnets behov. APC består også af en 3-trins analyse, der bygger på assessment modeller og mikroanalyse fra musikterapi litteraturen (Bruscia 1987; Holck, 2007; Wigram, 2007). APC er yderligere baseret på relevant litteratur og forskning om forældrerespons typer (Alvin & Warwick, 1991; Crittenden, 1981; Main, 2000; Oldfield, 2006a; Polansky et al., 1996; Polansky et al., 1981; Stern 1985, 2000; Trollalden, 1997a; Winnicott, 1971). Undersøgelsen efterstræbte at producere systematiske instruktioner og klare operationelle definitioner for APC.

De ti musikterapi sessioner i det eksperimentelle design fandt sted en gang om ugen. De varede omkring 45-50 minutter, og de blev videooptaget. Forskeren fremlagde en behandlingsguide baseret på klinisk musikterapilitteratur og egen klinisk erfaring, der indeholdt emner som musikterapeutens rolle, mål,

arbejdsalliance, metoder og teknikker. De statistiske analyser af APCs psykometriske egenskaber bestod af interrater pålidelighed, test-retest pålidelighed, APCs indre sammenhæng samt korrelationer med standardiserede spørgeskemaer. En udefrakommende optrænet musikterapeut scorede 30% af alle analyserede data, og de to identiske APC assessment sessioner blev sammenlignet. I det eksperimentelle design arbejdede forskeren ud fra angivne statistiske hypoteser omkring mulig positiv effekt af musikterapi ved hjælp af et between- og within-groups design samt analyse af simpel effekt.

## **Resultater**

Undersøgelsen konstaterede, at det var muligt at måle forældrekompetencer og forældre-barn interaktion ved hjælp af en musikterapeutisk assessment på en konsekvent, valid og pålidelig måde. Dette indebar ligeværdighed i autonomiforholdet mellem forælder og barn (Autonomi Score, AS), effektiviteten af turtagning og turgivning mellem forælder og barn (Turn Analyse Score, TAS), typen af forældrenes respons barnets behov (negativ respons; NR & positiv respons, PR); og en samlet score på forældre-barn interaktion i musik (PCIM).

Interrater pålidelighed for APC scores varierede fra 0,73 til 0,89; Test-retest reliabilitet varierede fra 0,70 til 0,89. Den indre sammenhæng havde et alpha niveau på 0,93. Korrelationer mellem APC scores varierede fra 0,57 til 0,91, mens APCs evne til at skelne mellem en klinisk og en ikke-kliniske grupper samtidig demonstrerede parallel (concurrent) validitet. Korrelationer mellem APC scores og scores fra standardiserede spørgeskemaer om forældrekompetencer viste desuden konstruktionsvaliditet for APC.

Mikroanalyse af kliniske og ikke-kliniske grupper demonstrerede observerbare og målbare forskelle i adfærd og interaktionsmønstre. Dette resulterede i en ekstra turgivningsanalyse, som forskeren ikke havde forudset i begyndelsen af studiet.

For familier med omsorgssvigtede børn havde musikterapi signifikant effekt på forældrekompetencer og forældre-barn interaktion i form af grad af ligeværdighed mellem forælder og barn målt af APC, effektivitet i turtagning og turgivning mellem forælder og barn målt ved APC, og graden af sund forældre-barn interaktion i musik målt af APC. Musikterapi havde en betydelig indflydelse på forældrenes evne til at tale til sit barn herunder en overordnet grad af empati målt gennem Communication score fra Parent-Child Relationship Inventory. Musikterapi havde også signifikant indflydelse på, hvor stressende forældre opfattede deres børn, og særlig hvor stressende barnets humør blev opfattet af forælderen målt gennem Parenting Stress Index.

Efter kun fire måneder var APC i stand til at måle signifikant ændring af forældrerestypen hos de familier, som ikke modtog musikterapi. Dette indikerer, at APC er følsom nok til at opdage ændringer i forældrekompetencer, også når musikterapi ikke er en del af familiens behandlingstilbud.

## **Diskussion**

Undersøgelsen konstaterede, at assessment redskabet blev administreret på en konsekvent og stabil måde med faste procedurer og gode psykometriske egenskaber. Herved er APC et skridt tættere på standardisering. Siden forskeren startede sin undersøgelse i 2008, har der været en stigende interesse for at udvikle standardiserede musikterapi assessment modeller med en høj grad af pålidelighed og validitet (Daveson et al, 2007; Hald, 2012; Storm, 2012). Alligevel er der ingen anden publiceret forskning, der sammenligner resultater med ikke-kliniske grupper eller bruger test-retest pålidelighedsanalyse. Test-retest synes yderst relevant, hvis assessment redskabet skal bruges i effektstudier med et pre-post design.

Det lader til, at musikterapi assessment i denne form med kun to sessioner kan have værdifulde omkostningsmæssige fordele for de sociale myndigheder ved at medvirke til at reducere udgifterne til evaluering af forældrekompetencer. APC kan bidrage til evalueringsprocessen ved at levere hurtige og værdifulde oplysninger til et tværfagligt team i situationer, hvor det kan være vanskeligt at opnå dybdegående information om forældre-barn relationen også inden for en kort tidsperiode (Iwanic, 1995). APC muliggør analyse af strukturerede observationer, hvor familien samtidig kan nyde samværet, og hvor fælles leg er det primære fokus i aktiviteterne.

Resultaterne viste positiv effekt for musikterapi med udsatte familier, og dette understøtter tidligere forskning, hvor forældrene viste en tendens til at se deres barn i et mere positivt lys og var i stand til bedre at læse barnet følelsesmæssige tilstand (Abad et al, 2008; Oldfield, 2006a; Trolldalen, 1997a; Müller & Warwick, 1993).

### Begrænsninger

Denne undersøgelse omfattede ikke forsøg med store, forskelligartede samples, og dette er en begrænsning af mange årsager. En større sample vil give mere valide normer og muliggøre en undersøgelse af musikterapiens effekt på tværs af terapeuter.

I både interrater pålidelighedsanalysen og test-retest pålidelighedsanalysen burde sammenligninger af de to forskellige sæt data have været udført af en tredje person, men dette var desværre ikke muligt på grund af de begrænsede ressourcer i dette forskningsprojekt samt den overdrevne mængde af tid, dette ville have krævet. Dårlig videokvalitet var en begrænsning for resultaterne af denne undersøgelse både i testning af assessment redskabet og i effektstudiet. Dårlige videooptagelser kunne have gjort det vanskeligere at fortolke forældre responstyper eller kunne have gjort det vanskeligere at se subtile gestikulerende turtagninger og turgivninger.

### Anbefalinger til yderligere forskning

Der synes i musikterapiforskning at mangle en konsekvent metode til at udføre korrelationsanalyser mellem musikterapi assessment modeller og andre standardiserede test eller spørgeskemaer. Overordnede retningslinjer for testning og evaluering af assessment i musikterapi ville være gavnlig for feltet.

For APC var der tilstrækkelig systematiske instruktioner, hvilket er i modstrid med den generelle tendens rapporteret af flere anmeldelser af musikterapi og kunstterapi assessment (Gantt, 2000; Sabbatella, 2004; Wigram & Wosch, 2007; Wilson & Smith, 2000). Dog ville klarere operationelle definitioner have forbedret pålideligheden for APC.

I beregning af pålidelige normer for APC bør den fremtidige forskning stræbe efter en normativ sample bestående af mindst 50 tilfældigt rekrutterede familier på offentlige skoler uden inklusionskriterier for klinisk eller ikke-kliniske aspekter. En rigtig normativ sample ville muliggøre undersøgelse af forskellige typer af APC profiler samt muliggøre et fokus på kønsforskelle i forældrekompetencerne i musikterapi.

Forskning vedrørende musikterapi med udsatte familier med fokus på processen for behandlingen ville være yderst relevant. Man kunne undersøge forskellige aspekter af improvisationer eller spontan turtagning/givings mellem terapeut, forældre og barnet. Udforskning af familiernes oplevelser ville også være et værdifuldt bidrag til feltet. Tilsvarende ville det være interessant at interviewe familiebehandlere i en undersøgelse af tværfaglige fordele ved APC.

### Klinisk anvendelse

APC er designet til at blive udført af en optrænet musikterapeut og til at hjælpe sociale myndigheder med at evaluere forældrekompetencer og forældre-barn interaktion. I et tværfagligt team med psykologer, socialrådgivere og specialpædagoger kan APC være værdifuld. APC dækker ikke områder som test af personlighedstræk, social status, struktur i hverdagen osv., men med sit fokus på forældre-barn interaktion kan det guide fagfolk i, hvordan man bør henvende sig til familien og opbygge familiens potentialer og stærke sider.

I en APC rapport er det relevant både at angive de kvantitative scores og de kvalitative beskrivelser. Grafer, normer og kortfattede beskrivelser vil hjælpe modtageren. Nøglen til en god rapport er at gøre de mest relevante oplysninger forståelige for andre end musikterapeuter. Det anbefales at danne en stærk arbejdsalliance med forælderen på grund af omsorgssvigtende forældres komplekse ætologi.

Musikterapeuter, der arbejder med familier, skal også imødekomme forældrenes behov, selvom barnets velfærd er på spil.

### Konklusion

I den første del af undersøgelsen vedrørende test af musikterapeutisk assessment, konstaterede undersøgelsen gennem sammenligning med en ikke-klinisk gruppe og standardiserede spørgeskemaer, at det er muligt at måle forældrekompetencer og forældre-barn interaktion ved hjælp af Assessment of Parenting Competencies: A Music Therapy Analysis of Parent-Child Interaction. (APC).

Analyse af interrater pålidelighed, test-retest pålidelighed, og APCs indre sammenhæng demonstrerede acceptabel og god pålidelighed, mens APCs evne til at skelne mellem en klinisk og en ikke-kliniske gruppe

vist gode parallel (concurrent) validitet for APC. Korrelationer mellem APC scores og scores fra standardiserede spørgeskemaer om forældrekompetencer viste desuden tilstrækkeligt konstruktionsvaliditet for APC. Ved hjælp af mikroanalyse og interaktionsbeskrivelser viste en sammenligning af kliniske og ikke-kliniske grupper observerbare og målbare forskelle i forhold til tur-samspil i musikterapi. Den anden del af undersøgelsen omfattede et eksperimentelt design med et randomiseret kontrolleret forsøg. For familier med omsorgssvigtede børn havde musikterapi signifikant effekt på forældrekompetencer og forældre-barn interaktion i form af grad af ligeværdighed mellem forælder og barn målt af APC, effektivitet i turtagning og turgivning mellem forælder og barn målt ved APC, og graden af sund forældre-barn interaktion i musik målt af APC. Ydermere viste undersøgelsen, at musikterapi havde en positiv effekt på forældrenes evne til at tale til sit barn målt gennem Parent-Child Relationship Inventory. Musikterapi havde også signifikant indflydelse på, hvor stressende forældre opfattede deres børn og børnenes humør målt gennem Parenting Stress Index. APC blev anset for at være sensitiv nok til at afsløre ændringer i forældrekompetencer og forældre-barn-interaktion inden for en kort tidsperiode, også når familien ikke modtog musikterapi som en del af deres behandling.



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## Appendix A: Overview of Family Therapy Traditions

<b>Name</b>	<b>Concepts in focus</b>	<b>Goals</b>	<b>Treatment process</b>	<b>Techniques</b>
<b>Alderman family therapy</b>	All behaviour is purposive and interactive. Both individual and social systems are holistic. From the basic family system individuals learn how to belong and interact. Problems result from lack of acceptance within the family.	Promote changes Promote understanding and insight Enhance skills such as <ul style="list-style-type: none"> <li>- Communication</li> <li>- Problem solving</li> <li>- Conflict resolution</li> </ul> Increase social interest and positive connections	Four phases: Access Assessment Awareness Anchoring	Encouragement Confrontation Home work Teaching limit setting Communication guidelines
<b>Bowenian family therapy</b>	Sees family as emotional interdependent unit Behavioural patterns create over time and are frequently repeated across generations and outside settings.	Reduce anxiety Promote interdependency Reduce symptomatic behaviour Increase basic level of differentiation Resolve cut-offs	Process is bound to anxiety reduction and self-integration Therapist must relate meaningfully to family without being emotionally entangled.	Genograms Teach emotional system Factual questions Demonstrate differentiation Talk to therapist Neutral therapist
<b>Satir therapy</b>	Family is viewed as a holistic system where roles influence rules, communication processes, and responses to stress. Individual self-esteem is essential to family functioning as a whole.	Increase maturity Promote hope Strengthen skills of coping and communication Promote interdependency Promote self-esteem	Establish trust Awareness through experience Awareness is essential to change both individually and as part of the family	Family maps Role play Humour Creative activities Reframing
<b>Experiential family therapy</b>	Non-theoretical and practical approach. Experiencing and expressing emotions here now promotes natural growth in families. Focus is on active discussion of impulses and symbols within family.	Increase perception of belonging and individuation. Increase contact with context Improve understanding of expectations.	Creativity is emphasized and sessions are therefore unpredictable. Relationships between parents are primary targets	Joining, Homework Therapist as role-model Encouragement Confrontation Role plays
<b>Milan systemic family therapy</b>	Cybernetic circularity – constant evolving systems. Human beings in reciprocal interaction become each other. No good or evil exists. Every technique represents a particular application of Bateson’s systems work. Ideas, beliefs, perceptions, fantasies, and history of family’s patterns of interaction are addressed.	Develop a hypothesis of family functioning Provide new ideas to promote change. Families solve problems. Enhance parental skills	Change is a random and discontinuous process. Often more than one therapist. Long breaks between sessions	Neutral therapist Circular questioning Hypothesizing Positive connotation Ritual and ceremony Role-play Counter-paradox
<b>Narrative family therapy</b>	Examines how individual can re-author their lives. Life constructions are made of stories and metaphors stories. The problem promotes the formulation of the family’s belief system and	Reconstruct new stories or develop alternative stories to promote positive change.	Therapist is equal Some work with families having to adopt stories. Other work with emerging	Externalizing Deconstruction Re-authoring Letters

	not the other way around as in other theories.	Choose meanings that will lead to change. Alter worldview and behaviour of family Very specific goals for each family	stories instead.	Unique outcomes
<b>Solution-oriented family therapy</b>	Change is constant and inevitable. Focus is on what is possible, solutions and competencies rather than on problems. Meaning is negotiable.	Solve family's presenting problems. Promote transition to the next family life cycle phase. Interrupt behavioural sequences to promote goal attainment.	Fairly structured Gathering information on experienced problem Think of change Tasks and compliments	Deconstruction Homework Mirroring Structured fight
<b>Strategic family therapy</b>	Families are rule-based systems best understood in context. Destructive ongoing cycles of interaction prevent families in achieving their basic purposes. Focus is in the present not on what caused the problem.	Solve family's presenting problem Change underlying systemic structure Restructuring family transactions to change family structure	Practical and brief Conducted by therapist. Five continuing stages: Social, Problem, Interaction, Goal setting Task setting	Directive Paradoxical directives Reframing Role play Metaphor for task
<b>Structural family therapy</b>	Humans are social creatures and viewed holistically. Family structure is composed of sets of family transactions where power, boundaries and expectation are main features. Subsystems are adult, parental and siblings. Reciprocal systemic causality is acknowledged. Focus on present and future. History of the family is manifest in the present and accessible through intervention.	Solve family's presenting problem Change underlying systemic structure Restructuring family transactions to change family structure	Emphasizes action over insight. Overlapping and recycling steps; Joining and accommodating Structural diagnosis Restructuring	Homework Joining Restructuring Reframing Enactment Actualizing family transactional patterns Support, educate and guide Paradoxical injunction
<b>Behavioural family therapy</b>	Families are solely influenced by their environments. Behaviour and thoughts of individuals are addressed through logics. The family is not viewed as separate system with properties of its own.	Teach families how to assess interaction + thoughts. Teach new adaptive patterns such as Communication skills Problem resolution Competencies, behavioural exchange, contracting, negotiation of rules and roles management of conflict. Decrease maladaptive behaviour	Assessment of family functioning before, during, and after therapy. Therapist is educator and role model.	Teaching Communication skills training Contracting Conflict management skills Modelling Encouragement Cognitive restructuring
<b>Object relations family therapy</b>	Relation to people in present is based partly on expectations formed in early experience. This models attempts to bridge intrapsychic and interpersonal approaches by using object-relations concepts. Seeks to provide therapeutic environment in which the family understand and resolve unconscious issues.	Make clients conscious of unconscious patterns established in the family of origin. Increase awareness Eliminate emotional blocks	Interpreting patterns of transference and counter transference. Establish contract Develop therapeutic alliance. Work through defence and resistance. Dealing with loss and separation at termination	Listening Empathic presence Interpretation Maintaining analytical neutrality Object relations are played out

## Appendix B: Ethical Approval



### Faculty of Humanities' Human Research Ethics Board

Dr. Tia Hansen (chair)  
Prof. Ann Býgholm  
Prof. Tony Wigram  
Prof. Peter Øhrstrøm

Aalborg University  
Krogstræde 3  
9220 Aalborg  
Denmark

Secretary: Sara Mygind, room 4.235,  
Monday/Thursday 1 pm – 2 pm.  
Email [saram@hum.aau.dk](mailto:saram@hum.aau.dk)  
Phone +45 99409078 (Tia Hansen)

---

The Human Research Ethics Boards (HREB) at Faculty of Humanities, Aalborg University was founded Jan 1, 2009 in response to researchers' wish for advance ethical evaluation of projects that fall below the threshold of the Regional Ethical Committee of North Jutland and thus had no means of obtaining independent ethical review and advice before. Until December 31, 2010 there is also a window of opportunity for post hoc evaluation of projects launched before the existence of HREB.

---


**HREB # 201017**

### **Ethical approval**

We have evaluated the protocol for Stine Lindahl Jacobsen' proposed doctoral study "Assesment and development of parental competences in cases of emotionally neglected children through music therapy" and found it to project a low-risk research project with adequate ethical considerations taken into account.

Ethical approval granted:

Date: Sept 2, 2010 pp. HREB: Tia Hansen

Signature: 



Appendix C: Dates for Data Collection

Clinical	T	G	Q1	1A	2A	1	2	3	4	5	6	7	8	9	10	3A	Q2
Fam 1	1	Ex	04.11.08	13.11.08	20.11.08	11.12.08	16.12.08	06.01.09	15.01.09	22.01.09	29.01.09	05.02.09	24.02.09	03.03.09	10.03.09	17.03.09	19.03.09
Fam 2	1	Co	05.01.09	08.01.09	29.01.09											X	30.03.09
Fam 3	2	Ex	09.01.09	23.01.09	13.02.09	13.03.09	20.03.09	03.04.09	29.04.09	15.05.09	20.05.09	29.05.09	12.06.09	19.06.09	26.06.09	14.08.09	27.08.09
Fam 4	2	Co	31.03.09	31.03.09	17.04.09										X	x	x
Fam 5	2	Ex	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fam 6	2	Co	14.07.09	10.07.09	31.07.09											x	x
Fam 7	1	Ex	16.07.09	16.07.09	06.08.09	04.09.09	24.09.09	06.10.09	14.10.09	22.10	05.11	19.11	3.12.09	3.12.09	10.12	10.12.09	02.01.10
Fam 8	1	Co	25.08.09	20.08.09	27.08.09											19.11.09	x
Fam 9	2	Co	01.09.09	14.09.09	21.09.09											1.12.09	03.12.09
Fam 10	1	Ex	21.08.09	26.08.09	04.09.09	17.09.09	30.09.09	01.10.09	06.10.09	16.10.09	22.10	05.11	12.11.	19.11	26.11	2.12.09	04.12.09
Fam 11	1	Co	06.10.09	23.09.09	30.09.09											11.02.10	16.03.10
Fam 12	2	Ex	19.01.10	24.11.09	12.01.10	19.01.10	15.02.10	14.04.10	03.05.10	x	x	x	x	x	x	x	x
Fam 13	2	Co	08.02.10	09.02.10	15.02.10											06.05.10	x
Fam 14	1	Ex	19.03.10	10.02.10	03.03.10	24.03.10	29.03.10	12.04.10	28.04.10	05.05.10	14.05.10	19.05.10	02.06.10	09.06.10	16.06.10	16.06.10	16.06.10
Fam 15	1	Co	16.03.10	11.02.10	25.02.10											01.06.10	10.06.10
Fam 16	2	Ex	10.05.10	29.04.10	06.05.10	18.05.10	01.06.10	07.06.10	17.06.10	23.06.10	01.07.10	10.08.10	24.08.10	03.09.10	15.10.10	15.10.10	x
Fam 17	1	Ex	03.05.10	21.04.10	06.05.10	21.05.10	25.05.10	14.06.10	cancelled	21.06.10	25.06.10	28.06.10	cancelled	02.07.10	16.07.10	16.07.10	x
Fam 18	1	Co	30.07.10	02.07.10	12.07.10											02.11.10	x
Fam 19	2	Ex	18.10.10	20.10.10	29.10.10	09.11.10	23.11.10	07.12.10	cancelled	25.03.10	cancelled	13.04.11	cancelled	cancelled	20.04.11	20.04.11	22.04.11

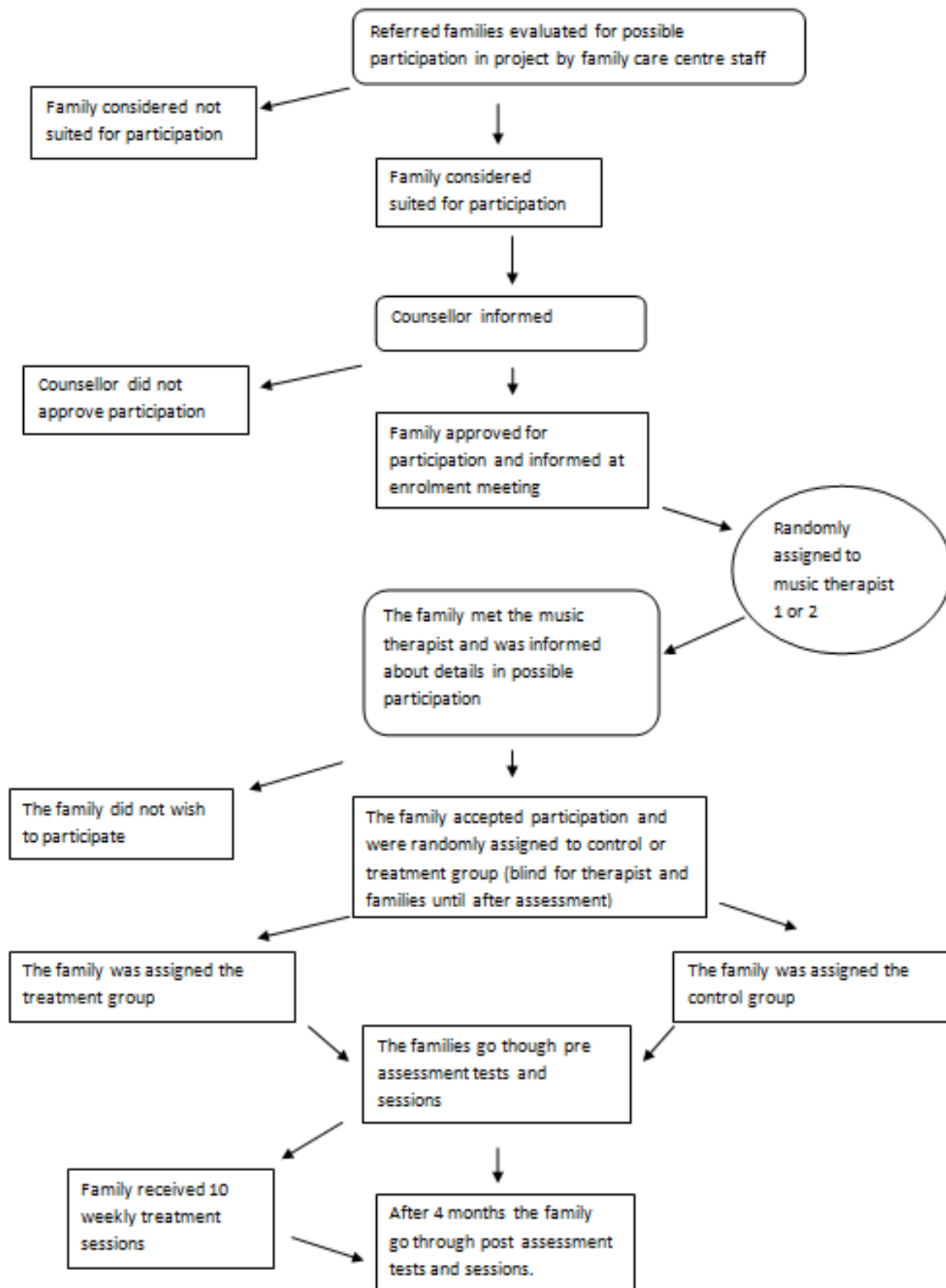
T: Therapist. G: Group. Ex: Experimental. Co: Control. Q1: Pretreatment questionnaire. 1A: First pretreatment assessment session. 2A: Second

pretreatment assessment session. 3A: Third post treatment assessment session. Q2: Post treatment questionnaires.

Nonclinical	T	School	1A	2A
Fam 1	1	V. nebel	19.05.09	26.05.09
Fam 2	1	V. nebel	19.05.09	26.05.09
Fam 3	1	V. nebel	19.05.09	26.05.09
Fam 4	1	V. nebel	26.05.09	11.06.09
Fam 5	1	V. nebel	11.06.09	18.06.09
Fam 6	1	V. nebel	11.06.09	18.06.09
Fam 7	1	V. nebel	19.05.09	26.05.09
Fam 8	1	V. nebel	19.05.09	26.05.09
Fam 9	1	V. nebel	19.05.09	26.05.09
Fam 10	1	S.marken	20.01.10	*
Fam 11	1	Bisgård	24.04.10	03.05.10
Fam 12	1	Bisgård	24.04.10	12.05.10
Fam 13	1	Daugård	05.05.10	11.05.10
Fam 14	1	Daugård	05.05.10	11.05.10
Fam 15	1	Daugård	05.05.10	11.05.10
Fam 16	1	Daugård	05.05.10	11.05.10
Fam 17	1	Daugård	05.05.10	11.05.10
Fam 18	1	Daugård	05.05.10	11.05.10
Fam 19	1	Daugård	11.05.10	19.05.10
Fam 20	1	V.Friskole	20.05.10	27.05.10
Fam 20a	1	V.Friskole	20.05.10	*
Fam 21	2	Aalborg	03.10.10	10.10.10
Fam 22	2	Aalborg	01.11.10	15.11.10
Fam 23	2	Aalborg	01.11.10	15.11.10
Fam 24	2	Aalborg	05.04.11	11.04.11
Fam 25	2	Aalborg	05.04.11	11.04.11
Fam 26	2	Aalborg	04.04.11	19.04.11
Fam 27	2	Aalborg	04.04.11	18.04.11
Fam 28	2	Aalborg	06.04.11	15.04.11
Fam 29	2	Aalborg	05.04.11	18.04.11
Fam 30	2	Aalborg	04.04.11	04.05.11
Fam 31	2	Aalborg	12.04.11	*
Fam 32	2	Aalborg	12.04.11	18.04.11
Fam 33	2	Aalborg	12.04.11	19.04.11
Fam 34	2	Aalborg	12.04.11	18.04.11

T: Therapist. 1A: First pretreatment assessment session. 2A Second pretreatment assessment session.

## Appendix D: Recruitment at Family Care Center



# Appendix E: Informed Consent for Clinical Families



Institut for Kommunikation og Psykologi  
Kognitivtæske B  
5220 Aalborg Ø  
www.musikterapi.aau.dk  
MA Stine Jacobsen  
PhD student, International  
PhD programme in Music  
Therapy

## Informed Consent

You and your family are invited to participate in a survey about music therapy and family therapy, conducted by doctoral student Stine Jacobsen, Aalborg University, with Tony Wigram as supervisor.

### Purpose

The purpose is to investigate how music therapy can provide information about parenting skills and improving parenting skills. The study includes families referred to a family treatment center where the child is from 5-12 years, and other families with children aged 5-12 years within the public municipal school.

### Procedure

Part 1: The study consists of 2 music therapy sessions of maximum 25 minutes duration with a single parent with one child and music therapist. That is 2 x 25 minutes within 2 weeks. Music Therapy will consist of singing songs and participating in various games and exercises with musical instruments. This is not a prerequisite that you or your family have musical abilities.

Additionally, the parent has to fill out questionnaires about parental perceptions of the relationship between child and parent. It takes about 1 hour to complete all questionnaires and will be done together with a psychologist.

Part 2: You and your family can also, if we through the public lottery will be selected to participate in 11 additional music therapy sessions. Each session lasts 45 minutes max, which means 11 x 45 minutes spread over approx. 3 months. These 11 sessions will consist of parent's conversations alone with the music therapist and sessions with the child. Music therapy sessions also consist of different musical activities such as listening and singing familiar and new songs, improvisations, and more. Here the entire family's wishes for musical activities will be included in the sessions.

All sessions will be videotaped and you must also participate by signing a consent form for this.

### Value and risk

By participating in this study generally you contribute to new knowledge about the use of music therapy in family therapy. It is likely that you and your child also will have a positive experience of being together in a new and different way. There is no immediate risk to participate in the study, but participation requires your time and your commitment. It may be that you or your child do not like to be in music therapy, but it is perfectly acceptable and is important information in relation to future use of music therapy in family therapy.

### Management of collected data

All material collected in this study will be kept confidential and will only be shown to the Ph.D. student's supervisor. In the actual presentation of the doctoral study all HREB-projekt number 201017

HREB-approval date 2 September, 2010

material is anonymized so that participants cannot be recognized. All material will be retained for 5 years, after which it will be destroyed. It is always possible to terminate your participation in the study.

### Insurance

In case of accidents and damages to furniture, musical instruments or people, you and your family are not responsible for the economic damages.

### HREB

This project has received ethical approval through Aalborg University Human Ethics Committee. If you have concerns about the project please contact HREB at the Faculty of Humanities, Aalborg University.

### Contact Information

You can always contact Stine Jacobsen about all aspects of the study (see contact info below).

### Participant Information and Consent

Parent's name \_\_\_\_\_

Child's name \_\_\_\_\_

Parent's birth date, \_\_\_\_\_

child's date of birth \_\_\_\_\_

City \_\_\_\_\_

My family and I want to participate in both parts of the study (please tick)

My family and I do not want to participate

Date \_\_\_\_\_

Signature \_\_\_\_\_

HREB-projekt number 201017

HREB-approval date 2 September, 2010

## Appendix F: Video Consent for Clinical families



### Consent for use of video recording

In connection with participation in the study of music therapy in family therapy 2008-2010 I hereby signed for consent that all sessions of me and my family will be video recorded.

I give permission that;

- The video material may be used for data analysis conducted by research team
- The video material may be used in conjunction with discussion of the study together with family treatment center's staff
- The video material may be used for education other forms of dissemination within music therapy and other disciplines

The condition for this consent is that all recordings will be kept confidential. The PhD student is the only one who has access or can provide access to this. The material will be kept for 5 years before its destruction. It is always possible to withdraw this consent form, in which case all video material will be deleted.

\_\_\_\_\_  
Parent's name

\_\_\_\_\_  
Child's name

\_\_\_\_\_  
date

\_\_\_\_\_  
Signature

Institut for  
Kommunikation og  
Psykologi  
Krogstrøede 6  
9220 Aalborg Ø  
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MA Stine Lindahl Jacobsen  
PhD. Student, International  
PhD Programme in Music  
Therapy

E-Mail: [sllj@hum.aau.dk](mailto:sllj@hum.aau.dk)  
Tit: 22742812

Yes      No

Ph.d.titel;  
Assessment and  
Development of  
Parental  
Competences in  
Cases of  
Emotionally  
Neglected Children  
through Music  
Therapy

Dansk titel;  
Vurdering og  
udvikling af  
forældrekompetence  
med  
omsorgssvigtede  
børn gennem  
musikterapi.

## Appendix G: Written Introduction to Non-Clinical Families



### Forskningsprojekt om Musikterapi i familiebehandling 2009-2011



Dear Family

You and your family are invited to participate in a survey about music therapy and family therapy. The purpose is to investigate how music therapy can identify and improve parenting skills and the study is undertaken by PhD student Stine Lindahl Jacobsen. The study is aimed at families with children from 5-12year old.

By participating in this study you generally contribute to new knowledge about the use of music therapy in family therapy. It is likely that you also will have a positive experience of being together in a new and different way of being in the music world.

If you wish to participate in this project, you must meet one parent and one child 2x25minutter within 2 weeks. Participation also includes completing 2 questionnaires about being a parent. Music therapy will consist of singing and various musical games and exercises with the instruments and it is not a prerequisite that you or your family's musical abilities.

Music Therapy will be videotaped and all material will be stored and used according to approved ethical and legal rules. I will try to plan individual meetings that meet your family's specific needs.

If you and your family think it sounds exciting to be together in a different and fun way and to participate in this research project, please contact me at 22742812. You are also welcome to call and talk, although you have not quite decided you yet.

I am looking forward to meeting your family in the music.

The best greeting

Stine Lindahl Jacobsen |



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9000 Aalborg Ø  
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MA Stine Lindahl Jacobsen  
Ph.d. student, International  
PhD programme in Music  
Therapy

E-Mail: [sl@hum.aau.dk](mailto:sl@hum.aau.dk)  
Tlf: 22742812

PhD title:  
Assessment and  
Development of  
Parental  
Competences in  
Cases of  
Emotionally  
Neglected Children  
through Music  
Therapy

Dansk titel:  
Vurdering og  
udvikling af  
forældrekompetence  
med  
omsorgssvigtede  
børn gennem  
musikterapi.

## Appendix H: Informed Consent at Public Schools



### Informed Consent

You and your family are invited to participate in a survey about music therapy and family therapy conducted by doctoral student Stine Jacobsen, Aalborg University, with Tony Wigsgaard as supervisor.

### Purpose

The purpose is to investigate how music therapy can provide information about parenting skills and improving parenting skills. The study includes families referred to a family treatment center where the child is from 5-12 years, and other families with children aged 5-12 years within the public municipal school.

### Procedure

The study consists of 2 music therapy sessions of maximum 25 minutes duration with a single parent with one child and music therapist. That is 2 x 25 minutes within 2 weeks. Music Therapy will consist of singing songs and participating in various games and exercises with musical instruments. This is not a prerequisite that you or your family have musical abilities.

Additionally, the parent has to fill out questionnaires about parental perceptions of the relationship between child and parent. It takes about 1 hour to complete all questionnaires and will be done together with a psychologist.

All sessions will be videotaped and you must also participate by signing a consent form for this.

### Value and risk

By participating in this study generally you contribute to new knowledge about the use of music therapy in family therapy. It is likely that you and your child also will have a positive experience of being together in a new and different way. There is no immediate risk to participate in the study, but participation requires your time and your commitment. It may be that you or your child do not like to be in music therapy, but it is perfectly acceptable and is important information in relation to future use of music therapy in family therapy.

### Management of collected data

All material collected in this study will be kept confidential and will only be shown to the Ph.D. student's supervisor. In the actual presentation of the doctoral study all material is anonymized so that participants cannot be recognized. All material will be retained for 3 years, after which it will be destroyed. It is always possible to terminate your participation in the study.

### Insurance

In case of accidents and damage to furniture, musical instruments or people, you and your family are not responsible for the economic damages.

### HREB

HREB-projektnumber 201017

HREB-approvaldate 2 September, 2010

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MA, Stine Lindahl Jacobsen  
PhD student, International  
PhD programme in Music  
Therapy

E-mail: [s.l.jacobsen@au.dk](mailto:s.l.jacobsen@au.dk)  
Tlf. 227 43212

PhD. title:  
Assessment and  
Development of  
Parental  
Competences in  
Cases of  
Emotionally  
Neglected Children  
through Music  
Therapy

Dansk titel:  
Vurdering og  
udvikling af  
forældrekompetence  
med  
omsorgssvigtede  
børn gennem  
musikterapi.

This project has received ethical approval through Aalborg University Hum-FAK Ethics Committee. If you have concerns about the project please contact HREB at the Faculty of Humanities, Aalborg University.

### Contact Information

You can always contact Stine Jacobsen about all aspects of the study (see contact info below).

### Participant Information and Consent

Parent's name \_\_\_\_\_ Child's name \_\_\_\_\_

Parent's birth date, \_\_\_\_\_ child's date of birth \_\_\_\_\_

City \_\_\_\_\_



My family and I want to participate in both parts of the study (please tick)

My family and I do not want to participate

Date \_\_\_\_\_ Signature \_\_\_\_\_

HREB-projektnumber 201017

HREB-approvaldate 2 September, 2010

Side 2 af 2



## Appendix I: Video Consent at Public Schools



### Consent for use of video recording

In connection with participation in the study of music therapy in family therapy 2008-2010 I hereby signed for consent that all sessions of me and my family will be video recorded.

I give permission that;

- The video material may be used for data analysis conducted by research team

Yes No

- The video material may be used for education other forms of dissemination within music therapy and other disciplines

The condition for this consent is that all recordings will be kept confidential. The PhD student is the only one who has access or can provide access to this. The material will be kept for 5 years before its destruction. It is always possible to withdraw this consent form, in which case all video material will be deleted.

\_\_\_\_\_  
Parent's name

\_\_\_\_\_  
Child's name

\_\_\_\_\_  
date

\_\_\_\_\_  
Signature

Institut for  
Kommunikation og  
Psykologi  
Krogstræde 6  
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MA Stine Lindahl Jacobsen  
PhD. Student, International  
PhD Programme in Music  
Therapy

E-Mail: [slij@hum.aau.dk](mailto:slij@hum.aau.dk)  
Tit: 22742612

Ph.d.titel;  
Assessment and  
Development of  
Parental  
Competences in  
Cases of  
Emotionally  
Neglected Children  
through Music  
Therapy

Dansk titel;  
Vurdering og  
udvikling af  
forældrekompetence  
med  
omsorgssvigtede  
børn gennem  
musikterapi.



## Appendix J: Supervisors Approval of Translation



Institut for  
Kommunikation og  
Psykologi  
Kroghstræde 6  
9220 Aalborg Ø  
Tlf. 9635 9119  
Fax 9815 4594  
www.musik.aau.dk

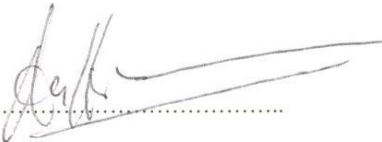
30. Juli 2008

Prof. Tony Wigram  
Academic Coordinator,  
International PhD  
programme in  
MusicTherapy.  
E-mail: tony@hum.aau.dk

Parent-Child Relationship Inventory (PCRI)

Translation into Danish

I hereby agree to supervise this student's use of these materials. I also certify that I am qualified to use and interpret the results of these tests as recommended in the *Standards for Educational and Psychological Testing*, and I assume full responsibility for the proper use of all materials used per this agreement.

Signature.....

Name: Professor Tony Wigram PhD

**Appendix K: Peer Group Sheet**

<b>Focus points</b>	<b>Family A</b>	<b>Family B</b>
Body positioning		
Eye contact		
Body contact		
Facial expressions		
Verbal expression and content		
Musical expression and content		
Interaction with therapist		

# ASSESSMENT OF PARENTING COMPETENCIES.

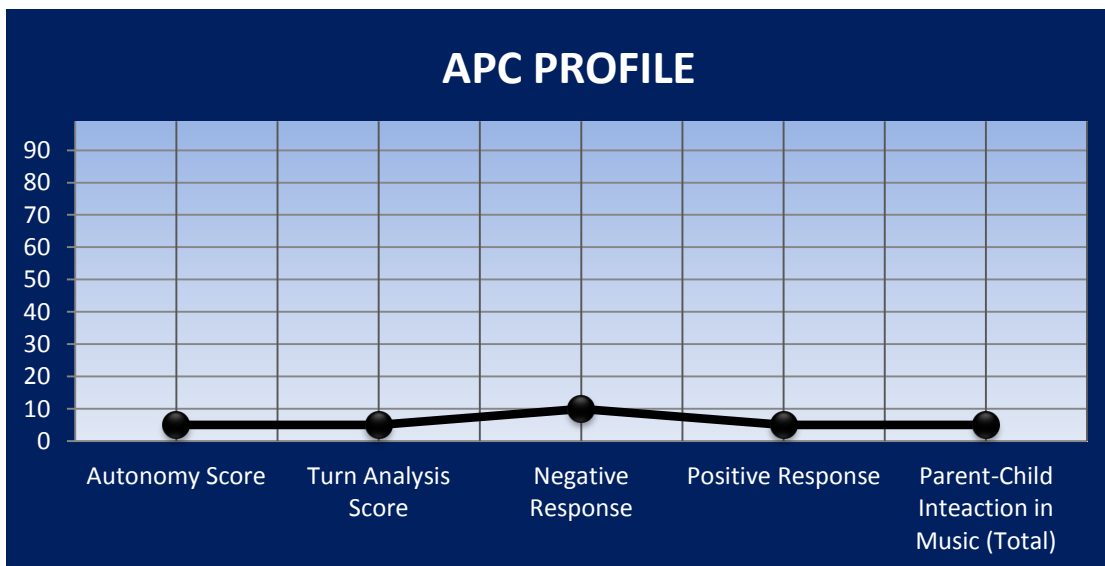
## MUSIC THERAPY ANALYSIS OF PARENT-CHILD INTERACTION

DEVELOPED BY STINE L. JACOBSEN

**Assessment dates: 01.11.2009 + 09.11.2009**

### Demographic Information<sup>3</sup>

Parent	Child
<b>Name: Louise Nielsen</b>	<b>Name Mette Nielsen</b>
<b>Gender: Female</b>	<b>Gender: Female</b>
<b>Birth Date: 01.05.1982</b>	<b>Birth Date: 23.06.2009</b>
<b>Age: 27</b>	<b>Age: 6</b>



Score Summary	Raw Score	Percentile	Raw Score Norms <sup>4</sup>	
			Mean	SD
<b>Autonomy Score</b>	<b>73</b>	<b>5</b>	<b>92.60</b>	<b>8.37</b>
<b>Turn Analysis Score</b>	<b>16</b>	<b>5</b>	<b>31.44</b>	<b>5.73</b>
<b>Negative Response</b>	<b>27</b>	<b>5</b>	<b>31.06</b>	<b>1.39</b>
<b>Positive Response</b>	<b>7</b>	<b>10</b>	<b>12.55</b>	<b>3.16</b>
<b>Parent-Child Interaction in Music</b>	<b>120</b>	<b>5</b>	<b>167.28</b>	<b>16.07</b>

80 - 20 Percentile: Normal Range  
 19 - 15 Percentile: Borderline  
 15 - >1 Percentile: Clinically Significant

<sup>3</sup> Names are pseudonyms, and data is anonymised.

<sup>4</sup> In this illustrative example the norms are questionable. They do not refer to a reliable norm sample (see Section 5.2.2).

### **Description and Interpretation**

Louise and Mette participated in two 25-minute music therapy assessment sessions 8 days apart. Sessions were video recorded, and standardized analyses of observations were conducted. Mother and daughter were both engaged in the musical activities and had a friendly attitude towards each other and the therapist.

The lack of equality in the autonomy relationship for this family was clinically significant, indicating that parent and child do not follow and lead each other equally. The child had a strong tendency to want to lead. The parent did follow her child more than she led, but not consistently. When asked to follow her mother, the child was unable to complete the task, as she started to lead the mother. The child was very focused on her own play in free improvisation, which resulted in an attentive but rather passive response from the parent.

The analysis of turns between child and parent was also clinically significant indicating that their communications lacked clear signals and fluent exchange of turns. The young age of the child (6 years) might have influenced the child's ability to encode the signals of the parent. However, the level of confusing and contradictory signals produced by the child was clinically significant in spite of the young age. The parent seems to have the ability to repair misunderstandings in communication, but, since the child only produces lengthy monologues, her efforts seem insufficient to guide her child to improve.

Throughout both sessions the parent seemed very aware of her child and supported her whenever she could. However, she seemed unsure of herself as indicated by her passive responses and the lack of emotional responses toward her child and her lack of positive response was clinically significant. The parent's lack of positive response was not clinically significant in the first session, possibly indicating potential for improving within this area. The parent was not at any time rejecting, dominating, or over-involved in her child.

Both child and parent sought the therapist's support verbally and musically, indicating that they might lack a sufficient level of self-confidence to be free in playful activities with each other. The parent did show some level of creativity by voluntarily playing on many different instruments in both sessions, while the child chose some of the same instruments.

### **Comments from the Parent**

When shown video recordings of her interaction with the child, the parent acknowledged the problem of her parenting competences and the consequences of this. She verbally expressed that she knew there was a problem, but that she did not know what it was or how to improve it. The issue of clearer signals and firmer guiding made sense to the parent, who seemed to be highly motivated to improve her parenting competences. The parent also acknowledged the need for more emotional praise and support toward the child. She noticed that her child was very focussed in the music therapy setting and was surprised by this. When asked, the parent claimed to enjoy the musical activities, even though at times she was challenged to try unfamiliar tasks.

### **Conclusion**

It seems relevant and necessary to offer this family an opportunity to strengthen their communication and interaction. The parent needs to be clearer in her signals and in her leading and guiding behaviour towards her child. The parent acknowledges the problematic communication, and this is considered crucial for the family to improve their interaction. Music therapy treatment or other creativity-based therapy seems relevant for this family, as they express motivation for working with this kind of approach.

# ASSESSMENT OF PARENTING COMPETENCIES.

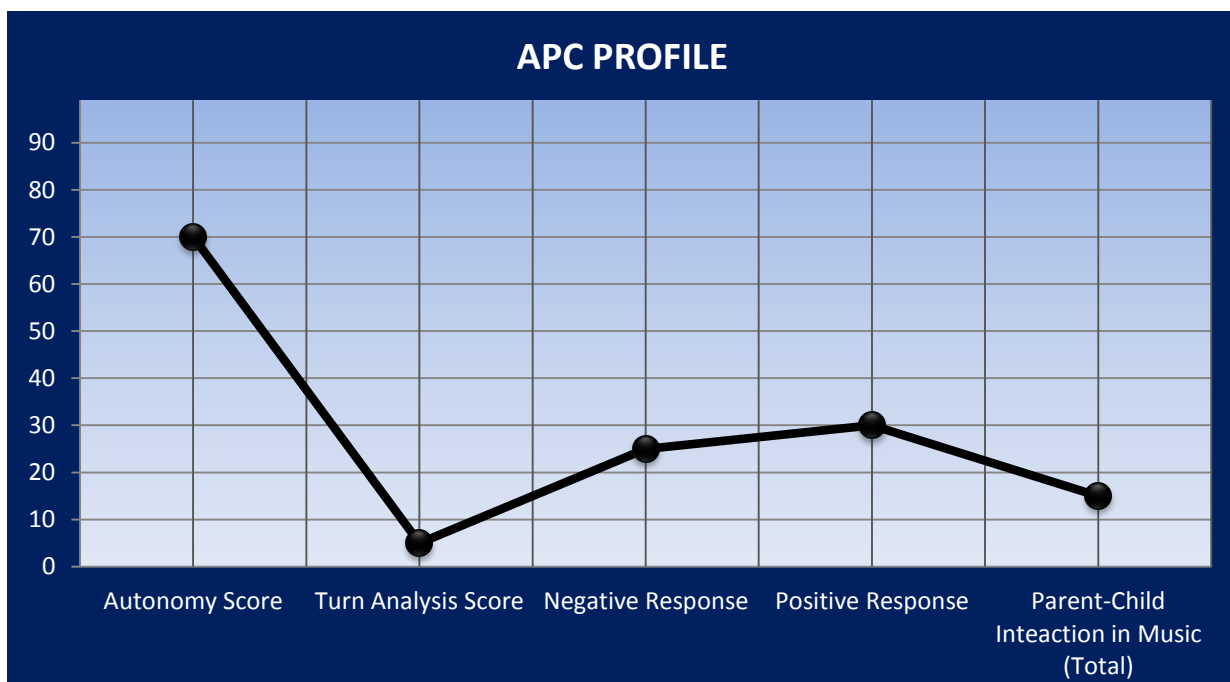
## MUSIC THERAPY ANALYSIS OF PARENT-CHILD INTERACTION

DEVELOPED BY STINE L. JACOBSEN

Assessment date: 24.03.2010

### Demographic Information<sup>5</sup>

Parent	Child
<b>Name:</b> Louise Nielsen	<b>Name:</b> Mette Nielsen
<b>Gender:</b> Female	<b>Gender:</b> Female
<b>Birth Date:</b> 01.05.1982	<b>Birth Date:</b> 23.06.2009
<b>Age:</b> 27	<b>Age:</b> 6



Score Summary	Raw Score	Percentile	Raw Score Norms <sup>6</sup>	
			Mean	SD
Autonomy Score	96	70	92.60	8.37
Turn Analysis Score	20	5	31.44	5.73
Negative Response	30	25	31.06	1.39
Positive Response	11	30	12.55	3.16
Parent-Child Interaction in Music	157	15	167.28	16.07

80 - 20 Percentile: Normal Range  
 19 - 15 Percentile: Borderline  
 15 - >1 Percentile: Clinically Significant

<sup>5</sup> Names are pseudonyms, and data is anonymised.

<sup>6</sup> In this illustrative example the norms are questionable. They do not refer to a reliable norm sample (see Section 5.2.2).

### **Description and Interpretation**

Louise and Mette participated in one 25-minute music therapy assessment session following 4 months of weekly music therapy treatment. The session was video recorded and standardized analyses of observations were conducted. Mother and daughter were both engaged in the musical activities and had a warm attitude towards each other and the therapist.

The equality in the autonomy relationship for this family was within the normal range, indicating that parent and child followed and led each other equally. The child led slightly more than she followed and also led more than the parent. Furthermore, the child followed her parent whenever the parent led and the parent followed her child consistently. The child focused on her own play without losing track of the parent's play.

The analysis of turns between child and parent was clinically significant indicating that their communications lacked clear signals and fluent exchange of turns. The young age of the child (6 years) might have influenced the child's ability to encode the signals of the parent. However, the level of confusing and contradictory signals produced by the child was clinically significant in spite of the low age. The parent was strong in her musical and gestural signals and did repair misunderstandings in the communication.

The parent was very aware of her child and supported her when appropriate. Only once did she respond passively in an unstructured part of the assessment session. The parent seemed surer of herself, as she also responded emotionally toward her child. Parent and child laughed together after dynamic culminations in the music initiated by the parent. The parent was not at any time rejecting, dominating, or over-involved in her child.

At times both child and parent sought the therapist's support musically indicating that they might lack a sufficient level of self-confidence to be free in nonverbal activities with each other. However, in verbal activities such as guiding an exercise, the parent no longer sought support from the therapist.

### **Comments from the Parent**

When shown video recordings of her interaction with the child, the parent acknowledged the improvement of her parenting competences and the consequences of this. She verbally expressed that she felt more confident and in control. Furthermore, she was happy to see her daughter more at ease and more adjusted. She commented on the music therapy setting as a safe place to try on new roles and behaviours.

### **Conclusion**

It seems relevant to offer this family further treatment to give them the opportunity to strengthen their communication particularly the decoding and encoding skills of the daughter. It would be beneficial for the parent to anchor her newly acquired parenting competencies and for practitioners and care providers to help her guide the child to enhance the child's communication skills.

## Appendix N. Second Raters Notes

Notes for rating autonomy and response

29.04.2011

Family 3, Mother and son. The teasing in the beginning is somewhat odd. Mom tickles her son in an unpleasant, almost harassing manner. Strange. I think that it is very dominant. She is not very active mimetic, her son seems unsure of her. I also note that he does not seem physically at ease, he flutters his arms and legs.

Family 4, Mother and son. Here the interaction is very indistinct, so I found it difficult to score the mother so that she achieves almost no 2s. Here there is no smile and almost no direct eye contact. Mother seems nervous, wants to make it correct. The boy is not smiling nor is evident emotionally. I notice her preoccupation with the djembe. I note that she felt that her instrument was good enough for the music that was played. I note in the same breath that she is not involved in the music that has just been between them, she leaves it without comment it and concentrate on drumming.

Family 7, Mother and daughter. A very special experience for me because I initially responded to the mother's physical appearance (her posture) in ex. 1 and the daughter's call to his mother to take leadership in the ex. First I got the feeling of a medicated or alcoholic mother, who was not particularly present. But their interaction is finely coordinated in all examples, and I sensed that her daughter needed the mother to lead - and the mother met this need. When I had to score response type for the Beginning I got an indication that the mother is physically frail in some ways. And perhaps medicated in a way that dampens her vitality affects? Oh, well.

Family 11, Mother and son. I see a somewhat careful mother and son here. The sharing has not much emotional content, and the boy seems strained, not a 'free' behavior. In FreePlay there is an uncertain, indistinct start and end of the play. And the mother chooses known pianotunes (itsy-bitsy spider and "frikadellens flugt over plankeværket"). When I had to score response type and then beginning, it was striking that the mother never guided her son into the situation.

Family 11 Mother and son. (Scored the day after). Now there's a slightly different image appear. I do not know if it is a later session, I score today or not. Mother seems more relaxed and more exchange with his son in conversation. Son is, however, just as controlled as in the second session. In Free play the mother's insistence on playing familiar melodies and lack of attention to his son's games was striking and I was actually completely out and score dependent on her son - and resistance to the mother. I hear that the boy put himself under the mother, however, without following her. And mom is trying to follow at first, but gives in similarly quickly and withdraws into her own melodies and becomes resistant.

Family 12 Mother and son. Here I noticed that I smile and feel empathy between mother and son. There is an innocence in being together, which I have not noticed in the families I've observed so far. Mom is really trying to match his son's sensitive melodies despite the fact that she has, respectively. maracas and drums at

her disposal - and doing it with empathy.

Family 13th Mother and daughter. Here I get the feeling that the mother is somewhat dominant in her play, drops her leadership role easily. But they smile a lot to each other.

Family 14. Mother and daughter. Mother is not particularly verbal and do not have much eye contact, but in the music, she is challenging her daughter and supports her daughter's ideas and play. I do not know the past history as to why her daughter is lying down. At least I see that she does not get yelled at by her mother but the mother accepts her daughter, who might just show that she is tired?

Family NC1. Mother and daughter. Here I get a feeling of a warm atmosphere and the two personalities are quite distinct. Mother's comment that her daughter is the director, shows that the mother has a clear idea of what exercise 1 is about - that they are being observed for their interaction. The therapist seems quite relaxed in the session.

Family NC2. Mother and daughter. Difficult to score. There is no clarity from the start about who leads and follows and there is also no clear synchronicity in their games. They seek the therapists attention. Mother 'disappear' a little into her own songs and she plays long passages without dynamic fluctuations. I see very little emotional exchange. Yet it seems like a normal, north Jutland family!

Family NC5. Mother and daughter. They interact in a relaxed atmosphere where mother and child have an ok relationship in music. Not difficult to score. However, I come to think of that for free play in this ex. There could be missing a category between follower and leader - because there is some synchronicity and the shifts in lead and follow moves so quickly and painlessly!

Family NC11. Mother and daughter. The family seems happy and mom is supportive - I notice how she starts to playing a set of chords on the piano, but leave it quickly and follow what is happening in her daughter's games. I have given her a single point of over-involved because she seems very keen that ex. 1 must go in a certain way - she shows it clearly with her body.

Family NC14. Father and daughter. They are so cute! They have some problems with fluid transitions between lead and follow, they have to make an effort to 'read' each other, but it does not seem as if it makes them insecure, they continue the interaction. I heard FreePlay many times before I could hear what really happened, because the father plays so sensitively to his piano, it's hard for his daughter to match him on the drums, but when you really listen, there are many exchanges in music. I doubted whether I should give him a 1 on dominating in this exercise or 0s, I ended up giving a 1 because he is in his musical universe so much of the time and do not perceive that the music stops from her daughter.

Family NC15. Mother and son. Mother smiles much to the boy. He seems less immediate in his sharing of feelings, but he seems confident and relaxed in music - he even goes for it in his teasing in his play in Ex3.

Family NC19. Father and daughter. I scored dad as slightly over-involved. I have based this on that he directs the daughter to start in Ex1, even though she actually already started. And in the exercise, where they take turns in leading, he is leading at a pace which is too difficult for the daughter but he does not change



anything in spite of it. Otherwise, his child seems happy and free in its behavior.

Family NC22. Mother and son. The son seems a bit special, but mum tackles him very well (his questions about London - here she helps him forward in a compelling way, so they can focus on what they must. In his confusion about her rhythm in Ex3 she also helps him by explaining).

Family NC23. Mother and daughter. It is probably the hardest I've had to score. There lacks a category for parents who let their kids rule - in the age when kids want to manage! The girl's behavior is clearly age-appropriate, she works with independence, and mom is not a boundary setter. I have used the category of resister for the girl and dependent for the mother. But that does not necessarily mean that it is unusual for a girl of that age to be resistance, or for a mother to let the child steer. But they'll get their share of troubles of who will be in charge if they do not take up the issue now.

Fam 3, mother and son. Both mother and son are at weak TG, the boy gives an example of confusing and mother an example of no turn-giving and thus no Confusion.

Fam 4, mother and son, here is the lack of turn-giving from mom and a single absence from the boy. She plays - and stops. However, there are no long breaks between rounds, the boy takes over when the mother is quiet and vice versa.

Fam 7, mother and daughter. I had to see it sometimes, because the mother starts a ping-pong-TG that has a high tempo.

Fam 11, mother and son. Here I do not see the mother give the tour at any time, and the boy looks at tp instead of the mother, which I have called confusing. Mother, however, takes every trip up and 'trips' only one single time.

Fam 11, mother and son. Here again a lack of visible TG from mother and son. The boy refers to tp with eye contact, and this was a surprise to me as there had been many turns between mother and son at the time.

Fam 12, mother and son. I was not sure whether I should score an extra turn for the boy, as he at the beginning fumbled with his instrument. I chose NOT to do it as his instrument of course is of a nature that makes a sound at the slightest touch. He finds a solution to the problem as he seems simply lets the rattle fall to the ground so that it stops to sound.

Fam 13, mother and daughter. Mother gives no sign of TG. Daughter 2 times refer to tp instead of mother at TG.

Fam 14, mother and daughter. Fun beginning where they verbally pass the turn!

Fam NC1: mother and daughter. many turns given! I've scored musical and gestural, because to imitate almost exactly gives one player an idea of when she can give a new character for imitation - the gesture lies here in eye contact and sometimes physical position.

Fam nc2 mother and daughter, mother repairs when the daughter gives the trip to tp at first!

Fam nc5: mother and daughter, again a family that plays with short trips and I realize that this makes it more difficult. But it is nice that they are creative and take it to the edge!

Fam nc11, mother and daughter, daughter interrupts towards the end. Gesture consist mostly of eye contact from both.

Fam nc14: father and daughter. Very nice turn-givings!

Fam nc15: mother and son. The two times when the son confuses by looking at tp in his TG, the mother immediately repairs with musical callings. There is a high tempo and a sense of pulse.

Fam nc19, father and daughter. The small chase towards the end is a fun example on how to 'tease' each other in music - teasing in this case reflects the fact that you deliberately go to the limits of what is allowed in turn-TAKING - you just take your turn before the other has given clear signs of turn-giving because you know that the other knows that it's just for fun. And then the fun begins!

Fam. NC22. mother and son.

Fam. Nc23, mother and daughter. The child is not that willing to give up her turn and tries gestural to get back her turn, while her mother plays Kazoo. She creates a confusing TG towards tp, who immediately correct "the error". I cannot hear what the child says at the end