Essentials of Music Therapy Assessment

Gattino, Gustavo Schulz

FOREWORD BY
STINE LINDAHL JACOBSEN

ESSENTIALS OF MUSIC THERAPY ASSESSMENT

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FORMA & CONTEÚDO
COMUNICAÇÃO INTEGRADA

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I dedicate this book to all people who have
experienced challenges and losses of all kinds
due to the COVID-19 pandemic.

We live waiting
better days
days of peace and more days
days we won't leave back

— JOTA QUEST

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FOREWORD

Reading this book in the middle of the COVID-19 pandemic being thousands of miles away from its author, who is a dear friend and valued colleague to me, made me deeply long for the spontaneous discussions and deep reflections we have shared during the last decade.

The way the book offers a comprehensive way of understanding and implementing assessment, was almost like having Gustavo Gattino's wise, kind and patient explanations right next to me. The book takes you by the hand and gently guides you through the jungle of understanding the many facets of music therapy assessment while offering ways to apply it into your own practice as a clinician and focusing on how to let assessment be a natural and helpful part of practice. It does not intend to explain specific tools or measures but aims to illuminate how to perform informal assessment filling an important gap in our common literature on music therapy assessment.

Relevant assessment theory and literature reviews are included to provide overview and explain the supporting research studies and underlying theory of science making the

book accessible to a range of relevant readers including music therapy students, music therapy clinicians, music therapy educators and relevant interdisciplinary colleagues wanting to understand the elementals of music therapy assessment.

Chapter 8 and chapter 13 might be specifically interesting to those who take on the quest of performing and planning music therapy assessment research on their own as the author here offers valuable insights through a scoping review as well as provides guidelines on how ot translate and develop tools, methods and measures. To me assessment is what bridges research and clinical practice as one cannot survive without the other.

Clinicians need tools or even just analysis methods to improve the efficiency and purpose of assessment, and researchers need a clinical context to make tools and analysis method useful or even meaningful. We have come a long way in the last decade in terms of anchoring music therapy assessment as part of our field and bridging assessment research and clinical assessment, but we are still not there yet in providing a solid and united understanding and set of guidelines for both music therapy clinicians and researcher around the world.

Chapter 9-12 provide an impressive and massive overview of music therapy assessment tools, analysis methods and measures unique and valuable in all layers of our profession getting us one stage closer to a united and strong field. Gattino makes complex knowledge about music therapy assessment accessible with a clear overview of content and clearly structured parts and chapters – introduction, preparation, data gathering, analysis & interpretation, documentation &

communication, and finally he offers relevant thoughts on music therapy assessment in teaching and related COVID-19 challenges. But the structure of the book is not meant to dictate how to implement or understand assessment in one specific way. You might want to structure your understanding differently, make your own overview of common areas or wonder how you would label the different assessment tools into specific types and this is exactly the point.

The book urges you to become aware, make conscious choices, make assessment a natural part of your practice and adapt it specifically to your unique setting. The level of detail is so rich, you have to dive in, get deep, get lost and find your way back in your own way. With this book, you are able to approach assessment from many different angles and when the same aspect is described from different perspectives, your understanding naturally deepens.

Each chapter can be read as its own independent unit making the book resemble a handbook you can revisit again and again supporting you in your daily clinical work. Throughout the book, there are illustrative examples and case descriptions to highlight important learning outcomes and help the reader understand the topic at hand from yet another angle.

My favorite topic going across all parts and chapters is the focus on ethics for instance in describing the dilemma of how to balance different roles when being both assessor and therapist in gathering data and giving feedback and in describing how to always consider including the voice of your clients when communicating the results.

Gattino has a strong voice of his own offering kind suggestions, recommendations and reflections in almost all aspects of music therapy assessment. Another essential set of

suggestions to me are the many analysis and interpretation frameworks provided by Gattino in part 4 of the book. Even though you might disagree with the way Gattino categorizes the many frameworks and ways you can chose to interpret collected data, the level of detail is bound to activate valuable reflections in any reader. Similarly, the level of concreteness put into the discussion of communicating and disseminating result forces the reader and/or the clinician to be more aware and focused in clinical practice regardless of whether assessment is on the table or not and regardless of the specific and individual national legal guidelines.

I am certain this book will play an important role in helping to move music therapy assessment forward and connect research and clinical practice. As you read, it becomes clear how Gustavo Gattino has an ocean of experience in working clinically, researching, developing and teaching music therapy assessment and the field of music therapy owes him gratitude to be willing to share his expertise in such empathic and rich details and levels of reflection.

Associate Professor Stine Lindahl Jacobsen
Aalborg University

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Finally, I thank all my students and clients, as you are the reason why I must continue this journey within the music therapy field.

PART 1: INTRODUCTORY TOPICS

CHAPTER ONE

Music therapy assessment: an introduction

Chapter question: What is music therapy assessment?

INTRODUCTORY ASPECTS

The topic assessment is recurrent in music therapy as a discipline and has been studied since the systematization of the profession, around the 1950s (Bruscia, 1988; Chase, 2002; Gaston, 1968; Lipe, 2015; Waldon & Gattino, 2018). Music therapy assessment is present in practice, research, training, teaching, and supervision in music therapy. It is crucial for music therapists, clients, and other stakeholders, such as family members, professionals in different disciplines, and government agencies (Ferrari, 2012).

DEFINING MUSIC THERAPY ASSESSMENT

Most importantly, it is essential to define “music therapy” and “assessment”. Music therapy is the clinical and evidence-based use of music interventions to accomplish individualized goals in a therapeutic relationship by a credentialed professional who has completed an approved music therapy program (American Music Therapy Association [AMTA], 2020). In turn, assessment is a term that comes from the Latin word *assidere*, which means “sit beside” or “assistant in a judge's office” (Gilroy, 2012). According to the Cambridge Dictionary (2021), assessment means “the act of judging or deciding the quantity, value, quality, or importance of something, or the judgment or decision made”. Both the Latin term *assidere* and the word “assessment” bear important similarities. The first aspect is the similarity in spelling. The second aspect is that in both definitions the term assessment is related to judgment to some extent. Regarding the meaning “sit beside” of the Latin word *assidere*, Gilroy (2012) considered it an empathic response we generate towards another. Based on the definition found in the Cambridge Dictionary (2021), this is connected to the expression “decide the quantity, value, quality, or importance of something”.

Based on the arguments presented in the previous paragraph, music therapy assessment involves aspects of judgment and empathic responses related to the act of judging or deciding about another individual, by means of musical interventions during a music therapy process. As a discipline, different definitions have been proposed for this term within the scope of music therapy, but all of them explore the content

mentioned above to a greater or lesser extent. The definition of music therapy assessment adopted in this book was inspired by Waldon and Gattino (2018) and also by some definitions of assessment used in the fields of psychology, social sciences, and education (Brookhart, 2011; Chapman & King, 2012; Conselho Brasileiro de Psicologia [CFP], 2018; Jordan & Franklin, 2020; Goldfinger & Pomerantz, 2014; Groth-Marnat & Wright, 2016). In addition to the different definitions cited by other authors, in this book, one of the differentials in music therapy assessment is precisely the possibility of assessing musical content based on the clients' involvement with different musical parameters (Barcellos, 2012; Smejisters, 2012; Wigram, 1995).

While reviewing the literature that addresses the general understanding of music therapy assessment (Bruscia, 1988; Jacobsen, Wigram & Rasmussen, 2019; Lipe, 2015; Waldon & Gattino, 2018; Wheeler, 2013), it became clear that not all the authors state the same goals for assessment practices. However, overall, these aims are summarized in the definition chosen for this book:

> *Music therapy assessment can be defined as a structured process of 1) preparation, 2) data gathering, 3) analysis, interpretation, and conclusions about the assessed information, as well as the 4) documentation and communication of musical and non-musical data about the music therapy process in order to provide information to make decisions, raise hypotheses, get to know clients better, and achieve a better understanding of the music therapy process.*

The assessment process is structured around the following four basic stages: 1) preparation; 2) data gathering; 3) analysis and interpretation of data; 4) documentation and communication of data/results of an assessment (Goldfinger & Pomerantz, 2014). Therefore, the assessment process is defined by different micro-processes music therapists carry out while preparing (planning the assessment), performing an assessment, which refers to collecting, analyzing, and interpreting data (most known aspects of the assessment practice), and involves documenting, and communicating what was identified during the assessment.

Another important point about this definition is that it encompasses the whole music therapy process, assessing clients and music therapists who interact through musical experiences. This is an important distinction still not sufficiently taken into consideration in the music therapy assessment context. In other words, the assessment is characterized not only by studying a client or group of clients, but also by studying music therapists (Schumacher & Calvet, 2007), as well as the musical experiences that can be created by the members of this process, directly impacting on the interactions and relationships built by the participants (Carpente & Aigen, 2019).

Music therapists can assess to make decisions because, based on what has been assessed, they can decide to use certain musical experiences or determine the goals for the next session or for the music therapy process as a whole. Another possibility is assessing to raise hypotheses because, in many cases, these professionals may have questions concerning the reasons for specific events or behaviors clients have during the process. In this circumstance, the assessment process can help define these

hypotheses. Given that one of the reasons to assess is to know more about the clients, music therapists can better understand the clients' history when they gather information about them. Moreover, music therapists assess to understand the process better. If they only conduct sessions and do not assess the process overall, their perceptions and interventions may be limited to their own beliefs. In most cases, the sessions should be based on experiments carried out in the music therapy setting. It is essential to highlight that clients can also benefit from assessments, since they can become aware of subjective characteristics or behaviors and, consequently, adopt new mental, physical, and social attitudes.

BASIC MUSIC THERAPY ASSESSMENT CONCEPTS

Some key concepts, mentioned many times throughout this book, are introduced and defined in Chapter 1: construct, domain, content domain, item, phenomenon, assessment tool, assessment method, test, measurement, assessment, evaluation, validity, and reliability.

Construct: a complex idea or concept established according to a more straightforward synthesis of ideas (Lovasz & Slaney, 2013). Constructs are classified as empirical or hypothetical. Empirical constructs are based on empirically observed and measured events or process, while hypothetical constructs are not directly observable (abstract) and are linked to concepts, ideas, theoretical entities, hypotheses, or inventions (Waldon, Gattino & Jacobsen, 2018). Gross motor skills and musicality

are examples of empirical and hypothetical constructs respectively. Music therapists regularly assess music therapy constructs; some are easier to represent and study, while others need more specific representations to explore. Constructs are represented by different domains (subjects), and among them, some exact contents, called content domains, are chosen.

Domain: a class of entities or events that represent a subject (Schaffer, 2006). In other words, a domain is a specific area or factor music therapists assess (Pasquali, 2010).

Content domain: a clearly defined body of knowledge, skills, abilities, aptitudes, or tasks that can be observed (Colman, 2015). When music therapists define the construct they want to assess and the domain (dimension) that can represent this construct, they should search for a concrete way to perform the assessment. Therefore, the content domain is the most specific form in the triad construct–domain–content to represent a construct. In general, music therapists start with something more complex (construct), seek a way to describe this complexity through a specific topic (domain) and, within this subject, look for a specific content to be assessed (content domain). Figure 1 shows this process. In some cases, music therapists are not interested in the construct or the domain (dimension) itself, but rather in the content domain, because their main focus is on concrete or observable phenomena derived from the clinical practice (American Educational Research Association [AERA], American Psychological Association [APA], National Council on Measurement in Education, [NCME], 2014).

Item: a unit that represents the content of an assessment tool (adapted from Urbina, 2014). Items are usually the minimum units required to represent the content of a construct in an

assessment tool. There are three main types of items: selected answer, when the person should choose from several options; forced decision, when the person is forced to make judgments about something and answer yes or no, for example; constructed or open-response, when the person is free to answer with no pre-defined responses.

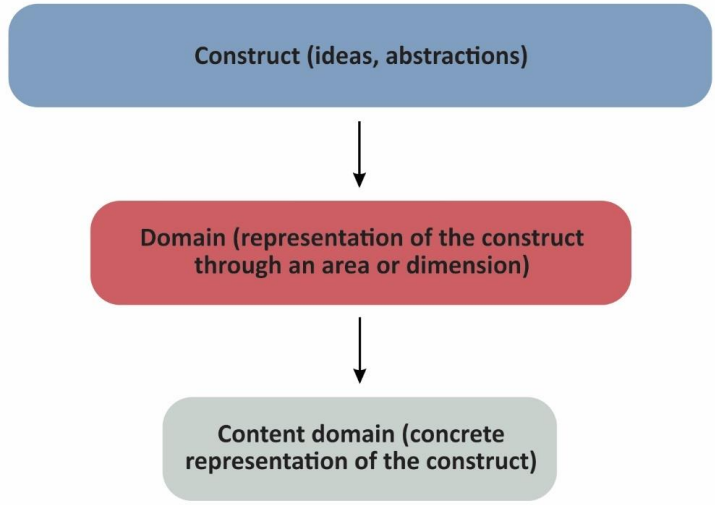


Figure 1. Understanding the triad construct–domain–content

Phenomenon: an observable event or physical occurrence (Sagar, 2017). Throughout the book, this term is associated mainly with the analysis and interpretation of the observation method.

Assessment tool: any device used to gather information about the clients (adapted from Waldon & Gattino, 2018). The

most common assessment tools in music therapy are written documents used to obtain information about the clients. Among these documents, the most common ones are observation tools, tests (scales, questionnaires, checklists), musical analysis tools, and interview forms.

Assessment method: a specific way of conducting an assessment using different procedures and techniques. There are other ways to classify various assessment methods used in music therapy (Lipe, 2015; Waldon & Gattino, 2018; Wheeler, 2013). Methods can be organized by the level of formality (formal and informal) (Lipe, 2015; Wheeler, 2013) or by their specific characteristics (Waldon & Gattino, 2018). The term informal is used to designate assessment methods that do not have methodological rigor in their application or construction (as is the case with some types of observations, interviews, or informal measurements to assess clients). The formal measurements, in turn, refer to tools that have a high degree of rigor and were built based on a complex and detailed construction process (this is the case with tests and some observation tools). Classifying the assessment methods according to their characteristics, Waldon and Gattino (2018) divided them into four categories, adopted in this book, based on the Data-Based Decision Making Model, with the acronym RIOT: reviewing records/documents, interviewing, observing, and testing/measuring.

Test: an assessment tool defined by the use of scores to characterize different behaviors or features of the clients (Waldon & Gattino, 2018). Tests are usually developed following a complex construction process, and the scores of each item should be related to relevant contents of the construct assessed by the test.

Measurement: any information that can be collected quantitatively such as a test score, weight, height, frequency, duration, etc. (Waldon & Gattino, 2018).

Assessment: although this term comes from the English language, it should be explained for publications in other languages because of its unique characteristic (Bruscia, 2001a). In music therapy, the term assessment has two possible interpretations. On the one hand, it can refer to the "assessment" topic in general, as previously defined in this book. On the other hand, assessment is also the name of a specific stage of the music therapy process (second stage, after referral). In this case, it is considered the initial assessment, where the music therapist gather information about their clients during musical experiences in one or more sessions to structure their treatment plan (Gattino, 2019).

Evaluation: this term has three possible meanings. First, it can refer to evaluating the music therapy process, verifying clients' improvements, development, and changes throughout the process (AMTA, 2013; Bruscia, 2014; Churchill, 2015; Waldon & Gattino, 2018). Second, it can refer to situations in which music therapists should make a decision, such as whether the clients should continue the music therapy process. These situations are common outside of the music therapy sphere and relate, for instance, to cases in which a person takes a test or an exam and may or may not be approved, depending on the result. Third, it can refer to the evaluation of the music therapy service (Tsiris et al., 2020).

Validity: the degree to which empirical evidence and theoretical foundations support how appropriate and adequate they are towards the conclusions drawn from a certain type of

assessment (AERA, APA, NCME, 2014). Since it refers to an ongoing process, each new study brings new evidence of validity towards a specific assessment form.

Reliability: the degree to which an assessment is free from random errors, producing the same results (precision) in several applications for the same individual or group of individuals (Drost, 2011). It refers to how reliable or consistent the result of an assessment is. the music therapy assessment process.

PROPOSAL AND SCOPE OF THIS BOOK

This book is based on the author's own experience as a music therapist in different practice areas and as a researcher, lecturer, and music therapy assessment supervisor. It is inspired by the activities he has been developing in the International Music Therapy Assessment Consortium (IMTAC). In addition to discussing topics that have already been covered in other publications on music therapy assessment, the present publication also brings issues arising from practice, based on the knowledge of assessment developed in the areas of psychology, art therapy, social sciences, and education.

This book aims to offer an essential and practical overview of music therapy assessment so that music therapists, music therapy students, clients, as well as students and professionals in other fields can have access to basic knowledge of this topic. This is the precise reason why the title of this book is “Essentials on music therapy assessment”. This publication seeks to provide foundations to help readers understand the essential elements of music therapy assessment. It is organized based on the four stages of the assessment process: preparation,

data gathering, analysis and interpretation of data, and documentation and communication of data/results of an assessment. Each part addresses themes related to each of these four stages. It also has a part that helps introduce music therapy assessment, starting from its foundations, and a part with complementary subjects that offer relevant themes related to music therapy assessment, focusing on the four stages of the assessment process. Given that this publication is an overview of the music therapy assessment topic worldwide, it does not bring in-depth discussions about the context or situation of a specific country.

This publication has differences and similarities compared to other books that also cover music therapy assessment. Chase (2002, as quoted in Boyle, 2004) published a practical music therapy assessment guide, mainly dedicated to music therapy students, to help organize their practice and provide general knowledge on the subject. According to Boyle (2004), that is an introductory book that brings a brief overview of the different aspects of the music therapy process. Compared to that publication, this book has a similar proposal of providing a basic view on music therapy assessment, but it also offers an updated perspective on the subject, mainly considering the publications on music therapy assessment in the past 20 years. Furthermore, this book focuses not only on materials published in English, but also considers publications in languages such as German, Spanish, Korean, Danish, Hebrew, Japanese, French, and Portuguese, which also provide essential contributions to this matter. This book also differs from music therapy assessment publications that are centered on an assessment tool or method (Baxter et al., 2007, Carpente, 2013; Wosch &

Wigram, 2007a), because although it also addresses these topics, it does not approach them as deeply as the specific publications.

The most recent book on music therapy assessment was published by Waldon, Jacobsen and Gattino (2018). The authors provided an overview of music therapy assessment in the first three chapters, including historical aspects, characteristics of music therapy assessment, different types of assessment, a psychometric definition and explanation, and general assessment considerations when a specific assessment tool is not used. The remaining chapters offer a detailed description of 16 assessment tools, which are mostly tests. The present publication has some similarities with the book organized by Waldon, Jacobsen and Gattino (2018) regarding some theoretical understandings, especially about music therapy process, music therapy assessment methods, and psychometric aspects.

Nonetheless, unlike the abovementioned book, the present one does not focus on the detailed description of assessment tools. Another essential difference between them is that the theoretical foundation of the other book is mostly based on psychology and education studies related to tests. In this book, the use of formal assessment tools such as tests is considered, but has limited space, since the author aims to present informal assessment methods such as the use of performance tasks and rubrics, detailed throughout the book. One more difference between them lies in the fact that the book published by Jacobsen, Waldon and Gattino (2018) approaches assessment methods in a very summarized manner, only in the first chapter of the book, whereas in the present publication each method has

a specific chapter dedicated to explain its characteristics and explore various ways to use them.

Additionally, this book mostly presents unpublished themes that other publications have not addressed yet. Topics such as training, teaching, and supervision in the music therapy assessment field, research in the music therapy assessment field, assessment practices during the coronavirus disease (COVID-19) pandemic are among the themes here approached. Another important feature of this book is that, in the appendix, it offers music therapists different assessment tools to apply in their music therapy practice. These documents have been originally created by the author and used both in teaching and clinical practices. An essential feature of this publication is the way the chapters were designed. To facilitate the learning processes on the topics covered in the book, each chapter begins with a question that is answered in the text. To make it even easier, at the end of each chapter, it gives a summary of the subject with a brief answer to the question asked.

The book was designed for music therapists who work with different approaches, orientations, and models, but for other populations and contexts of practice as well. Additionally, it can be used for music therapy practice and educational and research contexts.

SUMMARY OF THE BOOK

This book is organized in six parts: Part I – Introductory topics, Part 2 – Preparation, Part 3 – Data gathering, Part 4 – Analysis, interpretation, and conclusions, Part 5 –

Documentation and communication of assessment results, and Part 6 – Other topics. Each of these parts is divided into chapters.

Part 1 provides a conceptual and theoretical foundation so that readers can understand the theory and practice of the music therapy assessment field. Chapter 1 introduces the definition of music therapy assessment, the basic concepts of this theme, as well as the proposal, scope, and content of this book. Chapter 2 explains the essential characteristics of the music therapy assessment. Chapter 3 presents the assessment process with its four primary phases and the music therapy process, aiming to help understand when and how assessments occur according to their different goals and purposes. Chapter 4 shows the possible contexts music therapy assessments take place.

Part 2 focuses on discussing topics music therapists should be aware of before applying an assessment method. Chapter 5 considers aspects of lifespan development and how they relate to music therapy assessment, since music therapists should understand the different changes and development milestones that occur from birth to old age to perform assessments. Chapter 6 presents some models, approaches, and orientations used as perspectives to understand and intervene in music therapy assessment processes. These different perspectives are connected to other models, approaches, and frameworks used in music therapy. Chapter 7 covers ethical and cultural aspects of music therapy assessments, giving basic guidelines on ethical assessments within and outside the music therapy context and how music therapists should consider aspects of the clients' culture during the sessions. Chapter 8 addresses research in music therapy assessment in the music therapy practice. It presents a scoping review encompassing the most

prominent publications on music therapy assessment, discussed in greater detail in the following chapters.

Part 3 covers the application of different music therapy assessment methods in different situations. Chapter 9 discusses how music therapists review music therapy records. Chapter 10 presents the use of interviews and explains them. Chapter 11 addresses the use of observations. Chapter 12 covers the use of tests and measurements. Chapter 13 describes how to create, adapt, and translate assessment tools in music therapy. Chapter 14 discusses how to select one or more assessment methods in music therapy.

Part 4 deals specifically with how music therapists analyze, interpret, and conclude data of assessment processes. Chapter 15 offers an overview of the analysis, emphasizing the different epistemological aspects that support the possible data analysis models in music therapy. Chapter 16 discusses the processes of interpreting and reaching conclusions in a music therapy assessment.

Part 5 is dedicated to preparing documents and communicating results. Chapter 17 addresses the preparation and integration of documents obtained during the music therapy assessment. Chapter 18 covers communication of assessment results and presentation of results during a conversation or a formal lecture.

Part 6 addresses topics relevant to assessment not covered in the previous chapters. Chapter 19 discusses training, teaching, and supervision. Chapter 20 brings discussions about music therapy assessment practices during the COVID-19 pandemic.

FINAL CONSIDERATIONS

In conclusion, music therapy assessment encompasses different themes and areas. Authors who write about music therapy assessment have different understandings of it. Thus, it is essential to find ways to define and present the basic concepts of the subject. Chapter 1 gives the readers the opportunity to learn the basic content of music therapy assessment.

CHAPTER SUMMARY

What is music therapy assessment?

Music therapy assessment can be defined as a structured process of preparation, data gathering, analysis, interpretation, and conclusions about the assessed information, as well as the documentation and communication of musical and non-musical data about the music therapy process. It is intended to provide information for decision making, raise hypotheses, get to know clients better and achieve a better understanding of the music therapy process.

CHAPTER TWO

Basic characteristics of music therapy assessment

Chapter question: What are the fundamental characteristics of music therapy assessment?

INTRODUCTION

Music therapy assessment shares some characteristics with assessment practices carried out in other disciplines such as psychology, education, and social work (Greenberg, Lichtenberger & Kaufmann, 2013; Klenowski & Wyatt-Smith, 2013; Milner, Myers, & O'Byrne, 2020). These similarities are related to assessment methods and the use of assessment practices based on evidence or gathered information. However, some substantial differences can be pointed out comparing music therapy assessments to those made in other areas. First,

the nature of the data evaluated is different, since music therapists evaluate musical content and interactions created from music (Wosch & Wigram, 2007c). Second, the relationships established are unique, because clients and music therapists often relate through musical experiences (Carpente & Aigen, 2019). Third, the focus of the assessment is extraordinary, considering that it may be directed to content or interactions through music (Waldon, Jacobsen & Gattino, 2018). Fourth, the people evaluated are also unique in the music therapy process: music therapists, clients, clients' family members, or other participants in general (Ferrari, 2013). This chapter explains the characteristics of the assessment process based on the people evaluated, methods, nature of data, relationships established in the assessment practices in music therapy, and performance of assessment practices based on evidence or data.

PEOPLE ASSESSED IN MUSIC THERAPY

The music therapy assessment process implies the participation of different members in the therapeutic setting. These members can be assessed to provide a greater understanding of this process. Traditionally, clients (who can be students or patients, depending on the context) and music therapists participate in this space (AMTA, 2013, Ferrari, 2013). In group contexts, music therapists work with more than one client simultaneously, and the number of clients depends on the therapeutic context.

According to Bruscia (2014), the client is the person participating in the music therapy process that needs help, and

music therapists are the participants who seek to help the clients in a music therapy process mainly through musical experiences learned and developed during official training. In addition to knowledge related to musical experiences, music therapists should also have specific verbal skills to interact with clients throughout the process (AMTA, 2013), and use their skills (regarding assessing and intervening using musical experiences in music therapy, verbal skills, relational skills, etc.) to establish a therapeutic alliance with clients (Silverman, 2019). During this process, music therapists assess their clients to find possible ways to help them through interventions and define therapeutic goals.

It is worth noting that music therapists may frequently work with a co-therapist (another music therapist present in the setting) (Turry & Marcus, 2005). Given that they should work together, it is essential to define the assessment role of the co-therapist during the process. In many cases, music therapists may ask the co-therapist to provide some support or perform a musical experience with the clients. The participation of the co-therapist in the assessment process is considerable, since the presence of this professional is intended to facilitate the participation of the clients in the setting.

In addition to the assessment of clients, music therapists can also assess family members who participate in the sessions (Jacobsen & McKinney, 2015). In some contexts, family members participate only in a peripheral manner, because they stay in the setting to accompany the clients. In other situations, family members actively participate in the process (Thompson, 2012). Since behavior patterns, capacities, and thoughts manifested by family members may explain clients' actions, it

is of paramount importance that music therapists assess family members to understand clients better (Jacobsen & Thompson, 2016). An example of a music therapy assessment tool that assesses these family relationships through musical experiences is the Assessment of Parent-Child Interaction (APCI) created by Jacobsen (2016).

In some intervention contexts, professionals in other areas, such as psychologists, physiotherapists, occupational therapists, etc., may participate in the music therapy sessions (Ferrari, 2013). In these cases, the professionals are also assessed during the process, as they may directly influence clients' behavior and attitudes during the session (Figure 2). Before performing a music therapy assessment, music therapists should explain to the professionals in other areas how they conduct their practice so that the invited professionals can appropriately participate in the session following the assessment context. In multi, inter, or transdisciplinary contexts (Tavares et al., 2012), music therapists collaborate with other professionals during the assessment process. In a multidisciplinary perspective, music therapists assess the same clients that other professionals assess. In an interdisciplinary scope, there is a collaboration between the different professionals assessing the same client. In a transdisciplinary context, music therapists assess the client simultaneously and in collaboration with other professionals.

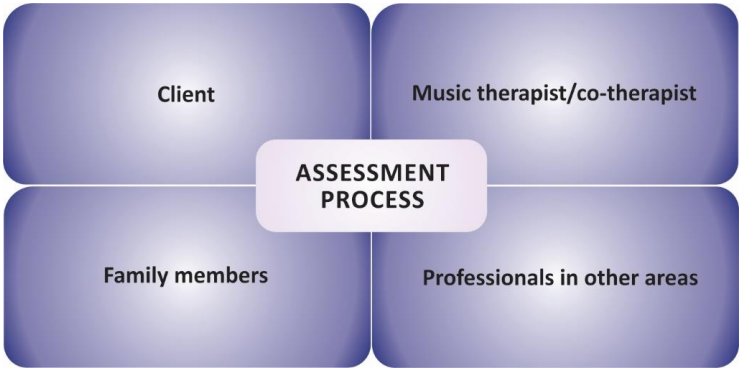


Figure 2. People assessed in the assessment process

MUSIC THERAPY ASSESSMENT METHODS

The four assessment methods (record review method, interviews, observations, and tests and measurements) provide music therapists with tools to assess clients. Each method has specific characteristics that can adapt to music therapists' assessment style and the assessment context, and no method is considered more important than the others. Each method is explained in greater detail in Part 3, in Chapters 9, 10, 11, and 12, one for each method, but a brief explanation of each of them is presented here.

Record review method: music therapists assess records related to clients by studying documents created during the music therapy process (Waldon, 2016) or analyzing documents from other professionals such as reports, exams, and statements

on the clients' previous diagnosis. They can also assess materials indirectly related to the clients such as books or reference materials to better understand their characteristics, or the context, or the musical experiences used. Another possibility is assessing digital records such as information sent by clients by email or posted on social media (provided there is an authorization for this), digital materials such as photos, artistic products, and objects brought by clients to the sessions.

Interviews: music therapists conduct interviews with clients in a structured or unstructured manner (Waldon & Gattino, 2018). For structured interviews, music therapists can use a series of defined questions, for which a set of expected answers may or may not be provided. Alternatively, the interview can be carried out in a non-systematic manner, following a general direction but not using totally defined questions. Although traditionally used at the beginning and the end of the music therapy process, the interviews can be performed at any time during the process to ask clients different questions on various topics.

Observations: clients' assessments are performed in an environment mainly based on what is seen and heard (Anguera, 2018). Observations can happen in real-time or by watching video recordings (Waldon & Gattino, 2018) and can describe quantitative and qualitative phenomena. Regarding quantitative phenomena, observations usually describe the frequency (how many times), duration (how long), and latency (the interval between the presence of the element assessed) of a behavior, behavior pattern, or capacity (Walworth, 2007). Concerning qualitative phenomena, observations describe clients' features according to music therapists' perception. In this case, music therapists describe phenomena presented by

themselves or clients and explain nuances of the relationships established in the process (Holck, 2007). Qualitative observations provide a more subjective description of the events in the process. Observations can be made with or without the use of assessment tools.

Tests and measurements: this category include only quantitative music therapy assessments (Waldon, 2013). Tests are assessment tools that assign scores to the manifestations observed in the clients (Decker, 2013). The scores are established based on a pattern of expected responses clients give. The scores of a test are structured based on specific criteria that assess clients' ability to respond to the construct assessed. The main types of tests used in music therapy are scales that aim to classify clients' responses in different categories, assessment questionnaires that aim to quantify different responses provided by clients, and rubrics, i.e. practical tests created to assess clients' responses while performing a specific task (Stanley, 2019). Measurements represent any quantitative measurement performed by music therapists, involving the use of a test or a simple measurement of some content (Waldon & Gattino, 2018). Traditionally used measurements in music therapy are heart rate and blood pressure, for example.

NATURE OF THE DATA ASSESSED IN MUSIC THERAPY

Nature of data refers to types of data assessed in music therapy. Among the publications that discuss this matter, the ones written by Bruscia (2005), Keith (2016), Meadows (2016), and Waldon (2016) stand out. Although these publications are geared towards the research context, they provide a detailed description of the types of quantitative and qualitative data music therapists assess in their practice. Quantitative data relate to information that can be quantified either discretely (by whole numbers such as 1, 2, and 3) or continuously (by decimal numbers such as 1.5 or 1.6). Qualitative data refer to information described according to nominal and ordinal variables. Nominal variables relate to the description of categories or terms with no intrinsic order (for example, white, yellow, red, etc.). Ordinal variables refer to names and categories with a hierarchical order, and therefore they can be transformed into scores according to their importance (for example, excellent, very good, good, regular etc.).

The first macro vision of data to assess should be based on five fundamental human pillars: biological, cognitive, developmental, social and personality, and mental and physical health (Gurung et al., 2016). Although these five pillars have been established within the scope of psychology, they directly apply to music therapy and allow music therapists to visualize the broad areas that are assessed. Actually, music therapy assessment studies are influenced by knowledge in the field of psychology (Waldon, Jacobsen & Gattino, 2018). To describe the areas inherent in these five pillars, an approach that

especially considers studies on human development throughout life (Schaffer, 2006; Papalia & Martorell, 2015) is herein presented:

1) Biological – studies contents related to neurological and physical aspects linked to sensations;

2) Cognitive – studies contents related to intelligence, creativity, memory, perception, attention;

3) Developmental – studies aspects related to learning and the development of changes throughout life as well as communication and language contents;

4) Social and personality – studies social aspects, personality, emotions, multicultural aspects, spirituality, and gender;

5) Mental and physical health – studies how human beings understand their own mental and physical health (within expectations or not) and the need for support according to different types of therapy and care.

When music therapists have a clear view of the large areas or pillars being assessed, they can define specific areas for assessment. Table 1 shows some of the areas traditionally assessed by music therapists encompassing the five central pillars.

Table 1. Areas commonly assessed in music therapy according to five fundamental human pillars

Biological	**Cognitive**	**Developmental**	**Social and personality**	**Mental and physical health**
- Gross motor skills; - Fine motor skills; - Oral motor skills; - Pain; - Pleasure; - Relaxation; - Ecstasy; - Catharsis; - Muscle tone; - Vestibular; - Hearing; - Vision.	- Musicality; - Creativity; - Memory; - Perception; - Attention; - Intelligence; - Proprio-ception.	- Learning concrete and abstract skills; - Physical, social, cognitive, and emotional transformations observed over time; - Language Expressive communication	- Relation-ships with other people; - Perceptions about personal spirituality and that of others; - Perception about one's own life; - Expression and unders-tanding of different feelings; - Elements related to identifying with one or more cultures or different genres.	- Need for health support due to social problems (violence, economic problems etc.); - Need for health support due to physical or neurological problems; - Need for health support due to psycho-logical problems.

The areas shown in Table 1 do not represent all those based on the five pillars assessed by music therapists. However, they offer a summary of the categories assessed by them.

After understanding the possible areas music therapists can assess, it is important to describe the contents they can assess. Contents are representations or examples of how clients

express themselves in a specific area (Colman, 2015). Traditionally, music therapists assess behaviors, behavior patterns, skills, thoughts, verbal discourse content, musical parameters, gestures, postures, and body movements, facial expressions, interpersonal relationships, and intermusical relationships.

Behaviors: actions of clients in the music therapy setting.

Behavior patterns: a set of behavior manifestations that occur regularly (trying to leave the room whenever feeling intimidated, for example).

Skills: ability to perform a given task (playing an instrument or singing, for example).

Thoughts: content and way clients think about different subjects in the session.

Verbal discourse content: assessment of verbal language content and form in the session.

Musical parameters: assessment of musical elements such as phrase, melody, harmony, tonality, rhythm, texture, dynamics, shape, and timbre.

Gestures, postures, and body movements: the ways clients interact with their body in the setting according to gestures, postures (the way they position the body), and movements used.

Facial expressions: manifestations related to changes in facial expressions according to emotions and sensations.

Interpersonal relationships: relationships established between different participants in the setting related to non-musical aspects.

Intermusical relationships: relationships established between different participants in the setting based on the

different interactions that occur during musical experiences. Therefore, it is possible to understand the nature of music therapy assessment data based on five fundamental human pillars, primary assessment areas, and types of content.

FOCUS OF MUSIC THERAPY ASSESSMENT

The focus of music therapy assessment refers to the target of music therapists' attention in the music therapy process (Waldon, Jacobsen & Gattino, 2018), and this should not be confused with the content assessed, i.e. the topic studied. Music therapists can organize the focus of assessment according to the following categories: focus on the person, focus on the goals, and focus on the content (Figure 3).

Figure 3. Focus of music therapy assessment

Focus on the person: music therapists, clients, family members, professionals in other areas. The focus on the person can combine an assessment of two or more people at the same time.

Focus on the goals: music therapists can assess the goals of the session or the music therapy process as a whole. The objectives of the session tend to be more specific and refer to what can be reached during a session (seeking ways of communicating with the clients, for example) (Michel & Pinson, 2012). They may or may not be related to the general goals of the music therapy process. During the music therapy process, music therapists assess goals related to the following topics: verify if the client is eligible for the process (in the referral), gather information to define the goals of the treatment (in the initial assessment), gather data to plan the treatment (treatment planning stage), verifying ways to achieve the proposed treatment goals (treatment stage), evaluate whether the goals are being accomplished (still in the treatment stage), and assess achievements throughout the process (termination or discharge stage) (AMTA, 2013, Waldon & Gattino, 2018).

Focus on the content: behaviors, relationships, skills, behavior patterns, thoughts, words, musical parameters, etc.

RELATIONSHIPS ESTABLISHED IN THE PROCESS OF ASSESSMENT IN MUSIC THERAPY

This is perhaps one of the main differences of the evaluative process in music therapy compared to the assessment

practices performed by other disciplines. The assessment process in music therapy involves assessing the user from their participation in a musical experience (Carpente & Aigen, 2019; Sears, 1996). This experience may be observed directly, or through video, it may serve as a reference for the application of a test, it may be the subject of an interview, or it may have been described in a particular record (score of the experience, for example) that will be assessed. Assessments in other disciplines do not include musical experiences as a primary means of conducting assessments, so music therapy assessment has an important differentiator.

Carpente and Aigen (2019) state that although assessment in music therapy involves the use of music, there is not always a relationship created between participants that are centred on musical elements. The music therapist may observe the user manifesting a behaviour within the session by playing an instrument, but their interest is restricted to describing this behaviour without contextualizing it musically. Similarly, the music therapist may develop a relationship with the user through music. Still, they are only interested in the relationships created only to evaluate nonmusical aspects of the user. According to these authors, much of the assessment tools in music therapy use music to assess behaviours or create musical relationships where the only interest is to describe nonmusical aspects. According to Carpente and Aigen (2019), music therapist can understand their assessment process from a music-centred perspective. What happens musically directly influences the course of interactions and the responses made in musical experiences. In other words, it is impossible to dissociate the course of the musical interaction from the responses

of its participants (user and music therapist). Within this relationship perspective suggested by these authors, few assessment tools meet this demand of placing the relationships established in the music as the primary source generating data about the assessment. They state that two examples of assessment tools within this perspective are the Improvisation Assessment Profiles (IAPs) (Bruscia, 1987) and the Individual Music-Centered Assessment Profile for Neurodevelopmental Disorders (IMCAP-ND) (Carpente, 2013).

EVIDENCE-BASED AND DATA-BASED ASSESSMENT

Music therapists' assessment practices do not generally occur randomly. These practices are based either on evidence or on data (Lipe, 2015; Waldon & Gattino, 2018). Both ways of structuring practice are fundamental for music therapists to get to know the clients, raise hypotheses about the case, make decisions, and understand the music therapy process better. Evidence-based assessment refers to music therapy assessment practices that are carried out based on the choice of the best evidence regarding different methods of preparation, data collection, analysis, and interpretation, as well as documentation and communication of the results (Lipe, 2015). The evidence taken as reference should be based not only on studies in the music therapy field, but also on assessments of a specific context or population. An example would be the guidelines of Centers for Disease Control and Prevention (CDC) to observe typical behaviors of a baby during the first

year of life (CDC, 2020). Abrams (2010, p. 352) defined the concept of evidence as

> *indications, manifestations and signs that serve as a sufficient basis for beliefs, judgments, establishing conclusions or evidence about a particular phenomenon, providing a testimony and making certain aspects of that phenomenon simple or clear.*

Abrams (2010) established four types of evidence that should be considered in music therapy: objective evidence, subjective evidence, interobjective evidence, and intersubjective evidence. Objective evidence (exterior-individual) studies causal relationships between interventions and specific therapeutic outcomes. Interobjective evidence (exterior-collective) examines the systemic relationships between different objective variables. Subjective evidence (interior-individual) refers to personal experiences, meanings, and stories related to music therapy processes and results. Intersubjective evidence (interior-collective) refers to the role of clients' cultural, historical, and political contexts.

Data-based assessments are related to data collected about the case inside and outside the music therapy process. Although music therapists can structure assessments based on their previous experiences, only assessing the data of the present cases they can have a clear perspective of the therapeutic line to adopt (Waldon, 2016b). To be able to base assessments on clients' data and the music therapy process in general, music therapists should have an organized control of both the

different types of information collected about the case and the time of collection (AMTA, 2013).

FINAL CONSIDERATIONS

This chapter showed similarities and differences of assessment processes in music therapy and in other disciplines. Music therapy assessment has various characteristics depending on the perspective of the analysis. Understanding these characteristics is fundamental for music therapists to advance in a more specific analysis of the different stages of the assessment process presented in Chapter 3, thus concluding the introductory topics of music therapy assessment.

CHAPTER SUMMARY

What are the fundamental characteristics of a music therapy assessment?

Music therapy assessment is characterized by using methods that are also applied in other disciplines (record review method, interviews, observations, and tests and measurements). Still, it has substantial differences in foci, established relationships, and assessed data based on musical experiences and content. Similarly, music therapy assessment includes the participation of music therapists, different from other assessment processes. It is essential to emphasize that music therapy assessment usually occurs through an evidence-based practice or a data-based practice.

CHAPTER THREE

Music therapy assessment process

Chapter question: What are the processes inherent in music therapy assessment practices?

INTRODUCTION

One way to understand the complexity of music therapy assessment practices is studying the different processes involved. Music therapy assessment can be understood through two broad processes: the assessment process and the music therapy process. The assessment process refers specifically to the stages inherent in the experience of music therapists during the assessment practices and occurs in four stages: 1) preparation; 2) data gathering; 3) analysis and interpretation of data; 4) documentation and communication of data/results of an assessment (Goldfinger & Pomerantz, 2014) (Figure 4).

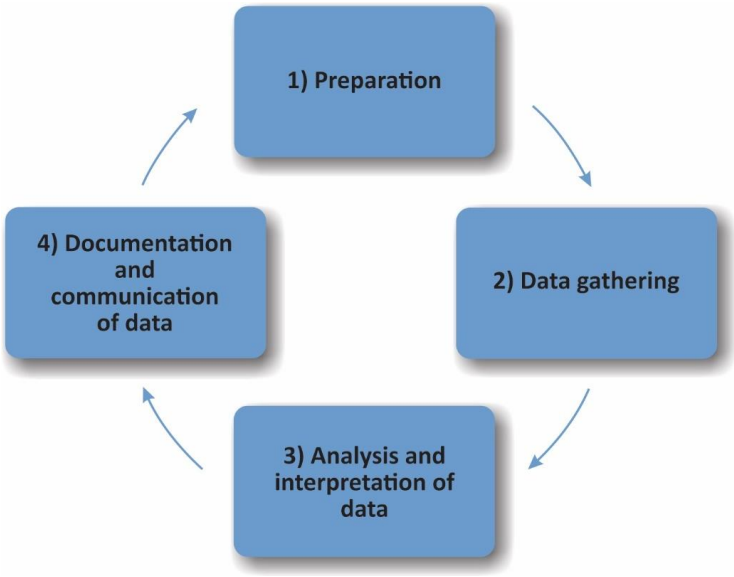


Figure 4. Summary of the music therapy assessment process

The music therapy process, in turn, includes the music therapy practices carried out from the moment clients receive the referral until the completion of the services, and occurs in five stages: referral and acceptance, initial assessment, definition of treatment plan, implementation of treatment, and discharge or termination process (Waldon, 2013). The significant difference between them is that the assessment process only refers to the music therapy assessment context. In contrast, the music therapy process refers to the general

application of music therapy, and therefore has a broad understanding that goes beyond assessment (Abrams, 2011), inasmuch as it also includes studies on treatment plan and implementation. However, each of these stages can be understood according to assessment practices. Thus, music therapists perform assessment practices in any stage in the music therapy process. For each of the five stages in the music therapy process, it is possible to experience all the four stages in the assessment process (Figure 5).

Figure 5. Relationships between the music therapy process and the assessment process

Figure 5 demonstrates some important relationships between the music therapy process and the assessment process. The five pink circles represent each stage of the music therapy process, and the pink arrows indicate the direction towards the next stage in this process. Usually, the music therapy process has a sequential progression from the first to the fifth stage. In some cases, it is essential to return to an earlier stage due to some event in the process. It is quite common, for example, to be in the treatment stage and return to the initial assessment stage, because it is necessary to define the goals of the process again. The blue circles indicate the different stages in the assessment process and the blue arrows point to the next stage. It is important to emphasize that the assessment process is cyclical, i.e. as soon as music therapists finish communicating and documenting the results and return to the preparation stage, a new assessment process begins. Moreover, music therapists can perform different assessment cycles in each stage in the music therapy process. This chapter aims to explain each of these two major processes and their importance in the music therapy assessment context.

THE FOUR STAGES OF THE MUSIC THERAPY ASSESSMENT PROCESS

The organization of the music therapy assessment process is a recurring theme in publications on assessment in psychology, education, and social sciences (Charpan & King, 2012, Jordan & Frankin, 2020, Suhr, 2015). Overall, these areas reach a consensus that the assessment process includes stages related

to planning, data collection, analysis and interpretation, and communicating the results of the assessment. In music therapy, however, no clear description of these stages has been created considering the overall music therapy assessment. Nonetheless, these stages can be perceived in the description of some methods and assessment tools used in music therapy following this suggested structure (Plahl, 2007; Michel & Pinson, 2012). The structure organized in four stages is considered to occur in any assessment practice, regardless of the method, approach, moment, interest of music therapists, focus of the analysis, and context of application. These four phases were chosen to structure the different chapters of this book due to their importance and objectivity to explain how the assessment process occurs.

Planning

Before collecting data for assessing a client or group of clients, music therapists should prepare for it answering some basic questions: 1) Why should I assess the client? 2) What should I assess? 3) How should I assess the client?

1) Why should I assess the client?

If music therapists wish to carry out an assessment practice, there should be some specific reason. Usually, these reasons are related to decision making, raising hypotheses, or getting to know the client better. For each of these possibilities, music therapists need to identify the moment being assessed in the music therapy process. In this stage, music therapists should clearly understand whether this is a need determined by themselves or by an external requirement.

2) What should I assess?

Before defining the assessment focus, music therapists should study previous documents and records (recordings, drawings, sculptures, etc.) of the clients in the music therapy process, documents from other therapies or interventions the clients have been participating in, and conduct interviews with family members or other professionals to obtain information about the clients. For clients new to the music therapy process, who have not participated in any sessions yet, music therapists should examine only data collected outside of the music therapy sphere. Music therapists can also consult the literature on the context or population within and outside the music therapy scope to have a clear understanding of the focus of the assessment practice. The assessment should be related to some behavior, pattern of behavior, or skill that music therapists wish to assess through musical experiences. If music therapists are working with a group, they should check whether the focus is on one person or on all the individuals simultaneously. Furthermore, professionals should consider whether the assessment focus should be separated from the musical experiences or perceived in a music-centered manner (Carpente & Aigen, 2019). In music-centered assessments, the musical interaction between music therapists and clients is fundamental to understand the behaviors, behavior patterns, and skills assessed.

3) How should I assess the client?

As soon as music therapists have clear reasons to perform an assessment and define the assessment focus, they should find ways to assess the clients. For planning an assessment, music therapists should be aware of the ethical and cultural aspects related to it. Moreover, they should choose a music

therapy assessment method that may or may not be related to using a music therapy assessment tool. Music therapists usually carry out their assessment practices based on the best evidence about the chosen method. Nevertheless, so far, no extensive amount of evidence has been gathered using the different methods (record review method, interviews, observations, and tests and measurements); therefore, music therapists are expected to apply methods based on their own music therapy experience. When planning how to assess, music therapists should think about whether the assessment should be focused on quantitative aspects (test scores or frequency of behaviors, for instance) or qualitative aspects (description of client behaviors or analysis of the contents of an interview, for example). Moreover, while performing an assessment, music therapists should consider the theoretical approach/model/orientation supporting their music therapy practice. Usually, the approach/model/orientation that provides the assessment foundation is the same that supports the music therapy process. The professionals who are guided by the analytical music therapy model for the music therapy process, for example, generally follow the same model for their assessment practices. However, this is not a rule. Some music therapists may use behavioral music therapy assessment models to calculate the duration and frequency of a behavior and still be guided by an improvisational music therapy model, for instance, which generally focuses on music-centered perspectives. In this stage, music therapists should also think on how to organize the room and/or the assessment tools for a face-to-face assessment. During face-to-face assessments, music therapists usually use musical experiences (receptive experiences, composition, musical improvisation, and musical

recreation) to assess. It is necessary to establish how to use these experiences to assess the chosen focus.

Data gathering

This stage of the assessment process relates to the practices and events carried out when music therapists apply an assessment method. While using a particular method, music therapists should pay attention to their initiatives and actions to search for information about clients. Data can be collected by studying the video of a session, or assessing a specific document about the client, or conducting a session with the client for assessment purposes. To analyze videos of sessions or documents, music therapists can use some basic forms to fill in the information collected. During face-to-face sessions, it is important to have a plan that allows the assessment of the different foci planned.

It is fundamental to bear in mind that the clients are not being “treated”, but that music therapists are seeking relevant information about them. In some cases, what was planned for the session does not happen or needs to be modified. In these situations, music therapists should adapt the session to maintain the assessment focus. The session plan can be more systematic concerning the number of activities and the duration of each of them. However, music therapists can also perform a less systematic assessment using only a few basic guidelines to help conduct the session. For face-to-face sessions, music therapists should find ways to record the session information. The most traditional way is videotaping the sessions with the clients' consent. Nonetheless, music therapists can register data by

writing or audio recording a summary of the session. During data collection, music therapists should transcribe what was collected. Some professionals prefer to transcribe what happened in descriptive reports, while others prefer to organize information in charts or even through music scores. Transcriptions should provide clear ideas about what happened during the assessment, but not analyze or interpret information, since they are essential to understand what should be analyzed and interpreted in the next stage.

Analysis, interpretation, and conclusions

In this stage, music therapists have already collected the information needed and should analyze and interpret the data they found. The term analyze is mainly related to studying and examining the data gathered, while interpret is connected to understanding them. Music therapists can analyze data based either on a quantitative perspective, adding and comparing the number of phenomena or characteristics gathered, or on a qualitative approach, checking the similarities and differences between the data collected and possible inconsistencies. The interpretation is directly associated with how music therapists understand the information collected. If they use tests, for example, the algorithms or the test descriptions can be interpreted according to the different scores. In quantitative observations of behaviors, the factors that influence the maintenance, decrease, or increase of a particular behavior are usually interpreted. In qualitative observations, they typically seek to understand the complexity and subjectivity of clients' information and the relationships established in the setting. The

perception of subjective and complex aspects occurs through understandings based on clinical experience and/or interpretations according to a particular theory or concept. This is a common practice in music therapy, and the literature provides many references for guidance to understand certain concepts such as analogy, metaphor, and empathy in the music therapy process (Barcellos, 2012, Smeijsters, 2012; dos Santos, 2019).

The final part of this stage refers to assessment conclusions. At this point, music therapists can reach conclusions based on their analysis and interpretation according to the data collected and the clinical judgment. Clinical judgement is a particular level of perception. Music therapists try to use all available sources to create descriptions about the clients (adapted from Groth-Marnat & Wright, 2016). Based on the assessment conclusions, music therapists can make decisions, accept or reject the hypotheses established before the assessment, and describe everything necessary to understand the clients.

Documentation and communication of the assessment results

After finishing an assessment, the creation of documents to report the assessment process intends to document/record the elements assessed and the results (Ridder, 2012), as well as communicate these aspects to the client, family, music therapists or professionals in other areas, and public or private institutions involved (AMTA, 2013). Documentation does not occur only in this stage of the assessment process (AMTA, 2013; Waldon, 2016c), but it is emphasized at this point due to

the need to record the results of the assessment carried out. It is essential to highlight that, in some cases, music therapists prepare documents intended to provide an internal assessment and record the different events throughout the process. Forms should be planned based on the primary purpose of the assessment. If the goal is to justify music therapy as an intervention, music therapists should focus on these aspects. For the final document in the music therapy process, music therapists should summarize the actions during the process and emphasize clients' achievements during it.

The documents should be prepared according to the target audience that will read them. If the form is intended to other music therapists, the professional should write it using a language style that includes specific music therapy terms. Documents for other professionals should explain the musical terms and the music therapy field in a clear and simplified way, using technical language adapted to the professionals reading it. Documents for family members or clients should use a simplified language style that makes it possible for them to understand different contents. The preparation of documents should respect ethical and cultural aspects as well.

The assessment results can be communicated through the documents prepared for this purpose and/or specific meetings to provide feedback about them (Goldfinger & Pomerantz, 2014). During these meetings, music therapists explain the findings and answer any questions people receiving the results might ask. Music therapists can use videos, audios, and other records of the sessions to explain the results. The language style used to communicate the results should be adapted to the target audience receiving them. Throughout the meetings to give feedback on the results, music therapists should be attentive

and kind, establishing an inclusive dialogue with the stakeholders. It is crucial to make it clear that music therapists base the conversation on the results of the assessment and not on their opinion. If music therapists do not know how to answer a question or do not have accurate information on a topic, this should be pointed out. Music therapists should avoid imposing their opinions even if they are technical and should never use derogatory and/or prejudice-filled terms to communicate results, or restrict the clients' rights and freedom to question any aspects of the assessment.

A temporality and analytical approach towards the assessment process

Although the assessment process is explained in each of its four stages, two specific points need to be analyzed to understand it better, namely temporality and analytical approach (Baker, Kerry, & Wilkinson, 2011; Killick & Taylor, 2020). The assessment process is based on temporality since it occurs over time (Baker, Kerry, Kelly & Wilkinson, 2011), which refers to the duration of the entire process, or the time music therapists use for each of the four stages or a procedure. In summary, the assessment process has a relative temporality, because it is not possible to accurately determine the duration of this process as a whole or the duration of its procedures and stages. Another interesting aspect of temporality is the moment music therapists decide to perform an assessment. Most often, they have an idea of the points they want to assess and then conduct an assessment session to collect data. However, in some circumstances, music therapists have already held a

session and only after a specific situation or fact they notice the need for an assessment.

The duration of the assessment process depends mainly on whether the need is focal or procedural. In the first case, music therapists need to assess something specific that happened on a part of a session or in an entire session, for example, and the assessment ends when the therapists come to a conclusion. In the second case, music therapists have to assess contents of different sessions or throughout the music therapy process, and this usually requires more time. This is certainly not a rule, as music therapists can spend a lot of time analyzing a session and quickly verifying what happened in different sessions. Nonetheless, it is vital to consider the time used for the assessment, checking whether the need is focal or procedural. The time music therapists need for each stage or procedure is variable. When using an assessment method that requires a complex and thorough assessment, as in the case with microanalysis observation methods using videos, music therapists may need a long time for data collection. Some procedures may take more time because they depend on a series of techniques to apply, as is the case with categorizing verbal discourse content from the transcription of an interview.

Regarding the analytical approach (Killick & Taylor, 2020), it does not refer only to the specific stage of the assessment process in which music therapists analyze the data collected, but rather to the continuous study of all the actions and understandings produced during this process. According to Killick & Taylor (2020), the assessment process occurs in four analytical stages: knowledge, critical thinking, analysis, and reflection. These four stages are not exclusive to the music

therapy field, since they are also used in the assessment process by professionals in social services.

Knowledge refers to practical, theoretical, and factual understanding (related to the facts of the assessment itself) that the therapists use to better understand what occurs in the assessment and to be able to perform specific actions based on it. Killick & Taylor (2020) affirmed that both formal knowledge (acquired through systematic ways of learning) and informal knowledge (gained through non-systematic experiences) is used in assessments.

The critical thinking category refers to how therapists verify the importance and credibility of different information assessed and the actions and understandings they develop throughout the process. Therefore, critical thinking represents an attitude that music therapists should have during the assessment practice. The content, procedure, or technique analyzed is not considered a mere mechanical action or bureaucratic issue.

The analysis represents therapists' actions and understandings to explore and explain data during the assessment process. It occurs predominantly during the analysis, interpretation, and conclusion stages.

The last analytical stage is reflection, which refers to music therapists' judgment of their own actions and the assessment of what they learned throughout the process. A reflexive attitude is vital for music therapists to verify the practices that work and do not work, correct, improve, adapt, or maintain them for future assessments. Killick & Taylor (2020) stated that there is a practice of reflecting involved in the assessment process informally. Nevertheless, they suggested that music therapists may have formal moments to reflect on their practices. They also pointed that reflection should be balanced out by intuition,

since the latter is necessary for the assessment process but needs to be counterbalanced by reflective practice. Table 2 summarizes temporal and analytical specificities of the music therapy process.

Table 2. Temporal and analytical aspects of the music therapy assessment process

Temporal aspects	**Analytical aspects**
Prospective Retrospective Focal Procedural	Knowledge Critical thinking Analysis Reflection

MUSIC THERAPY ASSESSMENT ACCORDING TO THE MUSIC THERAPY PROCESS

The stages in the music therapy process can be organized in different ways. Some models were established by AMTA (2013), Waldon (2013), Bruscia (2014), and Hanser (2018). Analyzing all these models, the one proposed by Waldon (2013) was selected for the present book, since it is considered one of the reference models for music therapy assessment (Waldon & Gattino, 2018). It is worth commenting that the model developed by Waldon (2013) is very similar to that

created by AMTA (2013). The five stages that compose this method are: 1) referral and acceptance; 2) initial assessment; 3) definition of treatment plan; 4) implementation of treatment; 5) discharge or termination process. The music therapy process is closely related to the assessment process stages (planning, collecting information, analyzing and interpreting data, and communicating results). In each stage of the music therapy process, it is possible to apply each of the four stages of the assessment process. While implementing the treatment, for example, music therapists can create an assessment situation to observe clients during vocal improvisation. Music therapists plan improvisation by identifying the best way to improvise (with or without a structure), prepare the duration of the activity, and choose possible musical instruments for improvisation. After that, they collect data by applying the improvisation during the session and video recording it, analyze, and interpret data to understand and draw conclusions about clients' improvisation. Finally, they communicate with the clients based on the assessment performed during the improvisation. As presented, the four stages of the assessment process are transformed into micro-processes to assess each music therapy process stage.

Assessment goals and purposes in the music therapy process

Each of the five stages of the music therapy process is detailed below. Observations about their goals, purposes, and assessment are also presented. Table 3 summarizes the five stages presented, highlighting their purposes and goals.

Referral and acceptance

In this stage, music therapists receive clients and family members and verify if they should be part of a music therapy process. Usually, this stage does not end by itself, but continues in the initial assessment, since music therapists need a minimum number of sessions to confirm if the clients need music therapy treatment. To make this decision, it is essential to know the clients' and/or family members' expectations towards music therapy, as well as the ways the clients express themselves through musical manifestations with different musical instruments to relate this to their clinical history. This phase is mainly characterized by the initial interview carried out with the clients and/or family members. Some music therapists establish a contract with the clients or family members to agree on the rules and conditions for the sessions (payments, schedules, session cancellations, etc.). If clients have been referred by other professionals, music therapists should contact them and check the documents that detail the clients' previous assessments.

The questions music therapists ask the professionals responsible for the referral and the reviews of previous documents are fundamental to conduct the initial interview of the process. During this interview, the informed consent form is usually provided so that clients or guardians (usually a family member or a professional in charge of the client) can sign it and music therapists can register clients' data for clinical, academic, or educational purposes. This stage is intended to obtain sufficient data to plan the following music therapy sessions in the initial assessment phase. If possible, music therapists should get the contact of other professionals who assist the

clients or documents detailing previous assessments in different areas to have a comprehensive perspective of the clients.

The purpose of the referral and acceptance stage is prescriptive. Music therapists collect the necessary information about clients to decide whether they should participate in a music therapy process. Smeijsters (2005) believes it is essential to reflect on the referral and acceptance of clients for music therapy, since not often this is clear for the clients, their family, or the professionals who referred them to participate in music therapy (Smeijsters, 1995 as described by Ferrari, 2013). The author pointed out that one of the most common reasons for music therapy referrals is that clients like music. However, enjoying music does not always mean clients will fully engage in a therapeutic process that uses music as the primary means of intervention.

Initial assessment

In this stage, music therapists seek to review the documents or assessments that other professionals who work with the clients produced, understand how the clients relate to musical instruments and music from an intra and interpersonal perspective according to their clinical history, and conduct music therapy sessions to explore aspects described in the initial interview aiming to gather comprehensive information about the clients. Music therapists also assess the level of clients' musical skills. It is important to emphasize that this stage is not intended to start treating the clients, but to gather enough information to define the goals of the treatment. Although the clients should be free to explore different

possibilities in the setting, this does not mean that music therapists will allow them to exaggerate, or break the instruments, or do things that may represent a risk to therapists or clients. Music therapists need to provide conditions for the clients to explore the instruments as well as different musical experiences to identify their main strengths and difficulties. In the initial assessment sessions, music therapists use the four basic musical experiences and their variations to create musical situations with the clients: improvisation, re-creation, composition, and receptive experiences (Bruscia, 2014).

Usually, after each initial assessment session, music therapists analyze the data collected to schedule the following sessions in this stage. Given that the planned assessment does not often work during the session, music therapists should have time to analyze and interpret the data collected to define the best focus to get information about the clients and achieve the goals of the treatment plan. To accomplish this stage well, music therapists most likely need at least three to four sessions (Ferrari, 2013). However, in some cases, more assessment sessions may be needed if therapists are still not sure about the topics that should be worked on with the clients. The initial assessment stage ends as soon as music therapists already know what needs to be worked on during the treatment. The initial assessment has an essentially prescriptive characteristic, as it seeks information to assist with the preparation of the treatment plan.

Definition of treatment plan

In this stage, music therapists define the treatment goals and the way to conduct it. It is vital to choose goals that are feasible to work on with the clients at first, even though the clients may have additional needs. Music therapists should define goals that are possible to be developed and that the clients can accomplish. Additionally, it is vital to set a deadline for subsequent assessments to check the clients' development towards these goals (one, two, or three months after the initial assessment). Music therapists need to explain how they intend to assess the development of the treatment, even if changes occur during the process.

Music therapists should not choose many goals or very complex goals that cannot be achieved and/or assessed. In general, two to three treatment goals are considered enough to work on with the clients. The treatment plan should be formally written and preferably issued in duplicate so that the referring professionals and the clients or family members can keep a copy. This document should contain information that does not cause any embarrassment to clients or family members, and that clearly states what will be done during therapy. The results of the tests already performed can be presented in the treatment plan. Although many therapists already have a contract signed in the first referral session, the treatment plan is a type of contract between them and the clients.

Implementation of treatment

Music therapists work on different musical experiences (listening, re-creating, improvising, and composing) to reach the goals of the treatment plan. In this stage, observation as an assessment method has a central role, since music therapists can analyze video recordings of the sessions systematically or not to plan the following sessions in the process. Supervision and continuing education play a fundamental role in this stage so that music therapists are more aware of the way they are observing the process to achieve the proposed goals or whether it is time to change the goals.

This stage also includes evaluating the treatment results. In the evaluation process, music therapists aim to compare information between the initial assessment with the treatment results, considering the goals established in the treatment plan, to determine how much the client achieved the goals during the process. Music therapists should use the same tests, observations, and interviews applied in the initial assessment to be able to compare the results using equivalent parameters. If they decide to maintain the same goals, they should continue the treatment. Nonetheless, if therapists choose to change goals, they should return to the initial assessment phase, which in this case can be called a procedural assessment, to establish the new goals. If music therapists decide nothing else needs to be accomplished in the music therapy process, they should start the last stage of the process. Music therapy implementation is an essentially formative stage, because music therapists constantly seek information to assist in the clients' treatment based on the goals established in the treatment plan.

Discharge or termination process

Music therapists meet with the client, or group of clients, or family members for providing feedback on the work developed. Usually, in the termination session, music therapists show clients' video recordings or creations performed throughout the process such as drawings, sculptures, texts, etc. In this stage, music therapists usually conduct interviews with the clients or their guardians to determine what it was like to participate in the music therapy process. Therapists usually review the video recordings and reports produced during the music therapy process to overview the work performed. Based on this review, they usually prepare a document summarizing the preliminary information about the music therapy process, explaining the clients' development from the referral phase until the final verification of the results. This document usually contains suggestions and recommendations for other activities or other therapies the clients can perform. Moreover, therapists can refer clients to other music therapists if they believe this is necessary to meet clients' specific needs.

Connections between the assessment practices and the music therapy process

Despite the many differences in understanding each stage of the music therapy process, music therapists do not need to apply a different assessment method for each one. They can use document reviews, interviews, observations, and tests and measurements in any stage of the music therapy process. Some

assessment methods are more common in some stages. Document interviews and reviews are standard procedures in the submission, acceptance, and termination stages, whereas tests and observations are expected in the initial assessment and treatment implementation. The assessment goals are based on what music therapists want to achieve with the assessment, either in a general or in a specific manner (Jacobsen, Wigram & Rasmussen, 2019), and should not be confused with music therapy treatment goals. The former are related to clients' needs for assessment in all stages of the music therapy process, while the latter are related to ways to achieve the treatment goals during the treatment implementation stage. Music therapists have assessment goals during the treatment implementation, but they are related to collecting and analyzing data on clients' reactions to treatment. The assessment purposes refer to the primary motivation of music therapists for the assessment and are divided into prescriptive/diagnostic, formative, summative, and interpretive (Bruscia, 1988; Waldon & Gattino, 2018). The prescriptive/diagnostic assessment aims to collect information to structure clients' treatment plan or characterize behaviors associated with a given diagnosis. It is important to note that the term diagnosis is used in music therapy not associated with a specific condition, disorder, or disease, but to express how clients are doing according to their interactions and expressions during musical experiences (Sampaio, 2018) in the initial assessment. A formative assessment seeks to collect and analyze information about clients during the implementation of the treatment and assessment results. The summative assessment aims to add all the collected data and perform general analysis of the music therapy process. The interpretive

assessment explains the clients' needs in relation to a specific theory, construct, or body of knowledge.

Table 3. Summary of the stages in the assessment process according to their purposes and goals

Stage	Purpose	Goal
Referral and acceptance	Prescriptive/diagnostic	- Establish an initial contact with clients or family members; - Formalize bureaucratic elements such as contracts and consent terms; - Check clients' eligibility for the music therapy process;
Initial assessment	Prescriptive/diagnostic	- Collect information on clients' difficulties and strengths; - Verify how clients relate to music in an intra and intermusical manner; - Assess how clients express needs through music.
Definition of treatment plan	Prescriptive/diagnostic	- Analyse the results of the initial assessment to establish the goals of the treatment period; - Define the goals of the treatment and draw up a document that describes how they will be assessed.
Implementation of treatment	Formative	- Assess ways to reach the main goals proposed; - Assess clients' changes during treatment; - Check if the proposed goals have been achieved; - Check if it is necessary to continue developing the same goals or work on different ones.

Discharge or termination process	Summative	- Summarize the main information about the music therapy process; - Describe the changes that occurred during the process; - Check the possibilities of referral for other interventions or other professionals.

Exceptional situations

In certain cases, music therapists cannot assess the clients following the five stages described above or performing them separately. Music therapists who work with a single client may perform all five stages in one session (typical in hospital contexts, for example) as well as the overall assessment. In these situations, music therapists should have specific assessment methods and tools sensitive to these situations.

In case music therapists are not sure if they will see the same client again, each session should ideally be considered a complete process. Some professionals working with groups report difficulties related to client turnover rates. In these cases, the assessment should be based on a general treatment plan that meets the population's needs and not only those of a single client. For example, music therapists working with a group of clients that have depression should develop a plan that helps clients deal with some difficulties related to depression such as a depressed mood and loss of interest (APA, 2013). The COVID-19 pandemic also posed challenges, since the goals assessed with clients in a face-to-face context needed to be assessed virtually. In these situations, music therapists should carry out at least one initial assessment session to confirm or

modify the goals already developed before switching to virtual sessions.

FINAL CONSIDERATIONS

The description of the processes involving assessment practices in music therapy provides an overview of the contexts and situations in which music therapists perform assessments. It also enables to visualize the micro and macro processes involved in assessment. Understanding this chapter is fundamental to comprehend the next ones, since the themes discussed here are addressed in greater depth throughout the book. This chapter is at the beginning of the book because, based on the author's experience as a teacher of the discipline assessment in music therapy courses, students can better understand the content related to music therapy assessment if they study it early on.

CHAPTER SUMMARY

What are the processes inherent in music therapy assessment practices?

Music therapy assessment can be understood through two broad processes: the assessment process and the music therapy process. The assessment process occurs in four stages: 1) planning; 2) data gathering; 3) analysis, interpretation, and conclusion; 4) documentation and communication of the results. The music therapy process occurs in five stages: 1) referral and acceptance; 2) initial

assessment; 3) definition of treatment plan; 4) implementation of treatment; 5) discharge or termination process. During the music therapy process, music therapists perform different assessment practices according to different assessment goals adapted to each stage of the process.

CHAPTER FOUR

Music therapy assessment contexts

Chapter question: What are the main contexts of music therapy assessment?

INTRODUCTION

The assessment context is a frequent topic in publications on assessment in psychology and education and it is related to the situation in which the assessment is performed (Kuger & Klieme, 2016, Groth-Marnat & Wright, 2016; Volkwein, 2010). Different contexts characterize music therapy assessment and the understanding of this assessment depends on the context it takes place. This is in line with the definition of the term "context" in the Cambridge Dictionary (2021): a situation in which something exists or happens, and that can

help explain it. Since music therapy assessment takes place in many contexts, some specificities help explain the nature and characteristics of each of them. These different contexts highly influence assessment practices in music therapy. This chapter is intended to discuss both the particularities of music therapy assessment practices based on the music therapy process and the contexts of primary assessment in music therapy. The following contexts are here analyzed: individual/group sessions, assessment of the music therapy process/service, therapeutic setting/population, internal/ external assessment, music therapist assessment/client assessment, and assessment connected to/disconnected from the treatment process (music therapists assess clients but do not treat them) (Figure 6).

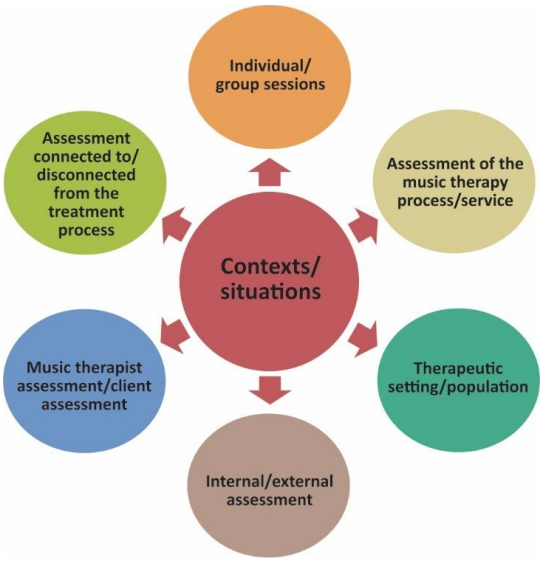


Figure 6. Music therapy assessment contexts

INDIVIDUAL/GROUP SESSIONS

The number of clients within the music therapy process directly influences the assessment practices. In individual sessions, music therapists focus on understanding the client's complexity based on this person's actions, expressions, thoughts, aesthetic notions, diagnostic conditions, and musical manifestations. A vast spectrum of possibilities of interactions between music therapists and clients has been described by different music therapy authors, including inter and intramusical aspects and inter and intrapersonal factors (Bruscia, 2014; Priesley, 1994; Lee, 2003; Ferrari, 2013; Bonde, 2007).

In group sessions, the interrelationships can be more complicated if music therapists focus the assessment on each person in detail and also on the group as a whole. This is a common practice in neurorehabilitation or neurodevelopment contexts, because music therapists tend to work with a small number of clients and can focus their attention simultaneously on each individual and on what happens in the group. In a family music therapy context, all family members are considered in the assessment. Nevertheless, on some occasions, the focus can be directed to a specific person, while in other moments, it can be directed to the assessment of the whole family (Jacobsen & Thompson, 2016). In a community music therapy context, music therapists usually work with groups that are considered large and focus on the group as a whole, given that the assessment is directed to common needs of the individuals who participate in it. However, at times, music therapists may pay attention to the specific actions of some individuals. Overall, group sessions usually assess the

interaction between the members of the group as well as the level of participation of each member (Zanini, Munari & Costa, 2007). The number of publications dedicated to the assessment of groups in music therapy is limited compared to those that deal with the assessment of individual clients (Layman, Hussey & Reed, 2013; Zanini, Munari & Costa, 2007). This is an interesting fact, because the number of publications about group music therapy is considerably large.

ASSESSMENT OF THE MUSIC THERAPY PROCESS/SERVICE

Music therapists traditionally assess aspects connected to the music therapy process, but they can also assess/evaluate the overall music therapy service. Each of these two variations has specific features and different foci. On the one hand, the assessment of the music therapy process is mainly directed to assessing elements connected to the experiences and relationships built (whether musical or non-musical) and to the individuals participating in this setting (music therapists, client or group of clients, professionals in other areas, family members), as well as to assessing the influence of the objects and the environment during the music therapy sessions. On the other hand, the evaluation of the music therapy service consists of reviewing the service, ensuring its quality, and supporting financing decisions (Tsiris, Spiro & Pavliecevic, 2018).

To evaluate the service, professionals traditionally compare reported perceptions about the service from different sources (clients, family members, music therapists, and staff). This information is combined with monitoring data such as

retrospective monitoring numbers of sessions held and numbers of appointments. One of the central themes in assessing service is clients' participation in this process (Tsiris et al., 2020). The evaluation of music therapists depends mostly on who uses the service and their family members.

Although music therapists understand how the practice is conducted in a setting, clients and/or family members can give more details about the impacts and benefits of music therapy. Moreover, the assessment of the music therapy service by other team members is essential, since professionals in different areas can offer a varied technical perspective according to their expertise. Tsiris et al. (2020) created a specific tool for assessing the music therapy service taking into consideration music therapists, clients, family members, and team members: the *Impact Areas Questionnaire*. This tool assesses the music therapy service according to four basic domains: impact areas related to clients, impact areas related to families/caregivers/friends, impact areas related to the team, and impact areas related to the organization. The number of publications on the assessment of the music therapy service is considerably smaller than those on the assessment of the music therapy process.

THERAPEUTIC SETTING/POPULATION

Music therapy has different environments or areas of therapeutic application. No consensus has been reached on the organization of the different areas of practice, but there are some trends to describe each one. This chapter focuses on the areas described in the guidelines for clinical practice postulated

by AMTA (2013), as well as on the organization found in some music therapy reference books (Wheeler, 2015; Edwards, 2016; Jacobsen, Petersen & Bonde, 2019; Yinger, 2018). Different guidelines, not specific to music therapy, are available for several types of interventions, or practices in these environments, or the populations in these areas of practice. For instance, a series of specific guidelines has been developed for assessing each type of pain (Haanpää et al., 2011; Cruccu et al., 2004). The Australian government has created a document with general national guidelines for assessing and treating autistic people (Whitehouse et al., 2018). Music therapists should understand the guidelines applicable to the area or environment they work with, so that their assessments are not only focused on their own needs. The primary practice areas in music therapy are here described, as well as the main specificities of the assessment in each of them.

Music therapy in mental health

Music therapy offers specialized services for clients who need to restore, maintain, and improve cognitive, psychological, social/emotional, affective, communicative, and physiological functions (AMTA, 2013). In this area, music therapists work with groups and individuals to assist those presenting with schizophrenia, post-traumatic stress disorder, obsessive-compulsive disorder, bipolar affective disorder, and addictions to different substances or technologies (APA, 2013). The mental health area is very dynamic in terms of assessment. In some situations, music therapists can conduct a long music therapy process, mainly for individual clients treated in

outpatient or private practice contexts. In other contexts, the processes can be very fast or continually change, especially for clients at clinics, centers, or hospitals. Music therapists in this area usually assess sensory processing, planning and performing tasks, reality orientation, coping skills, possible effects related to the use of medication, clients' mood and ability to communicate and interact with others. The assessment of treatment goals is directly related to the disorder and its severity. Therefore, clients with less complicated conditions can achieve the proposed goals quicker, while clients with more significant impairments may need more time to achieve results and progress. Thus, the time between assessments should be correlated with the clients' potential for improvement throughout the process.

Music therapy for neurodevelopmental conditions

Music therapists can assist people with different neurodevelopmental conditions such as autism, intellectual disability, physical disability, deafness, blindness, and multiple disabilities aiming to expand potentials and work with specific needs in one or more of the following areas: motor, physiological, social/emotional, sensory, communicative, or cognitive (AMTA, 2013). Music therapists usually work in schools, clinics, and rehabilitation centers in this context. In most cases, assistance to clients presenting with these conditions usually occurs through a continuous process, which allows assessing clients' development over time. Assessments should be focused on motor functions, sensory processing, task

planning and performance, emotional states, interpersonal relationships, adaptive behaviors, and aspects of verbal and non-verbal communication. The assessment of treatment goals in this area is related to the age of the clients and the severity of the condition. Thus, the reassessment of treatment goals usually more frequent for clients with less severe conditions.

Music therapy in educational environments

Music therapy offers possibilities to work with students' learning needs as well as with the interactions of the school community, strengthening the relationships between students, teachers, and family members (Nascimento, 2010). Music therapy assessment is used “for learning” purposes, since music therapists assess students' behaviors and skills and help other professionals build up students' learning processes. The assessment can also be used “as learning” when students assess themselves in the process (when they have this ability, with or without another person's mediation). Music therapists can also assess students' learning by checking the skills and behaviors they have acquired or modified (Berry, 2008). Regarding interaction, the assessment is mainly focused on speeches of school members about the process as well as on their interactions. The main foci of music therapy assessment in the school environment are motor skills, emotional states, spatial and body concepts, long- and short-term memory, attention behaviors, sensory acuity and perception, independent functioning and adaptive needs, complying with rules and responsibilities, and aspects of verbal and non-verbal communication. The assessment of treatment goals is related to

their nature, students' age and impairments. The assessment of treatment goals involving less complex skills in older students with typical development should be more frequent.

Music therapy in the hospital context

The assessment processes in areas such as medical-surgical, pediatric, palliative care, obstetrics, rehabilitation, and overall well-being (AMTA, 2013) usually take place during a few sessions and in a comprehensive manner. Exceptions are clients with minimal states of consciousness, or in palliative care, or in inpatient units (oncology or psychiatry, for example), who need to be hospitalized for weeks, even months, for treatment. In these cases, it is possible to have a larger number of music therapy sessions with these populations. The assessments are usually focused on emotional/psychosocial aspects, coping skills, infection control prevention, activity status, pre and postoperative situations, attitude towards surgery and/or medical procedures, cardiac precautions, impact of surgeries and/or loss of body function on self-image, medical equipment precautions, medical regime and possible side effects, mental status, pain tolerance and threshold level, postural restrictions, scheduling requirements, coordination with other medical treatments, and support during medical procedures (AMTA, 2013). Music therapists who work in this area often use assessment methods based on physiological measurements such as heart rates, and assessment tools that are easy to fill out and aim to summarize clients' information (Ferrari, 2013), as well as self-assessment tools filled in by clients, which are

general tools used in other areas such as face scales used in pediatric units (Ferrari, 2013).

Music therapy for people with acquired neurological disorders

Music therapists can work in a broad biopsychosocial and health-related perspective to assist people with neurological disorders caused by brain injuries or diseases (Wigram, Rasmussen & Jacobsen, 2019), such as Parkinson's disease, acquired brain injury, cerebral palsy, Huntington's disease, and traumatic brain injury (APA, 2013). In this area, music therapists focus on assessing motor aspects, coping skills, emotional aspects, sensory aspects, cognitive aspects, and verbal and non-verbal communication. Usually, behavioral assessments are conducted to assess clients' development in different areas, but subjective assessments related to emotional aspects are highly recommended. In the rehabilitation context, it is common to establish specific goals to assess the impact of interventions at the beginning and the end of each session (Thaut, 2014).

Music therapy for well-being and self-development

Music therapists focus on promoting well-being and quality of life, maximizing clients' potential overall, and increasing self-awareness (Pedersen, 2019). In this context, they assess more subjective aspects of clients. Thus, the well-being

promoted by music therapy can show development every session. However, clients can also make developments that needs to be assessed in the long term, mainly concerning the development of potentials and self-awareness. The assessment is mainly based on self-assessment dynamics; therefore, clients analyze their own evolution during the process (Pedersen & Bonde, 2019; Ansdell & DeNora, 2013).

Social and community music therapy

This area is often associated with the model of community music therapy described in different music therapy guides (Stige, 2014; Steele, 2016). Nonetheless, more than just a model, social and community music therapy represents specific care practices, focused on a context of social and cultural relations, where human existence takes place (Cunha, 2016). Among the populations in this context, social and community music therapy practices are conducted with refugees, groups experiencing social inequality, violence, and multiple vulnerabilities, as well as members of the lesbian, gay, bisexual, transgender, queer, intersex, and asexual (LGBTQIA+) community (Arndt & Maheirie, 2020; Hunt, 2005; Wilson & Geist, 2017). In this context, music therapists assess how people establish, experience, and express life, despite their existential, personal, social, and cultural conditions. The assessment is mainly based on self-assessments carried out taking into account the contributions of participants and their expressions through music or other artistic manifestations such as drawings, paintings, or performances (Ansdell & DeNora, 2013; Vaillancourt, 2009).

INTERNAL/EXTERNAL ASSESSMENT

Music therapists conduct assessment practices to supply the needs of their practice (internal assessment) and also to meet the needs of other professionals, institutions, or public authorities. Internal assessment is accomplished using music therapists' records and can be used for prescriptive/diagnostic, formative, and summative purposes. External assessment usually has clear goals. Jacobsen, Wigram and Rasmussem (2019) stated that music therapists can assess to emphasize the benefits of music therapy. According to Gattino (2019), music therapists create documents to address the benefits of music therapy service when clients or family members need to justify absence from another activity. Also, music therapists can write documents to authorize the payment of services by the government or to communicate the benefits achieved with music therapy to other professionals. Music therapists can also prepare documents about the treatment plan and assess the results during the implementation of the treatment to communicate the goals established and the results achieved to other professionals and family members.

It is also common to create documents summarizing the entire music therapy process of clients when transferring their care to another colleague. Music therapists may also conduct assessments by analyzing behaviors during musical interactions to communicate possible traces of a diagnosis to other professionals. Oldfield (2006) and Wigram (2000) created different specific assessment tools to detect traits related to the diagnosis of autism spectrum disorder (ASD) through musical experiences. In these situations, music

therapists report that it is necessary to investigate these behaviors to confirm or rule out the possibility of a diagnosis.

MUSIC THERAPIST ASSESSMENT/ CLIENT ASSESSMENT

A topic rarely addressed in publications on music therapy assessment is the description of the person who is assessing during the process. The assessment carried out by music therapists is the major type of assessment in the music therapy process. However, in some situations, clients assess another person in the setting or conduct a self-assessment. In cases music therapists assess clients, they use a series of methods, procedures, theoretical foundations, and knowledge to raise hypotheses, learn more about the individuals, and understand the whole process. Nevertheless, in certain situations, clients' perceptions of another person in a group context or a self-assessment performed by clients in an individual or group context (clients' observations and insights as part of their growth and awareness process, for example) may be more important during the process than the assessment performed by music therapists.

During clients' assessments of other members of a group, they verbally describe how they perceive them in different ways. Although clients are not likely to describe the other members of the group using technical language, they may find essential points to comment since they are also participating in the process. Additionally, music therapists can ask clients to describe other participants using musical experiences in the session or other artistic expressions such as drawings,

paintings, sculptures, etc. These impressions are essential, as they help participants understand and reflect on their own needs based on the perspectives of other group members.

Self-assessment is also a critical assessment type in the music therapy process. It allows clients to reflect on how they perceive their own problems and understand their evolution during the music therapy process (Choi &Lee, 2014; Priestley & Eschen, 2002). In a group context, self-assessment is essential so that clients can observe the self-assessments of other participants to understand how they perceive their participation in the music therapy process, their changes and conflicts, and their expectations about the process. In analytical music therapy, for example, clients should assess their own improvisations to have an idea of how the improvised content could be explained and how it relates to their own history (Priestley, 1994). In the Bonny Method of Guided Imagery and Music (GIM), clients traditionally assess their perceptions and thoughts after performing a receptive musical experience in a particular state of consciousness, and usually describe their feelings, the experience, and the main points about it, often relating this to their own stories (Abbott, 2005).

Clients self-assessments do not only occur when they talk about their experiences, but also when music therapists ask clients to perform a musical background or another artistic way to express how they assess a person, a situation, or a feeling (Bruscia, 1987). In addition, clients can fill in assessment tools suitable for their self-assessment such as on quality of life (Ciconelli, 1999, Ivarsson et al., 2010), anxiety (Spence et al., 2003; Bardhoshi, Duncan & Erford, 2016), and depression (Lee et al., 2017; Ntini et al., 2020).

ASSESSMENT CONNECTED/ DISCONNECTED FROM THE TREATMENT PROCESS

The assessment performed by music therapists can be connected to or disconnected from clients' treatment process. In some circumstances, music therapists who conduct assessment sessions during the referral and initial assessment stages may not be the same professionals who perform the treatment. This is a reality in some institutions where clients initially participate in a selection process to identify the possible treatments or therapies they should receive. If music therapy is one of the options, music therapists should also assess them to verify if they meet the criteria for a music therapy referral (Ferrari, 2013). In some situations, music therapists can participate in a multi, inter, or transdisciplinary team and, based on their expertise of assessing using musical experiences (Wigram, 2000), analyze clients' characteristics according to different contents related to musical and non-musical domains.

Furthermore, music therapists can be hired to perform a music therapy session with a diagnostic or prescriptive purpose exclusively to identify the characteristics of a person or a group. For example, the human resources sector of a company hires a music therapist to identify behavioral factors of their employees based on different dynamic interventions performed through music. According to the analogy concept presented by Smeijsters (2012), human beings express internal states, including various types of affection and intuitive ways of responding to the environment, through musical parameters. Traditional dynamic activities limited to the use of verbal

language may not detect patterns of behaviors, skills, and thoughts expressed in the musical context, since music enables the expression of unconscious patterns that can reveal many aspects of an individual in a specific situation.

Therefore, hiring a music therapist for prescriptive or diagnostic purposes may be advantageous because this assessment has differential characteristics compared to that of other areas. In this circumstance, the main interest of those who hire this service is not to have a music therapy treatment, but an assessment process based on the specificities of music therapy practices.

FINAL CONSIDERATIONS

The variety of contexts for music therapy assessment practices demonstrates that music therapists can work in myriad situations. Consequently, different goals can be established in each context and achieved in an isolated or combined manner, given that the different contexts described can be present in the same music therapy assessment practice.

CHAPTER SUMMARY

What are the main contexts of music therapy assessment?

The primary contexts of music therapy assessment are: individual/group sessions, assessment of the music therapy process/service, therapeutic setting/population (in mental health, for disabilities and neurodevelopment

conditions, in educational environments, in hospital contexts, for people with acquired neurological conditions, for well-being and self-development, social and community), internal/external assessment, music therapist assessment/client assessment, and assessment connected to/disconnected from the treatment process.

PART 2: PREPARATION

CHAPTER FIVE

Lifespan development issues for music therapy assessment

Chapter question: What elements of human development should be considered in the assessment process?

INTRODUCTION

Knowledge of human development throughout life is fundamental for music therapy assessment theory and practice. Music therapy assessment methods usually consider different parameters of development in their goals, focus of interest, and theoretical foundation (Baxter et al., 2007). Assessment methods can be based on the typical development and compare clients to the developmental milestones at different ages. Another possibility is the assessment of clients considering an atypical developmental situation related to physical, neurological, musical, emotional, social, and cognitive aspects.

In both cases, development is a reference point for the assessment process (Carpente, 2013).

Music therapists frequently use assessment data of clients based on two parameters that involve considerations about development: assessment based on standards (with tests, for example) and assessment based on criteria (Phelps, 2005). Standard-based assessment refers to the specific situation of assessing clients using a test and comparing their test scores to a scoring curve of a reference or normative group (Gyurke & Prifitera, 2020).

A normative group is created based on an extensive application of a test to the typical population or a population of interest. This extensive application creates a score curve composed of central scores (mean or median of the test), dispersion points (such as standard deviation, minimum and maximum score), and specific cutoff points in the curve to define specific parameters. The scoring curve of the normative group indicates response patterns that assist professionals in the interpretation of results, which in turn depends on the content of the test and the population assessed. For example, in an intelligence test applying the Wechsler Intelligence Scale for Children - 5th Edition (Watkins, Dombrowski, & Canivez, 2018), a child may have a score in the expected average compared to the score curve of the normative group (with typical development). In another example, the assessment of a client with suspected autism spectrum disorder (ASD) using the Autism Diagnostic Observation Schedule (ADOS) (Gotham et al., 2008), a gold standard for ASD assessment, can indicate that the individual is in the non-autistic range.

In a criteria-based assessment, clients are compared to a specific criterion related to development or a set of specific

parameters related to capacity, behavior, skill, or pattern of behaviors (Domino & Domino, 2006). Criteria-based assessments frequently consider the age of clients, because according to this parameter, there may be differences in the ways they express the contents assessed. Music therapists need information about the expectations for the contents assessed according to the developmental phases to be able to determine whether the clients' results are typical or atypical for the condition assessed. To assess children with intellectual disabilities, for example, it is crucial to know the main characteristics of this condition. In this case, their chronological age is considered and music therapists should be aware of the deficits in their intelligence skills and adaptive behaviors compared to individuals with typical development at the same age (Carr & O'Reilly, 2016). The behaviors and skills expected for the clients' age that correspond to typical developmental parameters should be defined, so that music therapists can determine whether the clients' results are similar to or different from them. In addition, it is essential to check clients' approximate developmental age level, i.e. the age range in which their behaviors and skills occur. For instance, a child may be 4 years old, but due to cognitive impairments exhibits behaviors and skills of a 12-month-old baby.

Music therapists should have knowledge about typical developmental milestones throughout life to be able to recognize specific indicators of atypical developmental patterns. This knowledge should not be restricted to the literature on development but also based on music therapists' experience with individuals that have typical developmental patterns. This experience is essential to have parameters to compare their assessments to typical developmental

milestones, as well as to establish the music therapy goals during the process. If music therapists' experience is essentially limited to dealing with a specific condition, they may have a different perspective of reality. This may lead them to underestimate or overvalue clients' behaviors, skills, thoughts, and behavior patterns compared to typical development. In this book, typical development is not considered superior to any other developmental patterns in a spectrum of neurodiversity (Silberman, 2015). Moreover, the typical development perspective should not be limited to ableism (Wolbring, 2008), because people should not only be assessed according to their capacities or abilities.

Understanding human developmental milestones is a way to know clients. In addition to the age for reaching behaviors, the behaviors need to be assessed according to their quality and frequency. This requires a fundamental understanding of the subject, not simply registering whether people can or cannot perform a behavior and classifying them according to a “norm”. Furthermore, developmental delays observed by music therapists should be reported both to the family and to the team of professionals involved in the case, especially if clients need to be further examined for a possible diagnosis. Instead of stigmatizing clients by labelling them, the identification of developmental delays (or precocity) is essential for health promotion and to help clients reach their maximum potential.

Music therapists need to study typical development and learn how musical development occurs throughout life, because this knowledge is fundamental to understand the different types of musical responses and interactions clients may have in the music therapy setting. In music therapy, the theme musical development is approached principally based on evidence of

music psychology and musical cognition. Bruscia (2012b), Monteiro (2011), and Ferrari (2013) adopted specific approaches to analyze the different stages of development of musical skills in humans and the impacts on music therapy. Bruscia (2012b, originally published in 1992) aimed to summarize what happens musically in each developmental stage of people and speculate on the implications of this for the music therapy practice. Monteiro (2012) and Ferrari (2013) proposed developmental phases based on the approach presented by Bruscia (2012b), but with some differences. Monteiro (2012) created a table for observing children's development referring to auditory, musical, and verbal aspects to identify and monitor developmental problems. Ferrari (2013), in turn, developed a model on the evolutionary genesis of musical language at different stages of life based on neuroscience and music psychology.

This chapter is intended to discuss the relevant issues on development throughout life, enabling music therapists to have a basic overview of this area. Therefore, developmental milestones, processes, theories, and domains are here included, as well as musical development specificities that influence music therapy assessments.

BASIC CONTENTS ON LIFESPAN DEVELOPMENT

Lifespan development is characterized by the process of change associated with age that describes all human beings from conception to death (Papalia & Matorell, 2015). The development theme, currently considered a specific discipline

(Martorell, Feldman & Papalia, 2019), has undergone a series of transformations over the years. Today, it is considered an independent discipline that uses knowledge from different areas such as psychology, neurology, education, and neuropsychology to structure its base (Schaffer, 2006). Numerous publications are limited to studies on child and adolescent development (Levine & Munsch, 2018; Martorell, Feldman & Papalia, 2019; Pressley & McCormick, 2007). However, changes occur at all ages and, therefore, research on development should consider an entire age group (Capuzzi, Stauffer & O'Niel, 2016; Papalia, Feldman & Martorell, 2012).

Human development involves multidimensional and multidirectional mechanisms (Schaffer, 2006). The former relate to the possibility that an individual develops different domains (areas) simultaneously, although each domain follows a different developmental course. The latter focus on the development of other domains. The domains may develop in the same direction (stable, or improving, or getting worse) or in different directions, with some of them improving while others are stable or getting worse.

Another important concept connected to development is continuity, i.e. the psychological attributes that remain the same over time. Although these attributes are continuous, they are expressed in different ways throughout life. There is an understanding that each human mental domain has its own specific mechanisms and that development in any domain does not depend on the development in any other domains.

No consensus has been reached about whether developmental paths or life course patterns happen according to fixed stages or based on not so well-defined processes or periods (Papalia & Matorell, 2015). According to some theories

that explain development following stages or phases, when a person moves from one stage to another, generalized changes occur and mental structures are reorganized. Even without a consensus on the occurrence of developmental stages or phases, there is a common understanding that critical milestones should be considered, especially during the first years of life (learning to sit, walk, communicate, and speak, for example). Development can be defined as a set of connections, since the characteristics of each period are likely to be connected to those of other periods (Schaffer, 2006). Many authors agree on the existence of transition points that represent a radical shift in people's developmental pathway (Papalia & Matorell, 2015; Hardgraves & Lamond, 2017). group as well as the level of participation of each member (Zanini, Munari & Costa, 2007). The number of publications dedicated to the assessment of groups in music therapy is limited compared to those that deal with the assessment of individual clients (Layman, Hussey & Reed, 2013; Zanini, Munari & Costa, 2007). This is an interesting fact, because the number of publications about group music therapy is considerably large.

DIFFERENT THEORETICAL MODELS RELATED TO DEVELOPMENT

Different theoretical models describe the study of lifespan development. These models focus on overall development or consider areas of interest (cognitive, socio-cognitive, psychosocial, ecological, etc.) related to certain ages or periods of life (Capuzzi, Stauffer & O'Niel, 2016). Since music therapists may adapt assessment practices to different

understandings of development, they should understand at least the basic general development models and the main specific development models.

Lifespan development is studied using three central models: adaptive organizational approach, sociocultural approach, and evolutionary psychology (Schaffer, 2006). The adaptive organizational approach studies development based on the challenges faced by individuals at different ages and how they adapt to the challenges experienced throughout their lives. The sociocultural approach is centered on the sequence of culturally defined roles and developed according to people's age. The evolutionary psychology focuses on human developmental pathway compared to the development of different species. In addition to these general development models, music therapists use a series of theoretical models to understand the development of specific domains of human beings such as social, cognitive, sensory, psychosexual, psychosocial, emotional, and ecological (Martorell, Papalia & Feldman, 2019).

In addition to being fundamental to understand human manifestations in the music therapy assessment context, the theoretical models were studied to create different models, approaches, and theoretical frameworks in music therapy as a discipline. These theoretical models have convergence and divergence points and do not represent an absolute truth. Music therapists should understand them and deepen their knowledge of them especially for planning and interpretation purposes in the assessment process. The theoretical models shown in this chapter are behaviorism, social learning theory, psychoanalytic theory, psychosocial theory, sociocultural theory,

bioecological theory of human development, and constructivist theory.

Behaviorism: this model was structured mainly by Ivan Pavlov, John Watson, and Burrhus F. Skinner. It studies development based on learning behaviors (Wollard, 2010). According to the behaviorism perspective, behavior tends to be eliminated, maintained, increased, or decreased according to the responses to it (Wollard, 2010). Behaviorism is known mainly for the operant conditioning aspect, also called instrumental conditioning (Blackman, 2017). This concept refers to a type of associative learning process or procedure whereby the strength of a behavior is modified by positive or negative reinforcement or punishment. Through operant conditioning, an individual associates a particular behavior with a consequence.

Social learning theory: the creator of this theory is Albert Bandura. According to it, a person learns how to manifest a behavior from past experiences and future consequences (Bandura & Walters, 1977). Bandura considered that individuals have agency over their learning process considering the influence of the external environment (mainly due to the impact that other people have on their learning process) and their internal skills (cognitive, physical, emotional, etc.).

Psychoanalytic theory: Sigmund Freud structured this theory that studies the influence of emotional and social experiences in early childhood on people throughout their lives (Tummala-Narra, 2016). Freud believed that people's personality develops through a series of psychosexual phases that occur during their first years of life. These phases are related to types of child satisfaction that arise in different areas

of the body. The way children relate to themselves and others is connected to the way they fulfil their needs.

Psychosocial theory: Erik Erikson structured this theory and it postulates that development occurs in determined and specific stages, each one with a level of complexity focused especially on personality elements (Scheck, 2014). Individuals can only move on to a more complex stage after resolving a series of psychological conflicts related to the stage/phase they are in. A characteristic of this model is its organization in stages designed specifically for children.

Sociocultural theory: Lev Vygotsky created this theory to explain people's development based on relationships with other people. He believed that humans learn when they are in a learning process mediated by another person (Gredler, 2012). One of the fundamental aspects of this theory is that when we learn something, this learning experience is related to the cultural and historical context of the person who mediates this process. Unlike behaviorism, according to this theory, learning occurs through an interpersonal and subjective process of building up learning experiences and not just through an incentive or stimulus to perform a behavior.

Bioecological theory of human development: this theory was created by Uri Bronfenbrenner and considers the understanding of development based on the different systems in which people are inserted. In his conception, each system influences people's development in a particular way in several areas (Shelton, 2018). These systems include family, community, society, culture, the individual, and time (chronosystem).

Constructivist theory: Jean Piaget created this theory that refers to the ways people learn from their own experiences in

the environment. According to him, when a new situation is presented to people, they experience a disequilibrium process (Pass, 2004). To return to a state of equilibrium, they should manage this new information and create a possibility to incorporate it into their learning process. On the one hand, if the new information is related to some other knowledge, people assimilate it based on an existing system to return to equilibrium. On the other hand, if the new information cannot be compared to any systems, it is accommodated in a new category. Piaget explained cognitive development through specific learning stages, starting with learning concrete elements and moving on to learning increasingly more abstract capacities.

MILESTONES AND PERIODS OF HUMAN DEVELOPMENT

To this moment, no consensus has been reached on whether human development can be organized in specific phases or periods, as explained before. Instead of being tied to stages, music therapists should be aware of developmental milestones and the periods of life of their occurrence, which vary for each person. A series of documents such as forms, videos, and texts showing the most critical milestones from ages 0 to 17 was created by CDC (2020). The World Health Organization (WHO) also offers different documents on development indicators and ways of assessing development among children that are also very relevant for music therapists (WHO, n.da; n.db; n.dc). Developmental milestones are primarily related to

cognitive, social, communication, emotional, physical, and sensory changes.

Although the existence of phases or periods is not a consensus among different authors who study development, WHO (2011; n.da; n.db; n.dc) defined three significant phases of human life: childhood, adolescence, and adulthood. Some authors created subdivisions of these phases to help understand some specificities of each period. In this chapter, the following subdivision is adopted based on the models of Capuzzi & Stauffer (2016), Matorell, Papalia & Feldman (2019), Papalia & Feldman (2012), and Papalia & Matorell (2015): early childhood (from birth to 3 years old), second phase of childhood (from 3 to 6 years old), third phase of childhood (from 6 to 11 years old), adolescence (from 11 to 20 years old approximately), early adulthood (from 20 to 40 years old), middle adulthood (from 40 to 65 years old), and late adulthood (from 65 onwards). The physical, cognitive, social, and emotional milestones that occur in each of these phases are relative. Some people may acquire a certain amount of knowledge and skills slightly before or after the established period. Table 4 summarizes the main physical, cognitive, social, and emotional milestones in each of the six periods of life, based on different references that address development in different stages of life (Capuzzi & Stauffer, 2016; CDC, 2020; Martorell, Feldman, Papalia, 2019; Papalia, Feldman Martorell, 2015; Sadock, Sadock & Ruiz, 2015).

Table 4. Developmental milestones according to six different phases of life

Period	Developmental milestone			
	Physical	**Cognitive**	**Social**	**Emotional**
Early childhood (from birth to 3 years old)	- Brain increases in complexity and is highly sensitive to environmental influences; - Physical growth and development of motor skills are rapid.	-Development of basic skills to respond to the environment, ranging from exploration to the programmed use of objects; - Multiple perspectives of thought; -Understanding and use of language develop rapidly.	- Development of basic socialization skills such as social engagement and purposeful two-way communication; - Interest in other children	- Manifestation of basic emotions (joy, sadness) linked to concrete situations (hunger, pain, sleep etc.); -Development of self-regulation; -Establishment of affective bonds.
Second phase of childhood (from 3 to 6 years old)	- Physical development encompassing the growth of body and brain; - Development of gross and fine motor skills and laterality.	- Multiple perspectives of thought; - Memory and language become more complex due to the understanding of different facts, concepts and words.	- More self-sufficiency in the use of the bathroom, food, hygiene, and when dressing; - Presence of altruistic behaviors; - Family as focus of social interest, even if it includes other children.	- Logical thinking associating ideas with emotions; - Playing involves imagination as well as interest in other children; - Aggressive behavior and fear.

Third phase of childhood (from 6 to 11 years old)	- Increased muscle strength and coordination; - Improvement in fine and gross motor skills; - Faster neurological transmissions (myelination); - Improved perceptual skills.	- Decrease in self-centeredness; - Begin to think logically, but concretely; - Cognitive gains allow to benefit from formal school learning;	- Recognition that others may have different perspectives, values etc.; - Distance from home and parents or guardians.	- Explaining emotion referring to internal states; - Self-concept becomes more complex, affecting self-esteem.
Adolescence - from 11 to 20 years old approximately	- Hormones change with the onset of puberty; - Facial and pubic hair grow in most boys and voice gets deeper; - Most girls have pubic hair and breasts and start menstruating.	-Development of the ability to think in abstract terms and use scientific and reflective reasoning; - Education focuses on preparing for college or a profession.	- Search for identity, including sexual identity; - More concern with clothes and appearance; - Greater interest in peer groups.	- Sudden changes in mood; - Greater emotional instability; - Romantic feelings towards another person;
Early adulthood (from 20 to 40 years old)	- Physical condition reaches its peak, then declines slightly; - Lifestyle options influence health;	- Focus on career establishment - Thoughts become more complex.	- Less dependence on the family; - Search for lasting love; - Search for a family	- More stable personality traits; - Existential doubts such as “who am I?” or “where am I going?”

Middle adulthood (from 40 to 65 years old)	- Possibility of slow deterioration of sensory abilities, health, vigor, and physical strength - Women enter menopause.	- Mental capacities reach their maximum; - Specializa-tion and skills related to solving practical problems.	- Focus on raising children or grandchildren; - Care for parents as well as relationships built up in the workplace.	- Stress and tiredness due to the double responsibility of taking care of children and parents; - Satisfaction with family and professional achievements
Late adulthood (from 65 years old onwards)	- Decline in sex hormones; - Loss of muscle mass; - Weakening of bones and joints.	- Decreased motor planning speed; -Deterioration in areas of memory and intelligence.	- Retirement; - Requirement of family support; - Living with children and grandchildren.	- Search for a meaning in life; - Greater search for spiritual identification - Better coping with losses and death.

Even though the most important point is to have an idea about developmental milestones and periods in general, in some situations it may be interesting to use models created by specific developmental theorists to better understand the music therapy assessment context. Jean Piaget created a particular model to explain human development mainly related to motor and cognitive aspects (Pass, 2004), divided into four stages:

1st stage: sensorimotor (0 to 2 years old)
2nd stage: preoperative (2 to 7 years old)
3rd stage: concrete operational (7 to 11 or 12 years old)

4th stage: formal operational (11 or 12 years old onwards) In turn, Erik Erikson created a set of eight stages for the development of psychosocial characteristics related to emotional and social aspects (Scheck, 2014). In each stage, people face a psychosocial crisis according to a positive and a negative aspect, and to move on to the next stage, the positive one should prevail. The eight stages he suggested are:

1st stage: trust vs. mistrust (0 to 18 months old; oral-sensory)

2nd stage: autonomy vs. shame/doubt (18 months to 3 years old; muscular-anal)

3rd stage: initiative vs. guilt (3 to 5 years old; locomotor-phallic)

4th stage: industry/productivity vs. inferiority (5 to 12 years old; latency)

5th stage: identity vs. role confusion (12 to 18 years old; puberty and adolescence)

6th stage: intimacy vs. isolation (18 to 40 years old; young adult)

7th stage: generativity vs. stagnation (40 to 65 years old; adult)

8th stage: ego integrity vs. despair (65 years old onwards) (maturity)

The theoretical models mentioned above neither represent absolute truths, nor are the only ones that describe stages to explain human development. They are examples of possible milestones music therapists can use to understand assessments better. In case music therapists need to assess physical and cognitive aspects related to the ways clients learn from the environment, it may be interesting to use the stages proposed by Piaget to plan and interpret the assessment. For music

therapists interested in focusing on personality-related crises and conflicts, the stages created by Erikson can be interesting to define clients' position to plan and interpret assessment data.

LIFESPAN MUSICAL DEVELOPMENT

Acquiring basic concepts about human musical development is essential for music therapists to understand clients' musical manifestations according to what is expected within their age or age group. No consensus has been achieved on which stage of development different skills and behaviors related to music arise. Various models seek to explain musical development through different stages similarly to development in general. Music therapists should read some reference materials in the field of musical development, such as the guides prepared by Hargreaves & Lamont (2017) and McPherson (2016), which present a broad and detailed view on this topic. They are interesting because they are based on evidence from different fields of knowledge to describe the main characteristics of musical development. Reading the set of chapters prepared by Lamont (2016), which provides a summary of musical development, is also recommended. Musical development is studied through different themes, mainly the ways humans learn to perceive and recognize different variations of musical parameters such as timbre, tempo, melody, harmony, pitch, and rhythm (Trehub et al., 2019). Studies on musical development related to social and emotional aspects and investigations on the influence of musical training on humans are also interesting.

Based on current evidence, humans begin to perceive sounds from the 25th week of gestation on (Parncutt, 2015). During this period, the sound memory that will accompany people throughout their lives is already under development. The baby, therefore, remembers the sounds that were heard during the gestational period. It is worth noting that during the gestational period, it is impossible to state that babies already listen to music, since the concept of music is learned over time.

In the first months of life, babies use different sounds to communicate their physiological needs and seek parents' attention. They use variations of musical parameters to communicate certain contents, as well as variations of phrasing, timbre, duration, pitch, intensity, and tempo (Hardgraves & Lamont, 2017). One of the first musical skills babies learn is to discriminate sounds (related to timbre). Some studies have indicated that 6-months-old babies can already differentiate sounds related to musical content. From 6 months on, they also have an initial ability to detect changes in rhythm and variations in pace (Lamont, 2016). Metric variations usually begin to be noticed when babies are 9 months old. Between 6 and 12 months, they can already recognize melodies and still develop an initial notion regarding tonality. They gradually develop skills related to perception and recognition of harmonies until 11 years old. As in general development, learning different musical skills is related to a more concrete and dependent notion in the early years, reaching the development of more abstract and complex skills during adolescence and adulthood (Trehub et al., 2019).

In addition to musical development related to cognitive aspects, there is a body of evidence showing that humans develop emotions associated with musical experiences

(Schubert & McPherson, 2016). Emotions related to music arise when babies are already able to tune in/adjust emotions based on the way parents and/or caregivers sing and exhibit prosodic intonations. Between 3 and 7 years old, children develop specific and increasingly complex ways to associate their emotions with musical contents. In this period, they start to understand music with "sad" or "cheerful" characteristics according to the standards related to Western culture and the musical experiences in their family and specific to their culture (Hardgraves & Lamont, 2017). Emotions related to different musical styles arise from 8 years onwards. A significant milestone for the development of emotions related to music is adolescence, since music expresses feelings connected to conflicts and identity issues experienced during this phase (McFerran, 2019). During adolescence, emotions linked to music involve not only those attached to musical content, but also cultural and identity issues related to different bands, singers, or musical genres. Throughout adulthood, emotions are connected to a significant set of experiences from which people extract intrinsic musical meanings (Hardgraves & Lamont, 2017). Additionally, adults continue to establish solid associative connections between music and other stimuli, situations, and emotions.

Social development associated with music also has important implications throughout life. Babies use different sounds (crying and babbling) to connect with other people since their first months of life (Lamont, 2016). Over time, babies gain more control over these sounds and manage to produce them in a specific way to seek other people's attention, therefore communicating emotional states and sensations and pursuing their own satisfaction. Children associate musical

contents with playing and games throughout childhood and possibilities to play, sing, or dance in a group context (Trehub et al., 2019). The school and family environments are the primary contexts where children share their musical experiences with other people. Children are interested in reproducing gestures or choreography sequences related to some songs. However, due to access to different technologies, children may have a decreased interest in participating in musical experiences with other people in order to have individual experiences with videos seen on television, tablets, or cell phones (Hardgraves & Lamont, 2017). During adolescence, music is understood as an essential phenomenon linked to adolescents' identity. Musical preferences in this phase relate to the feelings and characteristics individuals want to express according to their identity (Hargreaves, North, & Tarrant, 2016). In this phase of life, it is common for people to get together because of common musical interests. Moreover, adolescents generally make excellent use of technologies, mainly sharing contents on social networks to show other people their musical preferences (Reich, 2010). In adult life, musical experiences are based on their pragmatic use within society (Hardgraves & Lamont, 2017), i.e. for individual satisfaction and well-being, for collective experiences by participating in groups to play, sing, or dance, or by going to specific events such as parties and concerts. In late adulthood, music plays a crucial role in connecting people to their own memories, so that they commonly share their life story with others. Table 5 summarizes the cognitive, social, and emotional aspects of musical development throughout human life.

Table 5. Musical development summary

Domain	Childhood	Adolescence	Adulthood
Cognitive	- Babies remember sounds heard during the gestational period - Detection of metric variations usually appears at 9 months of age; - Between 6 and 12 months, babies can already recognize melodies and start developing an initial notion of key; - Skills related to perception and recognition of harmonies develop gradually until the age of 11.	- More abstract and complex musical skills.	- More abstract and complex musical skills.
Social	- During babies' first months of life, different sounds are used to communicate physiological needs and seek parents' attention; - Over time, babies gain more control over these sounds and manage to produce them in a specific way to seek attention of other people by communicating emotional states, sensations, but also to	- During adolescence, music is an essential phenomenon linked to the adolescents' identity; - Musical preferences are related to the feelings and characteristics individuals want to	- Musical experiences are based on their use in a pragmatic manner within society; - Music can be used to generate satisfaction and well-being at an individual level;

	seek their own satisfaction; - Throughout childhood, children associate musical contents with playing and games, and also with possibilities to play, sing, or dance in a group context (Trehub et al., 2019); - School and family environments are the main social-musical contexts.	express according to their identity; - In this phase, it is common for people to get together because of common musical interests; - Adolescents use technologies, mainly sharing contents on social networks to show other people their musical preferences.	- Music is used for collective experiences by participating in groups to play, sing, or dance, or by going to specific events such as parties and concerts; - In late adulthood, music has a key role in connecting individuals to their own memories of their life story that are commonly shared with others.
Emotional	- Babies are already able to tune in/adjust emotions based on the way parents and/or caregivers sing and exhibit prosodic intonations; - Between 3 and 7 years old, children develop specific and increasingly complex ways to associate their emotions with musical contents; - Children start to understand music with "sad" or "cheerful" characteristics according to the standards related to	- Music is related to expressing feelings connected to conflicts and identity issues experienced during this phase; - Emotions linked to music involve not only those attached to musical content, but also cultural and identity issues related	- Emotions are connected to a significant set of experiences from which people extract intrinsic musical meanings; - Adults continue to establish strong associative connections between music and other stimuli, situations, and emotions.

	Western culture and the musical experiences in their family and specific to their culture; - Emotions related to different musical styles arise from 8 years old onwards.	to different bands, singers, or musical genres.	

FINAL CONSIDERATIONS

Music therapy assessment practices involve assessing humans. Thus, it is vital to understand how these individuals develop over time. Studies on human development throughout life show the complexity of transformation over time as a consequence of internal factors (biological aspects) and external factors based on people's interactions with the environment and with other people. Transformations range from the most basic types of interaction in the environment during the early years of life to reaching their most complex ways in adulthood. During late adulthood, some functions decline.

CHAPTER SUMMARY

What elements of human development should be considered in the assessment process?

Music therapists should have a general notion of human development based on the physical, emotional, social, and cognitive changes that occur during typical development. Understanding development is essential

for music therapists to have clear parameters of comparison considering clients' context or condition. Music therapists should understand the connections between musical development and people's transformations, because the skills and behaviors related to music are also developed at specific stages of life.

CHAPTER SIX

Models, approaches and orientations in the music therapy assessment context

Chapter question: What are the main models, approaches and orientations used in the music therapy assessment context?

INTRODUCTION

Although no consensus has been achieved on the definition of the terms “model”, “approach”, and “orientation” in music therapy, it is possible to differentiate them according to their central characteristics pointed by Bruscia (2014), Edwards (2016b), and Aigen (2013) respectively. Bruscia (2014) considered that a model is a comprehensive approach for assessment, treatment, and final assessment that includes clinical principles, specific theoretical understandings, clinical indications and contraindications, goals, guidelines,

methodological specifications, and specific procedural sequences and techniques. Edwards (2016b) postulated that an approach is an adaptation of a model from another discipline to the music therapy context. Aigen (2013) affirmed that orientations are trends of thought that offer a means for expressing, describing, and explaining the values of a music therapy practice. Thus, orientation does not include specific interventions, procedures, and goals, since they are based on generalized values, concepts, and philosophical foundations. In this chapter, the term "perspective" was chosen to summarize the three terms described above, because it is usually used in music therapy to designate different ways of thinking according to a theoretical or practical understanding, adapted to the definitions of a model, approach, or orientation (Hadley, 2006; Jacobsen & Thompson, 2016; Simpson, 2000).

It is worth mentioning that different models, approaches, and orientations refer to specific ways of understanding the music therapy process, generally including the assessment process. The different perspectives to study the assessment process represent a concern about defining, based on theoretical or practical aspects, how music therapists should perform an assessment. Wagner (2006) affirmed that music therapists should have a perspective that organizes their work. Some perspectives are complementary and help music therapists have insights to solve or understand specific needs.

In most cases, music therapists adopt a particular perspective that guides their assessment process, either to understand it or to organize different practices, even if it is not a conscious process for some of them. Nonetheless, the main reason for music therapists not to reflect on the perspectives that guide their practices and understandings in the assessment

process is usually lack of contact with music therapy literature and of knowledge of different music therapy models and approaches. Therefore, it is essential to emphasize that it is crucial for music therapists to understand different perspectives in music therapy to choose the ones that suit their line of work. The handbooks prepared by Wheeler (2015), Edwards (2016), Jacobsen, and Pedersen & Bonde (2019) can help music therapists understand different up-to-date models, approaches, and orientations.

After acquiring basic knowledge on some perspective, music therapists can study the specific literature about a model, approach, or orientation to be able to define the perspective or combination of perspectives to structure their work. Given their influence on the assessment process, it is vital to consider the four factors described by Isengerb-Grzeda (1988): the philosophy of music therapists, their understanding of music, the institution where they work, and the population they work with. The combination of different perspectives for assessment should be consistent, so that music therapists do not mix models, approaches, and orientations that differ in the understanding about the reality and assessment practices.

But why do music therapists need to have a specific perspective to guide their assessment process? If the assessment process is more analytical, music therapists need to base their capacity for critical judgment, reflections, and ability to analyze specific knowledge on theoretical and practical guidelines developed and systematized by other music therapists. A purely empirical assessment practice limits the scope and understanding of the process to the reality of music therapists. Empirical knowledge is fundamental, but not sufficient for adequate assessment practices.

This chapter aims to present the assessment perspectives in some models, approaches, and orientations in music therapy. The perspectives chosen explicitly describe the understanding of the assessment process and the organization of the practices used during that process. The focus here is not to define if each assessment perspective is a model, an approach, or an orientation, because no consensus has been achieved on this, but especially because these definitions do not help describe the assessment process in each of the proposals presented. Other perspectives could be included, but the models, approaches, and orientations shown here describe peculiarities of the assessment process in music therapy through a theoretical or practical understanding of it. Each perspective is explained including a definition and its peculiarities in the assessment process.

The idea of detailing these perspectives was inspired by Bruscia (1987), who described the characteristics of music therapy assessment in different models, approaches, and orientations in the context of improvisational music therapy. The perspectives presented in this chapter are: GIM, feminist perspectives in music therapy, free improvisational music therapy, behavioral music therapy, Nordoff-Robbins music therapy, music-centered music therapy based on development and relationship, aesthetic music therapy, psychodynamic music therapy, family-centered music therapy, community music therapy, and neurologic music therapy.

BONNY METHOD OF GUIDED IMAGERY AND MUSIC (GIM)

This is a music-centered awareness expansion therapy developed by Helen Bonny (Association of Music and Imagery, nd). Goldberg (1995) considered GIM a proposal for musical psychotherapy using classical music explicitly programmed to generate a dynamic unfolding of internal experiences. Therapists trained to use GIM choose sequences of classical music that stimulate journeys of the imagination. Experiencing imagery in this way facilitates clients' integration of mental, emotional, physical, and spiritual aspects of well-being (Association of Music and Imagery, nd). During the assessment process, music therapists focus on: 1) understanding clients' verbal discourse before, during, and after the journeys of the imagination; 2) assessing clients' physical and emotional reactions during the journey; 3) analyzing the mandalas created throughout the process (drawings created by adding color and drawings in an empty circle used by many professionals who adopt GIM) (Bruscia, 2002). One of the central characteristics of the assessment process in GIM is the focus on analysis and interpretation. Due to the complexity of the analyses and interpretations carried out in the process, GIM includes specific training to analyze and interpret verbal content, mandalas, and especially the images generated during the journeys of the imagination (Appalachian State University, 2020).

FEMINIST PERSPECTIVES IN MUSIC THERAPY

This refers to the influence of feminist theories and their application in the music therapy context (Hadley, 2006). Hadley & Hahna (2016, p. 482) proposed that feminist perspectives in music therapy have the following main characteristics:

> *(a) Believe that personal elements are also political; (b) strive to create equity in relationships; (c) respect and value the person's experiences; (d) examine power differences; (e) raise awareness; (f) decentralize; (g) examine social constructs; (h) value diversity and explore the intersection of various identity markers; (i) work for social justice.*

Shuttleworth (2006) described some peculiarities of the assessment process according to feminist perspectives in music therapy. Music therapists should perform a self-assessment of their personal biases (related to gender norms, cultural identities, values, and theoretical orientations) and the way they deal with different types of populations (recognizing possible prejudice and lack of knowledge about a particular group of people). It is important to apply a collaborative perspective, considering individuals unique in their current conditions and the different elements of their stories. Music therapists should consider internal and external sociocultural aspects that affect clients' lives, such as socialization of gender roles, cultural identities, and experiences of oppression.

FREE IMPROVISATIONAL MUSIC THERAPY

This was created by Juliette Alvin and refers to a comprehensive type of music therapy that uses "free improvisation" and several other activities such as listening, acting, perceiving, composing, and moving (Bruscia, 1987). She called the improvisation "free" because therapists do not impose any rules, structures, or themes on clients' improvisations but allow them to "be free" with a musical instrument (Wigram, 2019). Bruscia (1987) considered that the assessment process in free improvisational music therapy occurs mainly through informal procedures for studying musical information according to different types of responses (instrumental, listening, vocal, from other areas) generated during the sessions. The assessment occurs based on the understanding of three necessary stages of the music therapy process: 1) relating to objects (own body, own instruments, own music, own objects/territory); 2) relating to the "self" and the therapists (own feelings, own thoughts, own self-identity, body of therapists, role of therapists, feelings of therapists, thoughts of therapists, identity of therapists); 3) relating to others (mother, father, other parental figures, brothers, peers, group). Assessment in free improvisational music therapy seeks information on clients' development level regarding different areas and types of relationships. The main areas of development assessed are physical, intellectual, and socio-emotional, whereas the relationships of interest are intrapersonal (between various aspects and parts of the self), object (between themselves and the physical environment),

interpersonal dyads (between themselves and therapists, parents, siblings, or colleagues), and groups.

BEHAVIORAL MUSIC THERAPY

Despite the different perspectives in behavioral music therapy, it can be defined as the controlled use of musical stimuli to get specific behavioral responses (Hanser, 2015). The assessment process is focused on behaviors or behavior patterns that can be assessed in their natural environment or during the music therapy session. One of the main characteristics of the assessment process in behavioral music therapy is functional behavior analysis. Music therapists should assess the triad antecedent–behavior–consequence (ABC) (Michel & Pinson, 2015). They should observe what happens before and after the behavior to assess the factors that lead to its appearance and maintenance. Music therapists usually perform an objective assessment of behaviors by quantifying their duration, frequency, and latency (Hanser, 2015).

NORDOFF-ROBBINS MUSIC THERAPY

Initially known as creative music therapy, this is a practical and theoretical proposal created by Paul Nordoff and Clive Robbins (Clements-Cortés, 2019) based on the understanding of the "musical child", which considers that any individual is musical and can respond to music regardless of abilities or difficulties. Nordoff-Robbins music therapy is mainly based on

musical improvisation to create musical interaction opportunities and uses a music-centered perspective.

The assessment process occurs by studying the relationships between music therapists and clients, musical communication, social interaction, and musical responses experienced during the process (Bruscia, 1987). Different contents can be verified objectively using different scales (such as Nordoff-Robbins Scales I, II, and III, communication and social interaction scale) and subjectively through observations of different response categories or by analyzing scores (Guerrero et al., 2014; Nordoff & Robbins, 1971; Nordoff & Robbins, 1977).

MUSIC-CENTERED MUSIC THERAPY BASED ON DEVELOPMENT AND RELATIONSHIP

This proposal created by music therapist John Carpente (2017) refers to the understanding of the music therapy process centered on music and, simultaneously, on the relationships developed in the setting, since the development characteristics and the individual differences of clients are fundamental to understand the process. The target audience are people with neurodevelopmental conditions and their families. In this proposal, the assessment process is understood based on clients' musical interactions and responses at different levels, especially considering musical-emotional aspects, cognitive and perception aspects related to musical experiences, as well as preferences, perceptual efficiency, and self-regulation for emotional responses (Carpente, 2013; Carpente & Gattino, 2018). One of the characteristics of this proposal is assessing

the ways in which different communication levels are created during the process.

AESTHETIC MUSIC THERAPY

It was created by music therapist Andrew Colin Lee (2016) and it is centered on music as a fundamental belief. Its primary focus is understanding the structural composition of music. Lees (2003) considered that the assessment process occurs based on improvisation, and the musical dialogues are the main elements of study. Music therapists interpret the information by understanding the musical structure and how this structure is balanced with the clinical relationship between clients and therapists (Lee & Khare, 2019). Assessment practices are carried out applying a systematic process of listening to materials that arose from the process and analyzing scores. Interpretations are based on Nordoff-Robbins music therapy and musicology. The significant difference between aesthetic music therapy and other music-centered models is the systematic focus on analyzing scores as a fundamental part of the assessment process.

PSYCHODYNAMIC MUSIC THERAPY

Psychodynamic music therapy refers to a set of practices and theoretical understandings based on the knowledge of psychodynamic approaches (Kim, 2016). The term psychodynamic refers to a heterogeneous collection of

perspectives originating from psychoanalysis studies (Pedersen, 2019). Metzener (2016, p. 448) considered that

> *the basic assumption underlying psychodynamic music therapy is the existence of a dynamic process in the unconscious mind, which has an influence on the intrapsychic and interpersonal processes inside and outside the musical activity between the therapist and client.*

The assessment process in psychodynamic music therapy is characterized mainly by a subjective comprehension that analysis and interpretation are fundamental to understand the different dynamics and experiences of this process. Precisely because of this focus on interpretation, it is essential to understand the meaning of clients' contents (Kim, 2016). Isenberg (2015) included some aspects that music therapists should focus on: the power of the unconscious mind on behaviors, thoughts, and feelings; understanding the impact of past experiences on present existence as well as on transference and countertransference processes; and the study of clients' resistance throughout the process. Unlike behavioral music therapy, assessment practices in psychodynamic music therapy are centered on qualitative data instead of on quantitative data, because the former can be more representative to understand the nuances of meanings and subjectivities inherent in this process.

FAMILY-CENTERED MUSIC THERAPY

It refers to a set of theoretical understandings and specific practices in a family context (Jacobsen & Thompson, 2016). Overall, family-centered music therapy is focused on understanding and developing inter and intrapersonal relationships in the family context (Gottfried, 2016).

In this assessment process, family is considered a complex organism within different systems that interact and can generate new systems according to the flow of interactions (Jacobsen, 2012). The assessment process can focus on one or more members of the family based on the relationships created. Also, the process can assess the influence of one or more members of the family on the expression and interaction of one or more members. Applying this perspective, music therapists can facilitate some musical experiences in the family context and guide them during the assessment process or assess the interactions developed between members of the family.

COMMUNITY MUSIC THERAPY

It deals with music therapy concepts in community settings, music therapy as a community, and music therapy for community development (Wood, S., & Ansdell, 2018). Community music therapy considers that music as a social phenomenon is something prevalent and potentially extraordinary (Stige, 2014). Community music therapy is a voice in a broader multidisciplinary dialogue about the relationships between music and social aspects in human life. The assessment process in community music therapy involves

understanding health musicking, which focuses on the relationships between individual experiences and the possible creation of a musical community. Assessment is centered on working with groups and deals with the problems and possibilities of music and health in society in a psychosociocultural perspective, which in turn is centered on how music can promote personal and social well-being. Stige (2004) explained that assessment in community music therapy is complex and can be understood mainly in an ethnographic perspective that considers a specific group in a context.

NEUROLOGIC MUSIC THERAPY

Michael Thaut systematized neurological music therapy. It consists of a set of theoretical and practical understandings for using musical interventions designed to trigger clients' specific neurological responses (Thaut & Thaut, 2005). This proposal is based on an in-depth study of music neurological processing and the specific responses it can provide.

This assessment has two functions: monitor clients' functional levels during the therapy process and direct treatment decisions (Thaut, 2014). The assessment process is structured according to the transformational design model, developed to help music therapists translate research results obtained using the Rational Scientific Mediating Model into music therapy practice, including the assessment process.

Therefore, transformational design model guides music therapists through assessment practices that have validity based on the scientific evidence studied in neurological music therapy. The focus of the assessment process is on clients'

behaviors and capacities, which can be assessed quantitatively, as in behavioral music therapy. The difference between them is that the assessment method is influenced by the knowledge of the neurological field (mainly related to human functions and responses to music) within and outside the music therapy scope. The assessment process is usually focused on an analysis of what happens during a session, showing the differences between clients' responses at the beginning and the end of the session.

SOME OBSERVATIONS ABOUT THE MODELS, APPROACHES, AND ORIENTATIONS PRESENTED

Based on the above, it is possible to state that, according to the chosen perspective, different specificities should be considered in the assessment process (Table 6).

Table 6. Characteristics of assessment according to different models, approaches, and orientations

Model/approach/orientation	**Characteristics**
Guided Imagery and Music GIM	Understand clients' verbal discourse before, during, and after the journeys of the imagination, assess thei**r** physical and emotional reactions during the journeys of the imagination, and analyze the mandalas created during the process.

Feminist perspectives in music therapy	Conduct the assessment from a collaborative perspective, which considers people unique within their current condition and the different aspects of their stories.
Free improvisational music therapy	Assess musical information according to different types of responses (instrumental, listening, vocal, other areas) during the sessions.
Behavioral music therapy	Assess behaviors in their natural environment or during the music therapy session.
Nordoff-Robbins music therapy	Assess the relationship between music therapists and clients, musical communication, social interaction, and musical responses experienced within the process.
Music-centered music therapy based on development and relationship	Assess clients' musical interactions and responses at different levels, especially considering musical-emotional aspects, cognitive and perception aspects, as well as preferences, perceptual efficiency and self-regulation for emotional responses.
Aesthetic music therapy	Understand the assessment process based on improvisation, and musical dialogues as the main elements of study.
Psychodynamic music therapy	Subjectively comprehend that analysis and interpretation are fundamental to understand the different dynamics and experiences of this process.

Family-centered music therapy	Understand and develop inter and intrapersonal relationships within the family context. Family is considered a complex organism within different systems that interact and can generate new systems according to the flow of interactions.
Community music therapy	Assess groups and deal with the problems and possibilities of music and health in society in a psychosociocultural perspective centered on how music can promote personal and social well-being.
Neurologic music therapy	Monitor clients' functional level during the therapy process and direct treatment decisions.

The perspectives here described have differences and similarities regarding their understanding of music therapy assessment process. Some perspectives have specific ways of dealing with a type of data (quantitative in the case of behavioral music therapy and qualitative for psychodynamic music therapy, for example). Furthermore, understanding the reality is another important characteristic of the perspectives presented. Some proposals such as behavioral music therapy and neurological music therapy view reality from an objective perspective and are centered on a concrete understanding of reality, whereas the feminist perspectives in music therapy and community music therapy understand reality from a more subjective and complex perspective.

It is important to emphasize that some of the proposals presented are focused on specific stages of the assessment process. Psychodynamic music therapy, GIM, and aesthetic

music therapy are focused on analysis and interpretation, for example. Some others are centered on the musical experiences used for assessment purposes. Nordoff-Robbins music therapy, free improvisation music therapy, and music-centered music therapy based on development and relationship are based on the use of musical improvisation, while GIM bases its practices on receptive experiences.

Another interesting factor is the number of people assessed. The proposals for family-centered music therapy and community music therapy consider that assessments are based on group contexts. Another interesting point is that some perspectives such as Nordoff-Robbins music therapy, free improvisation music therapy, and music-centered music therapy based on development and relationship consider a music-centered process. It is worth mentioning that no model, approach, or orientation is better than any other. Each perspective has its potentials and limitations considering music therapy philosophy, the understanding of music in the process, the target population, and the assessment context or institution (Isenberg-Grzeda, 1988). Therefore, the value judgment about each model, approach, and orientation is completely relative.

FINAL CONSIDERATIONS

There are different ways to understand and carry out assessment practices in music therapy based on the models, approaches, and orientations developed in the discipline. Knowing these perspectives allows music therapists to enhance assessment quality and have more resources to assess. Considering the materials reviewed for this chapter, there is a

lack of publications that present or compare different assessment perspectives in music therapy. Therefore, this chapter can be really valuable.

CHAPTER SUMMARY

What are the main models, approaches and orientations used in the music therapy assessment context?

The main models, approaches, and orientations in music therapy that explicitly describe the music therapy assessment process are: GIM, feminist perspectives in music therapy, free improvisational music therapy, behavioral music therapy, Nordoff-Robbins music therapy, music-centered music therapy based on development and relationship, aesthetic music therapy, psychodynamic music therapy, family-centered music therapy, community music therapy, and neurological music therapy

CHAPTER SEVEN

Ethical and cultural aspects of music therapy assessment

Chapter question: What are the main ethical and cultural aspects that should be considered by music therapists in the assessment context?

INTRODUCTION

Music therapists perform the music therapy assessment process following ethical principles (Bates, 2015) as well as cultural aspects related mainly to the awareness of their own culture and knowledge of other cultures acquired through studies (Goldfinger & Pomeratnz, 2014; Hadley & Norris, 2016). Ethics refers to the principles that govern the conduct of an individual or group of individuals (Springer, 2019; Wilhelm,

2020), while culture can be defined as certain beliefs, values, world views, ideas, artifacts, and shared styles (Kim, 2020).

Although these two themes can be discussed separately, they share many connections in the music therapy assessment context. To carry out an assessment practice based on appropriate ethical principles, music therapists should be culturally sensitive, i.e. respect people's cultural differences or specificities, and also respect the opinions and thoughts about the identity of groups, since in some situations these themes are inextricably connected.

Several music therapy publications bring meaningful connections between ethics and cultural aspects, mainly concerning the description of codes of ethics (AMTA, 2019; Australian Music Therapy Association [AMTA], 2014; European Music Therapy Confederation [EMTC], 2005). In addition, it is worth mentioning the cross-sectional survey carried out by Bolger & McFerran (2020), which describes the main ethical-cultural dilemmas pointed out by music therapists from different parts of the world. Among the numerous problems shown, the following stand out: understanding the existing ways music is used and understood and how medicine, health, and disabilities are conceptualized; recognizing that gender roles may vary in different environments; and recognizing that language is nuanced and there is a potential for misunderstandings.

During 2020, various vital publications that discuss each of these themes were launched. The scientific journal Music Therapy Perspectives published an edition entirely dedicated to ethics in music therapy, while Belgrave & Kim (2020) organized a specific book on multicultural perspectives in music therapy. Although the number of publications on these

two themes is considerable in the music therapy field, the number of those focusing on assessment in music therapy is still limited. This theme is more frequent in the fields of psychology, education, and social services (Basterra, Trumbull & Solano-Flores, 2011; Groth-Marnat & Wright, 2016; Milner, Myers & O'Byrne, 2020). The purpose of this chapter is to provide an overview of the ethical and cultural aspects of music therapy assessment.

ETHICAL ASPECTS OF MUSIC THERAPY ASSESSMENT

Music therapists should follow ethical principles regarding the methods, procedures, and techniques used in the assessment process and their understanding of the process and clients being assessed. Among different ethical schools of thought, the main ones are teleological, deontological, and existential (Agarwall & Molloy, 2002; Mandal, Ponnambath, & Parija, 2016).

Teleological: it encompasses a series of ethical theories, all converging on a similar theme – what is ethically acceptable and what reaches the "best" result.

Deontological: it is centered on behaviors (instead of consequences), and duties/obligations are significant.

Existential: it focuses on people's freedom to create their own "essence" and the notion of responsibility towards personal actions.

Music therapists should follow ethical principles and conduct their assessments based on autonomy (respecting the decisions of the assessed person), non-maleficence (not causing harm), benevolence (contributing to well-being), justice

(providing equivalent and adapted types of assessment), veracity (being truthful), and fidelity (being reliable) (AERA, APA, NCME, 2014; AMTA, 2019; Wilhelm, 2020). The main themes related to the ethical conduct of music therapists in the assessment context are professional competence, professional relationship in the assessment context, confidentiality and privacy, limits of confidentiality, data handling, recordings, communication during the assessment process, preparation of consent forms, security of stored information and assessment materials, data interpretation, biases, and equivalent assessment opportunities.

Professional competence

The assessment process employs practices based on scientific and empirical knowledge developed in the field of music therapy and other related disciplines. Music therapists should build their practice on a foundation of knowledge formally acquired during their professional training and practical experience. Therefore, they should base their assessment practices on the best evidence in the assessment context, whether it is a method, procedure, technique, or way of understanding the process (Goldfinger & Pomeratnz, 2014; Groth-Marnat & Wright, 2016). Before applying a procedure in a real context that is not based on evidence, music therapists need adequate training to avoid clients' maleficence.

Furthermore, they should check the different practice guidelines in music therapy to precisely identify the skills and bodies of knowledge expected in the assessment context (CBMT, 2020, Australian Music Therapy Association

[AMTA], 2014; AMTA, 2013). In addition to knowledge, professional competence also involves music therapists' conduct in the assessment context. These conducts should not only use interactions and technical interventions, but also value respect and ability to listen and be empathic. Music therapists should convey security, professionalism, and knowledge to the clients assessed so that they understand these professionals are appropriately qualified to carry out the assessment.

Professional relationship in the assessment context

The assessment process involves a relationship developed between music therapists and the person or people assessed. This relationship can vary depending on the individual assessed. Hadley & Norris (2016) stated that an often imbalanced power relationship occurs between music therapists and clients, because the latter may feel inferior to the former. This inferiority may be related to the fact that music therapists are responsible for leading the process and that clients need the help of music therapists, who hold the knowledge and power that clients do not have (Wilhelm, 2020). Consequently, music therapists should guarantee the autonomy of the person assessed as much as possible and, at the same time, make the assessment process inviting.

It is important to note that, in many cases, clients cannot make their own decisions, and should therefore have guardians to mediate this relationship. Hadley and Norris (2016) explained that this imbalanced relationship is affected mainly by cultural variables due to race, gender identity, gender

expression, ethnicity, sexual orientation, disability status, age, and religion. To reduce this imbalance, music therapists should find strategies that promote clients' free expression as much as possible. For this purpose, professionals should seek a cordial and straightforward way of communication, as well as an empathic and sensitive approach towards the clients' culture and should avoid formalities that create a distance between them as much as possible.

This power in relationship should be especially considered when music therapists assess clients simultaneously and in the same space with other professionals, because clients may feel intimidated as more than one person assesses them. In these cases, it is important that the professionals have a good interaction so that the clients feel comfortable to participate in the process.

Confidentiality and privacy

Data collected during the assessment process are sensitive and need to be managed carefully (APA, 2003, 2010, 2017; Goldfinger & Pomerantz, 2014; Groth-Marnat & Wright, 2016). Confidentiality refers to the non-disclosure of clients' information gathered during the assessment process, and only the music therapists who collected it can access it. Privacy concerns the way music therapists deal with private data on assessed clients. To communicate the results of an assessment, either in writing or orally, music therapists are expected to use personal information relevant only to the purpose of the required disclosure (Goldfinger & Pomeratnz, 2014). Professionals should discuss private clients' information only

for appropriate professional purposes and only with people involved in such matters.

Limits of confidentiality

In some situations, the limits of confidentiality need to be discussed, since it may be necessary to disclose information collected during assessments for different purposes (APA, 2003, 2010, 2017). Music therapists can share assessment results with professionals of the team or with external professionals who also work with the clients. Additionally, music therapists can use assessment data for scientific purposes, whether for publication or presentation at scientific events, provided that they have the clients' written consent (AMTA, 2019; Bates, 2015; Goldfinger & Pomeratnz, 2014).

Another critical aspect of the limits of confidentiality concerns clients' request for assessment data. In this case, music therapists and clients should agree on the ways the information can be shared, especially when involving video recordings of the sessions. It is crucial to establish the boundaries of data sharing, since they may also expose music therapists in some way. In cases confidentiality limits are necessary, they should be explicitly defined at the beginning of the assessment process in a consent term and clients or guardians have to sign it.

Data handling

Music therapists should also be clear about data handling. According to the Support Institute for Small and Medium Enterprises and Innovation (IAPMEI, 2020), data handling refers to a wide range of operations carried out on personal data, including

> *collection, registration, organization, structuring, preservation, adaptation or modifications, recovery, consultations, use, disclosure through transmissions, dissemination or any other form of personal data availability, comparison or interconnection, limitation, erasing or destruction.*

Therefore, music therapists should state in a consent form the operations they intend to perform with clients' data. Given that some different regulations and laws govern data handling in different countries or continents, the consent form should follow local requirements. For example, in Europe, the General Data Protection Regulation 679 (2016) and in Brazil, the General Law for the Protection of Personal Data no. 13,853 (2019) regulate protection of personal data.

Recordings

Recording music therapy sessions is a common practice, because it facilitates the processes of registering, analyzing, and interpreting information (Holck, 2007; Plahl, 2007; Ridder,

2007). To be able to record the assessment process, music therapists should prepare a written consent form describing the possibilities of use of this material such as clinical purposes, academic purposes, or social media posting (only in some situations and not exposing any weaknesses or private information), and clients or guardians should agree on the terms and sign the consent (APA, 2003, 2010, 2017; Behrens, 2020).

Communication during the assessment process

Music therapists should be available to communicate with the clients and/or guardians to explain any results, contents, procedures, or techniques related to the assessment process. Communication with the parties involved in the assessment should be clear, objective, and explanatory. To achieve these goals, music therapists need to find ways to communicate information about the process respecting the different characteristics of different groups (Groth-Marnat & Wright, 2016) and finding fair means (AERA, APA, NCME, 2014) to transmit the information about the process in an understandable way.

Preparation of consent forms

Music therapists usually define specific agreements with clients or family members at the beginning of the music therapy process (AMTA, 2019). These agreements are usually established using one or more consent forms (Bates, 2015).

One possibility is combining all the agreements in one document or preparing more than one term depending on the different specificities music therapists intend to adopt. Thus, music therapists should have specific forms for the use of information or permission to record sessions, for example (Behrens, 2020).

Specific versions of the consent form should be given to and signed by clients, and/or guardians, and/or family members. This document should be drawn up in a simple, clear, and objective manner. It is important to note that clients, and/or guardians, and/or family members should only sign the consent form if they agree with the content. In case they disagree with it, a new document should be prepared. The suggestions given by Beherns (2020) for the information a consent form should contain in the music therapy assessment context, usually included in the music therapy process, are here adapted as follows:

- identification of music therapists and information on their background;
- brief description of the assessment and recording processes (if applicable);
- the law, declaration, guideline, or regulation the music therapy process follows (according to the Declaration of Helsinki, for example);
- statement guaranteeing clients, and/or guardians, and/or family members' right to withdraw the consent at any time during the process;
- the means used to guarantee clients' confidentiality and privacy and establishment of limits;
- the purposes for storing data;
- the purposes for disseminating data;

- the means used to store and disseminate the results of the process;
- music therapists' contact information (phone and/or email);
- specified spot for music therapists, clients and/or guardians, and/or family members to sign.

Security of stored information and assessment materials

Music therapists should ensure secure storage of information collected during the assessment and that only they or other professionals involved, when applicable, can have access to it. In case of access or storage by people other than music therapists, this should be clearly described in the consent form. Therapists should also clearly explain the means used to keep the materials employed in the assessment (forms and manuals, for example) safely stored. Usually, these materials have information on encoding scores or interpreting information collected, which can be considered a type of sensitive information that cannot be available to everyone (Goldfinger & Pomerantz, 2014).

Data interpretation

The assessment process requires interpretation practices and music therapists should make a judgment about the information collected. After that, the interpretation is communicated in writing or orally to clients and/or guardians and this can

generate different types of consequences. If clients and/or guardians agree with the interpretation, no major problems are expected. However, in cases of disagreement or non-acceptance of the interpretation, music therapists should be available to explain their reasons clearly and technically.

In fact, interpretation is a sensitive practice that should be done with maximum technical and scientific knowledge. Professionals should avoid misinterpretations associated with personal judgements or a poor interpretation of the data collected (APA, 2003, 2010, 2017; Groth-Marnat & Wright, 2016). Another important aspect is what data interpretation represents to the person assessed (AERA, APA, NCME, 2014; DeNora, 2013). Music therapists can interpret data as a merely generalization and not applied to the individual's life. For example, “your assessment data shows that your performance is in line with the validity study for this scale”. This interpretation is not useful to the client. However, the same data can be interpreted as “your results show an average performance for people with typical development within your age group according to studies on this scale”. In the second example, it is clear that data interpretation is more accessible to the person being assessed.

Biases

A bias refers to a systematic error made during a process (Coutinho, 1998). Music therapists are not bias-free during their assessment practices (Waldon & Gattino, 2018). Among the most common biases during this process are measurement/calculation biases in data collection; choice of

constructs, domains, or contents not relevant to the clients; analyses that incorrectly describe or present data; misinterpretations of the analyzed data; hasty or mistaken conclusions about data; and problems in communicating the results either in writing or orally. Biases are a source of maleficence to the people being assessed. Thus, music therapists should implement strategies to eliminate or reduce them by deepening knowledge and practices carried out in the assessment process.

Equivalent assessment opportunities

One of the fundamental ethical principles in the assessment process refers to equivalent assessment opportunities (Groth-Marnat & Wright, 2016). Assessment practices should be based on accessibility and on a universal design that enables the use of different assessment methods that take into consideration clients' possibilities to participate and interact in the process (AERA, APA, NCME, 2014).

The possibilities for participation and interaction do not refer only to people with disabilities, since assessments can be directed or adapted to gender identity, gender expression, ethnicity, sexual orientation, disability status, age, and religion of the individuals (Shuttleworth, 2006). Based on the Educational and Psychological Testing Guidelines on Equity (AERA, APA, NCME, 2014), it is possible to state that if an existing assessment tool or method does not have an equivalent version or an adaptation for the people assessed, it is not fair, because the content, context, or possibilities of responses differ from the original assessment, impairing clients' benefits of the

assessment. Due to lack of equity in specific situations, music therapists have created new assessment tools or methods directed to those excluded from the existing ones.

CULTURAL ASPECTS OF MUSIC THERAPY ASSESSMENT

Kim (2020) affirmed that the role of culture has significant implications for music therapy, as it influences the therapeutic relationship and further affects the entire music therapy process concerning the initial assessment, treatment, and final assessment. Music therapists work in a complex reality with different cultures and cultural identities. This reality can be explained by multiculturalism, which can be considered a social perspective committed to recognize, respect, and promote the existence of various cultures, shaped by age, gender, ethnicity, race, socioeconomic status, backgrounds, religions, spiritual practices, and disabilities (Gutmann, 2001; Kim, 2020). According to Helander & Gattino (in press), societies are becoming increasingly multicultural due to immigrants, multiracial and minority groups, and the increasing age gap between generations. They believe these multicultural processes end up leading to intersectionality, a phenomenon that refers to situations in which contrasting elements such as gender, language, class, race, ethnicity, sexual orientation, age, and disability overlap and increase systemic inequalities and discrimination (Collins & Bilge, 2020). In the current postmodern context, culture is especially connected to relativism, valorization of personal experiences, search for

specific meanings, and questioning absolute notions (Lopes, 2020).

For Shuttleworth (2006) and Kim (2020), one of the main needs of music therapists is to emphasize cultural aspects in the music therapy assessment context. To answer the question, "how do music therapists understand clients' culture and their own culture in the music therapy assessment context?", the following specific cultural dimensions should be studied and understood in the music therapy assessment process: culture as a complex and fluid structure, humans as cultural beings, culture as something relative and/or universal, cultural sensitivity, cultural humility, and cultural competence.

Culture as a complex and fluid structure: it is impossible to establish a single perspective on culture because it can be understood in many ways (Kim, 2020) and, at the same time, it is fluid because it is constantly changing. Culture can be understood by its implicit and explicit meanings (Kim & Elefant, 2016). Certain behaviors in a culture, such as specific traditions and customs, are observable and explicit. However, hidden expectations or norms incorporate implicit meanings, making a group's cultural nuances subtle. Culture can also be conceptualized at two levels: internal or external. Internal culture is related to a personal variable (for example, someone's values, knowledge, religion). External culture is related to political and organizational aspects in a social and ecological context, including economic status and climate. Considering the complexity and fluidity of culture, music therapists should consider which elements of the culture they plan to assess (explicit/implicit or internal/external) during the preparation stage. They also should be aware of these dynamic characteristics of the cultural transformation of both their own

culture and the clients' culture, because cultural micro-processes change from one session to another and can influence the final results of the assessment.

Humans as cultural beings: humans are cultural beings who can experience a culture individually, collectively, or universally (Kim, 2020). Individual culture refers to a person's cultural identity that results from his/her different interactions in the environment over time. Collective culture refers to the collective identity of a certain group in society (gender, religion, nationality, etc.). Universal culture refers to the universal identity that includes themes and aspects common to all human beings. Music can be considered an aspect that is common to all human beings. If music unites human beings in a universal perspective, the way each individual understands music depends on his/her individual and collective culture. Thus, before conducting a musical experience in an assessment context, music therapists should ask clients about their musical preferences and/or which songs they do not want to hear/play/sing at all. If clients mention they belong to specific religions, music therapists can ask if they would like to hear or sing any religious songs.

Culture as something relative and/or universal: cultural manifestations can be universal (common to all cultures) or relative (existing only in some specific cultures) (Kim, 2020). Every culture has festive songs (universal aspect), but that does not mean that the genre, tone, rhythm, and tempo of the festive songs are the same in all cultures (relative aspect). It is important to bear in mind that the concepts “universal” and “relative” depend on the beliefs and experiences of both music therapists and clients. Once, a child said during a music therapy session he had only known two songs in his entire life, since he

listened to them in his father's cassette player. In this case, these two songs represented the client's musical-cultural universe. Therefore, during an assessment, music therapists should be careful in their judgments on the relative or universal characteristics of clients' cultural identities in the assessment context. Additionally, they should constantly question their universal notions of a culture, given that they may be abandoned based on new information or experiences.

Cultural sensitivity: knowledge, consideration, comprehension, respect, and adaptation towards the understanding that their training, values, and prejudices should be initially considered to recognize how these aspects can affect their perceptions of others (Foronda, 2008). It results in effective communication and interventions, as well as in overall satisfaction. Cultural sensitivity can be associated with music therapists' cultural self-awareness concept, which refers to their understanding of their own culture and reflecting upon it (Kim, 2020). In this sense, cultural sensitivity allows music therapists to comprehend not only their culture but also the ways this understanding affects their perception of others. Music therapists should reflect on each case assessed and on the ways their cultural understanding is influencing or can influence their assessment.

Cultural humility: an attitude geared towards others seeking to develop mutual partnerships that address imbalances of power with interpersonal respect, as well as a lifelong commitment to open up to new cultural information, critical self-examination of cultural awareness, and motivation to learn from others (Foranda et al., 2016; Upshaw, Lewis & Nelson, 2019). Cultural humility is fundamental to make the music therapy assessment process an inviting space for multiple

interactions and learning, so that it can help power relationships developed in this space to reach a greater balance.

Cultural competence: it involves an understanding and an adequate response to the unique combination of cultural variables and the full range of diversity dimensions that music therapists and clients bring to their interactions (Fisher-Borne, Cain, & Martin, 2015). Sue & Sue (2012) postulated that cultural competence is established by therapists' cultural self-awareness, knowledge, and understanding of the assessed people's culture (in a technical and empathic way) and through the therapeutic skills to deal with different cultural contexts. In summary, music therapists should structure practices in all stages of the assessment process based on cultural competence that not only considers knowledge of personal culture and clients' culture, but that includes specific skills to interact culturally, intervene, analyze, interpret, conclude, and communicate assessment results.

FINAL CONSIDERATIONS

Ethical and cultural aspects lay the foundations for successful music therapy assessments. As presented throughout this chapter, these themes are closely intertwined, as they deal with sensitive aspects related to the assessment process. Interestingly, several publications on this topic were launched in 2020, showing that the discussion on ethical and cultural aspects is extremely up to date.

CHAPTER SUMMARY

What are the main ethical and cultural aspects that should be considered by music therapists in the assessment context?

The main ethical principles music therapists should follow are related to professional competence, professional relationship in the assessment context, confidentiality and privacy, limits of confidentiality, data handling, recordings, communication during the assessment process, preparation of consent forms, security of stored information and assessment materials, data interpretation, biases, and equivalent assessment opportunities. Among the cultural aspects, music therapists should emphasize the study of culture as a complex and fluid structure, humans as cultural beings, culture as something relative and/or universal, cultural sensitivity, cultural humility, and cultural competence.

CHAPTER EIGHT

Research on music therapy assessment[1]

Chapter question: What are the main research characteristics in music therapy assessment?

INTRODUCTION

The discussion about research in music therapy assessment has two lines of analysis. The first concerns studies of methods, procedures, and assessment techniques used to collect information, analyze, and interpret the different outcomes and phenomena of the investigations. The second considers research on music therapy assessment focused on music therapy practice. The study of assessment methods, procedures, and techniques for the development of research is essential so that music therapists can identify what they are assessing and be more confident to describe their results, discuss their

[1] My special thanks to music therapist Victoria Churchill for helping find some of the publications included in this review.

findings, and outline future research perspectives. The three editions of Music Therapy Research (Wheeler, 1995; Wheeler, 2005; Wheeler & Murphy, 2016) describe the main quantitative methods (named objectivist in the last edition), qualitative methods (called mixed in the previous edition), and additional methods (such as the philosophical and historical method, for example). These publications about research include information on designing a study, collecting data, as well as analyzing and interpreting data in the different designs presented.

In addition to chapters on a general description of the methods, the books include chapters to discuss types of variables assessed and specific procedures and techniques adequate for different kinds of assessment of research data. Although recognizing the importance of discussing this modality regarding the topic of research in a music therapy assessment, the present chapter aims to analyze research on music therapy assessment in the music therapy practice.

Research on music therapy assessment in the context of music therapy practice is mainly dedicated to: study different assessment methods, procedures, and techniques; develop, review/correct, and study the properties of assessment tools; describe trends and characteristics of assessment practices; study theoretical reflections on assessment practices; and establish guidelines for a set of practices in the assessment field. The number of research projects focusing on music therapy assessment is significantly smaller than the number of publications on the use of interventions with different populations. As previously discussed in other chapters of this book, interest in publications on music therapy assessment has grown in recent years. A more outstanding balance is expected

in the number of publications on assessment and interventions in the future. The purpose of this chapter is to provide an overview of research on music therapy assessment in the context of music therapy practice, pointing out the main trends and areas that need further investigation.

DESCRIBING AN OVERVIEW OF RESEARCH ON MUSIC THERAPY ASSESSMENT

This topic provides a scoping review of research on music therapy assessment centered on practice. This type of review determines the scope of a body of literature and provides a clear indication of the volume of literature and studies available, as well as an overview (broad or detailed) of its focus (Munn et al., 2018; Phan et al., 2014).

A scoping review aims to map the main concepts that support a field of knowledge, examine the extent, scope, and nature of the research, summarize and disseminate the research data, and identify the gaps in the existing research (de Menezes et al., 2015). This review was inspired by Pereira et al. (2016), who presented a review of assessment studies in the educational context, and by Gooding & Langston (2019), who conducted a scoping review in the music therapy field. The following paragraphs describe the methodological procedures used in the present study.

1) Problem identification and proposal: what is the general panorama of research on music therapy assessment? Comprehending the points that have already been developed on the subject is essential to understand the strengths and

weaknesses of this field and plan future studies. While preparing this chapter, no specific research trends for assessment geared towards practice were identified. Some studies describe the existing assessment tools in music therapy and discuss certain research trends (Sabbatella, 2004; Spiro, Tsiris., & Cripps, 2018; Wilson & Smith, 2000). However, the focus of these investigations was on assessment tools and not on assessment research. Thus, the purpose of this scoping review is to provide an overview of the investigations focusing on the theme music therapy assessment directed explicitly to music therapy practice.

2) Literature search: to identify an overview of publications on this theme, different databases and additional records identified by other sources were searched, encompassing the period from 1965 to September 2020. The year 1965 was chosen because it is considered a starting point for publications addressing this theme (Alvin, 1965; Nordoff-Robbins, 1965). Répertoire International de Littérature Musicale (RILM) and Google Scholar were the databases searched during this review. Nonetheless, additional records were made by analyzing the report Outcome measurements in music therapy: a free online resource, developed by the Nordoff Robbins research team (Cripps et al. 2016), the book Microanalysis in music therapy: methods, techniques and applications for clinicians, researchers, educators and students (Wosch & Wigram, 2007), the book Music therapy assessment: theory, research, and application (Jacobsen, Waldon, Gattino, 2018), the reviews on music therapy and assessment published by Isenberg-Grzeda (1998), Wilson & Smith (2000), Sabbatella (2004), Churchill (2012), Waldon (2013), and Zmitrowicz & Moura (2018), and CAPES thesis registry. While studying these documents, the

assessment tools listed and the references cited were analyzed. CAPES thesis registry, a Brazilian government system that lists the theses published in the country, was chosen due to the large number of studies carried out in the music therapy assessment field in graduate programs in Brazil. An extensive analysis of all publications related to the theme of assessment was carried out on CAPES thesis registry. Even though a more comprehensive search in other data sources could be possible, the bases and documents chosen represent most of the publications on this subject, inasmuch as they include the leading journals and books on music therapy, as well as publications in the areas of music, health, education, psychology, and social sciences. Studies with the keywords “music therapy AND assessment” were selected in the RILM database. The following descriptors present in the titles of papers were combined in the Google Scholar database using the Boolean operator: “music therapy” AND “assessment”, “music therapy” AND “test”, “music therapy” AND “interview”, "music therapy" AND “observation”, “music therapy” AND “measurement”, “music therapy” AND “interview”, “music therapy” AND “protocol”, “music therapy” AND “form”, “music therapy” AND “monitoring”, “music therapy” AND “documentation”, “music” AND “diagnosis”. Given that Google Scholar has a broad spectrum of publications, these descriptors brought greater objectivity to the search. In this review, the snowball method was employed, i.e. the references cited in the primary documents analyzed were also examined to find other relevant titles on the researched subject (University of Groningen, nd).

3) Inclusion and exclusion criteria: to be included, publications should have at least the abstract available in

English. Scientific papers, book chapters, studies published in event archives, theses, and dissertations on empirical studies, studies presenting, applying, adapting, modifying, or reviewing a particular assessment tool or method, and studies that established specific guidelines for music therapy assessment were included in this review. Essentially theoretical studies (reflecting or discussing assessment themes) and literature reviews were excluded to make the process of this scoping review more practical. Although the inclusion of studies that only present an assessment tool or method is debatable, it is believed that to develop an assessment tool, a scientific method should be applied (even if most studies do not specify the method used). Reviews and studies that deal with any assessment tool or method but focus on the intervention and the results of the applied intervention were also excluded. It is important to note that some assessment tools are mentioned in more than one publication, whether in the same or in different languages; therefore, publications with these duplications were also excluded from the present analysis.

4) Data extraction: after reading the abstracts or the complete publication, data were organized into four broad categories – a) author; b) year of publication; c) population/clinical context; d) proposal. The proposals for each article were divided into the following subcategories – presentation of assessment tools, validity and reliability studies, variations in assessment methods, application and assessment studies about adjustments on assessment tools, qualitative studies on music therapy assessment, adaptation/modification of assessment tools, music therapy service assessments, assessment surveys, revisions of assessment tools, and guidelines for assessment practice. These

subcategories were created according to an initial general analysis of the publications included.

RESULTS OF THE SCOPING REVIEW

Figure 7 shows the different stages of the selection of publications for this scoping review following the Based on the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) protocol for conducting reviews (Moher et al., 2011). During the eligibility phase, 29 studies were excluded because they were similar to other studies or they did not meet the inclusion criteria after reading the abstract or the full paper carefully. This happened because among the studies that did not comply with the inclusion criteria, some appeared to be music therapy assessment studies. However, the abstract or the body of the text revealed a different purpose.

Appendices 1 to 11 show all the publications included in this review and those excluded from the analysis. Since the review intended to provide an overview, other categories that describe further details about the findings are not described.

Table 7 shows the number of publications selected according to the subcategories established. Table 7 shows a particular imbalance in the number of publications per subcategory. While the first four subcategories encompass 197 studies (87.95%), all the remaining ones add up to only 27 studies (12.05%). These results demonstrate considerable interest in the development of music therapy assessment tools. The number of publications on the development of assessment tools (n = 82) is almost double the second most frequent subcategory (n = 49). This is expected, since music therapists

usually systematize their assessment practices by creating documents (Ferrari, 2013). At the same time, these results reflect a trend in associating music therapy assessment with assessment tools (Gattino, Jacobsen, Storm, 2018). This can be problematic, as assessment should be considered something broader than just the use of tools. Music therapy assessment involves complex and broad themes, different processes, methods, procedures, and techniques related to music therapists' practice.

The results for the subcategory “validity and reliability studies” point to a considerable focus on publications about music therapy assessment in development and the verification of the psychometric properties of different tools. This reflects the reality experienced by most music therapists who carry out evidence-based assessments during their practice. It is no coincidence that the book Music therapy assessment: theory, research and application (Jacobsen, Waldon & Gattino, 2018) is mainly focused on tests and the evidence of their psychometric properties. These results are also connected with the fact that music therapists often work in interdisciplinary contexts (Guerrero et al., 2014b), and therefore they need to use validity and reliability tests equivalent to those used by other professionals of the team.

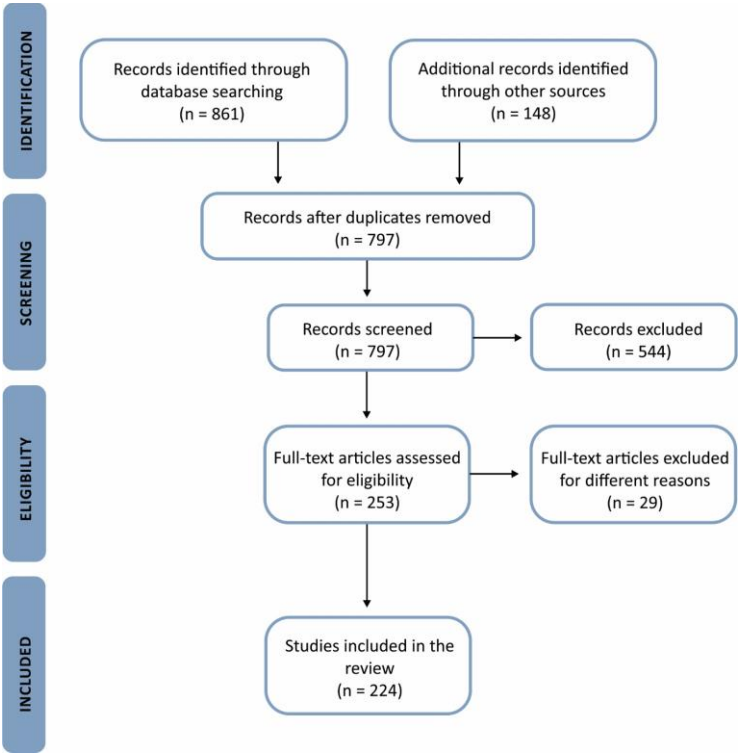


Figure 7. Publications selected in this scoping review following the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) statement

Table 7. Number of publications on music therapy assessment selected according to the subcategory

Subcategory	**Number**
Presentation of assessment tools	82
Validity and reliability studies	49
Variations in assessment methods	39
Application and assessment studies about adjustments on assessment tools	27
Qualitative studies on music therapy assessment	11
Adaptation/modification of assessment tools	5
Music therapy service assessments	4
Assessment surveys	3
Revisions of assessment tools	2
Guidelines for assessment practice	2
Total	**224**

According to the author's own experience as a supervisor, music therapists who work in hospital contexts and/or behavioral institutions seem to be interested in developing the skills required to use tests already validated. Table 7 also shows a limited interest in guidelines and studies that correct or modify assessment tools. Research related to the study of the psychometric properties of tests mostly cover fundamental aspects of reliability (such as an agreement between the people performing assessments and internal consistency analysis, for example) and validity (convergent validity and criterion validity, explained in Chapter 12). The use of factor analysis

(also described in Chapter 12) to study the properties of psychometric tests was still uncommon in the studies analyzed in this review (Bergmann, 2019). The interest in studying the psychometric properties of tests is also related to applying these assessment tools to research in music therapy (Gattino, 2019) and other disciplines (Mariath et al., 2017). Research in the quantitative field usually uses tests that exhibit psychometric properties adequate to measure different outcomes (LaGasse, 2017).

The studies in the subcategory "variations in assessment methods" (n = 39) demonstrate a trend among music therapists to develop variations in an assessment method that do not directly involve using a specific assessment tool. This demonstrates that by organizing different procedures and techniques, music therapists can collect, analyze, and interpret clients' information. As presented in Chapter 15, a lot of music therapists develop specific tasks in their practices to assess clients, but few of them really publish them as methods of assessment. Consequently, the number of existing assessment methods is probably higher than that found in this review.

Analyzing the subcategory "application and assessment studies about adjustments on assessment tools", it was noticed that music therapists are interested in verifying whether the created tools have a typical application (as planned) in real situations and the results collected are relevant for the pilot experiences during their creation. These studies also help systematize the application methods, and in this review, 27 studies belonged to this category. However, this number should be higher, since the total number of studies dealing with music therapy assessment tools was 82. Not all tools created included formal research to verify their application in practical contexts.

These studies are fundamental, inasmuch as they enable a more accurate verification of the points that really work and the ones that need modification in an assessment tool.

The subcategory "qualitative studies on music therapy assessment" had a considerably smaller number of publications (n = 11) compared to the subcategory "validity and reliability studies" (n = 49). It is worth mentioning that many studies in the subcategory "application and assessment studies about adjustments on assessment tools" (n = 27) also include quantitative analysis. Although many publications are dedicated to qualitative research in music therapy, this has not been reflected in the context of music therapy assessment practice yet.

Another topic not frequently discussed in research is "adaptation/modification of assessment tools" (n = 5). Music therapists often adapt different tools to their practice, but these modifications are not usually published. Having these publications would be an asset to the profession.

A subcategory also not common is "music therapy service assessments" (n = 4). The reason leading to this result may be limited interest among music therapists in verifying the quality of their practice. Another theme that was not frequently discussed, based on the findings of this review, is "assessment surveys" (n = 3). These studies are necessary to understand the means used by music therapists to develop their assessment practices and their characteristics. At this moment, the IMTAC is preparing a worldwide survey to assess music therapy assessment practices, translated into different languages to reach a large number of music therapists around the world.

Only two studies, carried out by Jeong (2013) and Waldon et al. (2014), were found in the subcategory "revisions of

assessment tools". Jeong (2013) created a revised version of the Music-based Attention Assessment, whereas the study conducted by Waldon et al. (2014) resulted in a revised version of the Music Attentiveness Screening Assessment Revised. As discussed before, the professionals that create assessment tools should correct and review them periodically based on new knowledge about their constructs and on their own experiences about the application of the tools in the music therapy practice.

It is still not common to standardize or establish general parameters or guidelines in the assessment area. Only two studies were found in the subcategory "guidelines for assessment practice". Ridder et al. (2017) present guidelines for translation and cross-cultural adaptation of music therapy assessment tools, while Waldon (2016b) shows guidelines for clinical documentation in music therapy. Although it is impossible to standardize and systematize music therapists' assessment practices as a whole, this is possible for specific areas in this field. The clinical practice guidelines created by AMTA (2013) cover the following areas: addictive disorders, consultant, intellectual and developmental disabilities, educational settings, older adults, medical settings, mental health, physical disabilities, private practice, and wellness practice. These guidelines include specific considerations on the assessment practices for each of these areas according to the different stages of the music therapy process.

Of the 224 publications included in this review, 176 (78.57%) have been published in the last 20 years. This information corroborates the gradual increase in the interest in music therapy assessment throughout the history of music therapy practice, as pointed out in other chapters of this book.

The analysis according to context/population revealed some trends in the main areas of interest in research on music therapy assessment. The criteria adopted to analyze the contexts/populations of the publications included in this review allowed the same study to be included in more than one of the following categories: children's assessment practices (n = 37), improvisation (n = 27), studies focusing on conditions or themes related to development (n = 19), autism (n = 18), communication aspects (n = 15), attention (n = 11), emotional aspects (n = 11), psychiatric contexts (n = 11), social aspects (n = 10), cognitive aspects (n = 9), adolescents (n = 8), dementia (n = 7), and special education (n = 4). It would be possible to analyze other categories with fewer studies, but this review intended to describe the main trends. The organization per context/population pointed to a strong trend in studying children's assessment practices (n = 37). This can be explained by the large number of music therapists who work with or research on this population, which can also account for the number of studies focusing on conditions or themes related to development (n = 19). Improvisation was also an area with many publications (n = 27). Probably, due to its complexity and subjectivity, music therapists feel the need to create ways to understand the phenomena that occur during improvisations (Lee & Kather, 2019).

THEMES NOT INCLUDED IN THIS REVIEW

Although the results of this scoping review revealed that several themes are approached in the research on music therapy

assessment, some important topics have not been included. Among the main themes not mentioned in the publications reviewed, the following should be highlighted:

- standardization of tests;
- training and education in the assessment field;
- supervision in the music therapy assessment theme;
- assessment tools for assessing music therapists;
- self-assessment tools for clients
- research on the creation and use of assessment tasks in music therapy;
- ethical aspects of music therapy assessment;
- research on the development and adaptation of assessment tools in music therapy, especially comparing methods for building and adapting instruments or guidelines to create instruments;
- studies comparing different aspects of data interpretation in music therapy;
- research on client participation in the creation of music therapy assessment tools and methods;
- comparison of different assessment approaches in music therapy;
- research focused on the combination of different music therapy assessment methods (multi-method assessment);
- research related to the process of creating assessment documents;
- specific research on technological resources for music therapy assessment.

All the above-mentioned themes are discussed in the next chapters, although no specific research is available. The lack of research on these topics does not mean that music therapists do

not consider them important. It only shows that they have not represented a clear research focus yet. The same themes have not been researched in other disciplines such as education, psychology, and social sciences.

REVIEW LIMITATIONS

This review provides an overview of research on music therapy assessment, but it is not complete. Databases such as Embase, Scopus, PsycInfo, Web of Science, and ProQuest were not included in the review. Although they could supply details for the general framework presented, the purpose of the review was to provide an objective overview of the research panorama on music therapy assessment. Therefore, the review was limited to databases and documents dedicated to more specific contents on the topic. Another limitation is the language of the studies included. Many studies on music therapy assessment do not have an abstract in English, and therefore were not included. Considering any publications that present research on an assessment tool was also a limitation, because it would be ideal to include only studies describing the formal construction process of tools. However, it is not easy to define whether the tools underwent a formal construction process, since not always this information is provided in the publication.

FINAL CONSIDERATIONS

The discussion about research on music therapy assessment highlights some of the most studied areas, the themes with limited research, and especially the points not researched yet. As in any discipline, some themes attract greater interest among

music therapists, perhaps due to their professional and research needs. Other themes are not so interesting due to their specificity. Based on the present review, it is clear that most studies have been published in the last 20 years, a trend that is expected to continue in the coming years. Greater exchange between researchers in this area, greater contact between researchers and professionals in this field, and the increase in the number of multicenter studies can be some strategies to maintain this growth.

CHAPTER SUMMARY

What are the main research characteristics in music therapy assessment?

Research on music therapy assessment in the context of music therapy practice focuses on: studying different assessment methods, procedures, and techniques; developing, reviewing/correcting, and studying the properties of assessment instruments; describing trends and characteristics of assessment practices; studying theoretical reflections on assessment practices; and establishing guidelines for a set of practices in the assessment field. The number of studies on this topic has grown in the last 20 years, and in the near future, in addition to the main research themes here reviewed, other topics may receive greater attention.

PART 3: DATA GATHERING

CHAPTER NINE

Reviewing music therapy records

Chapter question: What are the ways used by music therapists to review records?

INTRODUCTION

The scope of assessment practices in music therapy is extensive, and one of these practices refers to the method of reviewing different records related to a client or clients (Waldon & Gattino, 2018). In areas such as psychology, education, and social services, clients' records are also part of clients' assessment materials (Ballan & Freyer, 2020; Filter, Alvarez & Alvarez, 2012; Garcia-Barrera et al., 2012). Record assessment refers to the study of any material directly or indirectly related to a client's case. Videos and audios do not fall into this category, as they are usually studied through observation (Anguera et al., 2018). The purpose of this chapter is to present an overview of the ways used by music therapists

to review records in music therapy. The chapter is organized into the following sections: types of records reviewed in music therapy; tools and methods for reviewing records in music therapy; validity, reliability, and biases in the context of reviewing records in music therapy; and example of the use of reviewing records in music therapy.

TYPES OF RECORDS REVIEWED IN MUSIC THERAPY

Different types of clients' records can be assessed. Among them, it is essential to mention the following categories: documents of the music therapy process, documents of assessments carried out by other professionals, references to clients' condition/context, clients' records on digital media (social networks, emails, etc.), musical records (related to scores, musical notation, and lyrics), clients' artistic productions (drawings, paintings, sculptures, etc.), graphic material (mainly photographs or inserts for CDs or vinyl records, for example), and discrete objects (cigarette butts, used napkins, clothes, toys, etc.) (Anguera et al., 2018). These records are usually assessed qualitatively, since a quantitative assessment is used in the measurement method (discussed in Chapter 12).

In addition to the term “reviewing records”, the same assessment practice has been related to the “indirect observation” of clients (Anguera et al., 2018). The word “indirect” is justified because therapists do not conduct direct observations of clients through their actions, behavior patterns, capacities, and thoughts, but they conduct assessments based

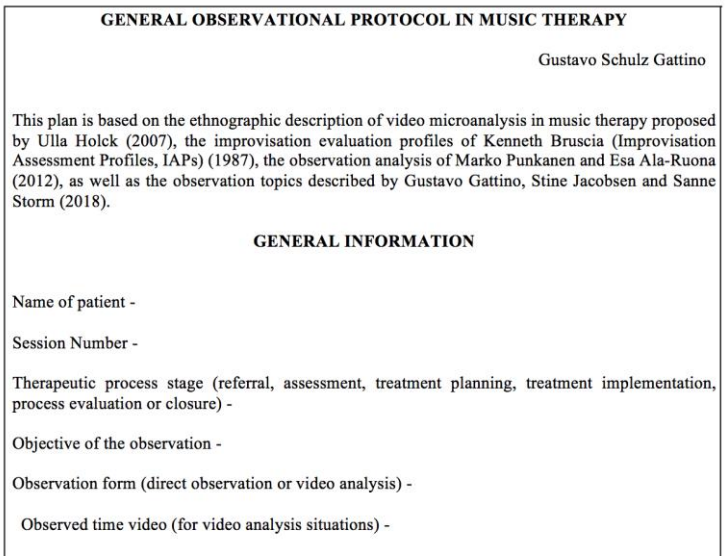
on records that relate to these contents, only differently. It is important to call the attention about assessing clients' audio and video recordings.

Although they can be included as a record assessment, these materials fit more appropriately as an observation assessment. This is because music therapists perform a direct assessment of clients through recordings. For Anguera et al. (2018), on the one hand, direct observation makes it possible to perceive what is being assessed (perception), because what is being observed (in person, or in video recordings, or in audio recordings) can be detected by eyesight and hearing, reducing the chances of interpretations. On the other hand, the analysis of records offers room for interpretation, since music therapists cannot observe and confirm clients' information directly in documents, musical and artistic records, and objects. Therefore, music therapists should not overestimate the results of records assessed.

Documents of the music therapy process

Since the beginning of the process, music therapists prepare documents to collect information about clients. They have specific forms for each stage, i.e. referral and acceptance, initial assessment, definition of treatment plan, implementation of treatment, and discharge or termination process, as well as for records of music therapy assessment tools applied to clients, such as tests (scales, checklists, etc.), observation tools, and interviews. These documents enable a retrospective analysis of the music therapy process, so that music therapists can remember what already occurred during the process and the

clients' manifestations in different situations. Figure 8 shows a fragment of the individual music therapy observation plan that can be used throughout the music therapy process to record information about the client (Gattino, 2019). An observation practice should accompany these documents of the process by assessing the video and audio recordings.



GENERAL OBSERVATIONAL PROTOCOL IN MUSIC THERAPY

Gustavo Schulz Gattino

This plan is based on the ethnographic description of video microanalysis in music therapy proposed by Ulla Holck (2007), the improvisation evaluation profiles of Kenneth Bruscia (Improvisation Assessment Profiles, IAPs) (1987), the observation analysis of Marko Punkanen and Esa Ala-Ruona (2012), as well as the observation topics described by Gustavo Gattino, Stine Jacobsen and Sanne Storm (2018).

GENERAL INFORMATION

Name of patient -

Session Number -

Therapeutic process stage (referral, assessment, treatment planning, treatment implementation, process evaluation or closure) -

Objective of the observation -

Observation form (direct observation or video analysis) -

Observed time video (for video analysis situations) -

Figure 8. Sample of the Individual Music Therapy Observation Plan from Gattino (2019)

Records commonly included in the reports of music therapy session are clients' narratives registered as transcriptions of the verbal content associated with clients' speeches during the process, or related to stories created by clients, or to suggestions of words or themes for the story (Thompson & Elefant, 2019). Although the music therapy process is centered

on musical content, some clients need to verbalize feelings or thoughts, a reason for music therapists to record this information (Schwartz, 2019).

Henley (2012) stated that assessments are fundamental to understand what is happening during and after a process. Wigram (2004), in turn, pointed out that music therapists usually focus on the interaction with clients during the session. Thus, they reflect more analytically about the process before or after the session. Based on these two authors, reviewing specific documents of the music therapy process can provide more in-depth analysis and reflection than that used during the session, as music therapists are more focused on understanding what is happening in the process. The analysis of documents helps plan music therapists' next actions and initiatives in future sessions and detect possible successes and points for improvement during the process.

Music therapists should have the documents related to the process of each client organized with the necessary identification, making it easier to find essential information. They should use clear and objective language in these documents to facilitate future record reviews. In many cases, music therapists may not be sure which specific documents of the process should be reviewed to answer a particular case. In these situations, they can start an analysis using the admission form and the clients' treatment plan. In circumstances music therapists are still not sure about the points to study in the records of the music therapy case, they should search for external supervision, since this has a fundamental role in organizing the needs of a specific client and can target assessment issues.

Documents of assessments carried out by other professionals

Music therapists are not restricted to the documents produced in their practice. In most cases, clients also have the support of other professionals or have essential information of their lives recorded in third parties' documents. Some examples of these documents are diagnostic or informative reports about clients (prepared by professionals in different fields), test results (scales, checklists, inventories, etc.), reports about clients' benefits/rights issued by public or private authorities (documents on granting benefits for medication purchases, for example), results of physiological tests (blood test, evoked potential test, electroencephalogram, etc.), medical statements, as well as documents related to legal, criminal, and social security issues.

Depending on the music therapists' area of practice, they should participate in specific training about these documents to have a sufficiently adequate understanding of them to meet their needs. For music therapists who work in contexts centered on the behavioral approach, for example, it is possible to carry out training on the primary assessment tools used to track and characterize behaviors, such as the Assessment of Basic Language and Learning Skills (Partington et al., 2018) or the Verbal Behavior Milestones Assessment and Placement Program (VB-MAPP, 2018, Sundberg, 2008). Also, music therapists who work in the mental health field, assisting clients who use different types of medications, should conduct an in-depth study of other drugs commonly described in medical reports (Preston, O'Neal & Talaga, 2010). Figure 9 depicts a

part of an electroencephalogram. This exam shows the electrical activity of the brain and a neurologist can explain it in a specific document about it.

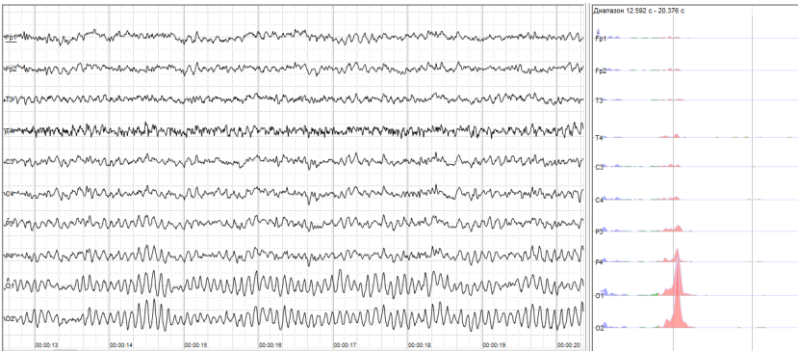


Figure 9. Example of an electroencephalogram

From ' Human EEG with prominent alpha-rhythm' [Photograph], by Andrii Cherninskyi, 2015, via Wikimedia Commons (https://commons.wikimedia.org/wiki/File:Human_EEG_with_prominent_alpha-rhythm.png). CC BY-SA 4.0

Literature on client's condition/context

Even though music therapists have a lot of specific information about a case, this may not solve the doubts and questions related to the case if they are working with a rare condition (a syndrome), for example, or with a new population that is not part of the reality of their professional practice. Also, they may be unsure about the techniques to apply an assessment or intervention method to a specific case or they may need to

assess the possible resources used with a client. In all the situations described above, music therapists should assess different records that are not specifically about the client but are related to the case. These references include scientific texts (papers, books, theses, and dissertations), documentaries, books, and non-scientific articles that address the issue in some way (books that share stories about people with the same condition as the client, for example), as well as books and films mentioned or suggested by the clients throughout the process.

This category of record review is similar to the work performed by researchers who are reviewing the literature on a specific topic, since the intention is to comprehend a particular subject better, in this situation, to have more knowledge that can be used in the clients' cases. Reviewing references can be diverse, because music therapists can research diagnostic manuals such as the Diagnostic and Statistical Manual of Mental Disorders in its fifth version (DSM-V, American Psychiatric Association [APA], 2013) and WHO, 2018), as well as documentaries such as “The truth about depression” (Nolan et al., 2017). Therefore, reviewing references is an opportunity to assess materials that can contribute to understand the case.

Client’s records on digital media

Among the forms of interaction and communication in current society, assessments on digital media are fundamental to provide a better understanding of someone. In music therapy, this is also true. Music therapists can study clients' writings and images used in their communications with each other by email

or on social media such as Facebook, WhatsApp, and Instagram. Moreover, music therapists can assess the contents posted by clients on these social networks. The use of digital media information in the assessment field has not been addressed in music therapy yet, but it has already been studied within the mental health scope and in psychology (Björk et al., 2014; Fernandez et al., 2012; Hassanpour et al., 2019; Schwartz et al., 2014). Jordan et al. (2014) clarified that the use of this information should respect ethical principles for client information analysis and the possible confidentiality of data. The authors suggested that the professionals should include whether they can be contacted by email or social networks in the consent form. And if this is allowed, they should define the means to be used for communication. Another interesting point raised by Jordan et al. (2014) is the discussion about adding clients to friends' lists on social networks. The authors believe that professionals should not add clients to their friends' lists. This is a point that needs careful analysis, because the decision to include clients or their family members or not depends on the service context. Therapists can follow the artistic projects developed by their clients on their social networks, for example. In these cases, music therapists should explicitly state the circumstances to have clients on friends' list and specify the types of information about the therapists clients or their family members can have access to on social networks. Music therapists should use a professional profile on different social networks to communicate with clients, avoiding the use of a personal profile, which can provide access to more specific data about them.

Jordan et al. (2014) also emphasized in their suggestion for a consent form that some information clients post as content on their social media is public and therefore not confidential. Thus, this information can be legally accessed by anyone. Since it is a therapeutic context, the authors complemented that music therapists can report any posts that may represent a risk to clients or other people such as situations of abuse, racism, etc.

The messages clients send to music therapists can be assessed to identify their emotional state and their needs based on the content, the way they write, if they use emojis. Some clients consider writing more comfortable than speaking to provide relevant information.

Music therapists should pay close attention to clients' posts on social media that may represent a risk, especially in cases related to self-harm and suicide attempts, or risks to family members or to the community where clients live (situations of abuse, delinquency, etc.). In addition to these more sensitive cases about information posted, some clients can invite music therapists to watch or follow some pages they have created on social media showing their participation in musical initiatives, either singing or playing. In these situations, music therapists can ask for clients' consent to follow the page and the clients' musical development.

Musical records

These records refer exclusively to musical products created by clients or transcribed by music therapists. These records could be included in the category of documents of the music therapy process, but they are different, because they

specifically relate to the products of the music therapy process. This category includes the scores of songs created, sung, or played by clients, or together with a group, or with music therapists' collaboration (Holck, 2007), the lyrics of clients' compositions, the songs they brought to the session (Barcellos, 2012), tablatures, chord systems with the lyrics of the song, alternative music notation systems created by clients or music therapists over a long music therapy process (using schemes or methods for identifying what needs to be done in each part of the song) (Wosch, 2007c). Music therapists can also use software to assess musical contents such as the recorded musical frequencies, using the Real Pitch Maker, for example (Baker, 2007), or diagrams showing clients and/or music therapists' participation in the setting such as the INTERACT software (Plahl, 2007).

Lee (2016) affirmed that musical material assessment is essential to understand the complexity of musical manifestations created by clients in the setting. The author developed an entire system for analyzing scores that prioritizes the analysis of musical records. The assessment of musical records is one assessment practice that makes music therapists unique compared to other types of therapists, because music has a fundamental role in explaining the different dynamics and processes in the setting. Music therapists should assess the musical records in the audio and video recordings for a more complex understanding of the musical material analyzed. Figure 10 shows an example of a piano score used by Rodrigues (2015) to document the repertoire used by music therapists while assessing deaf clients.

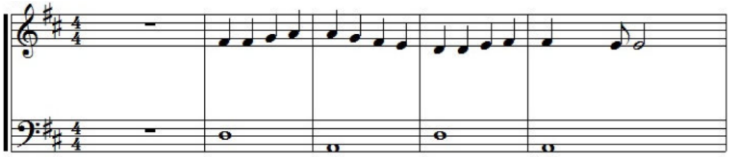


Figure 10. Excerpt from Beethoven's Symphony no. 9 for the clinical context from Rodrigues (2015)

Client's artistic productions

Although the focus of the music therapy process is on clients' expression through music, this process also enables expressions through other artistic manifestations such as drawings, paintings, sculptures, among others. These manifestations can generate artistic productions that music therapists can assess. In some models and approaches in music therapy, the use of different forms of artistic expression is fundamental for clients' development throughout the music therapy process. In the GIM model, the drawings and mandalas produced are essential for clients to express the complexity of understandings and experiences they are having in the music therapy process (Wärja et al., 2018). Although these artistic productions can be assessed, they have a complex network of meanings (Gerge et al., 2020). Consequently, music therapists' assessment of these materials should not be guided by personal beliefs and experiences. The assessment should be based on clients' own assessments of the artistic productions in the setting. If music therapists wish to make a more in-depth assessment of these

artistic productions, specific training in this area is recommended. For example, a specific part of the GIM model training relates to assessing drawings and mandalas created in the setting (Bruscia, 2002). Some music therapists also undergo training in art therapy to meet the assessment needs that are not included in the music therapy process (Eizaguirre, 2015).

Graphic material

Graphic material refers to any printed material brought by clients (Anguera et al., 2018) to the session that can be used in discussions during the session or simply shown to music therapists. Clients may bring photographs (Zaros, 2016), CD or vinyl record inserts, materials related to art exhibitions they have visited, or images on books or magazines. Music therapists can ask clients to bring these materials during the process or clients can bring them spontaneously. Music therapists may ask clients with a depression diagnosis, for example, to bring a photo of a magazine that represents their current state. Alternatively, some graphic materials may appear spontaneously, such as the case of children who bring sticker albums, books, or supermarket flyers to the music therapy session. It is worth mentioning the use of photographs (Zaros, 2016), since therapists can assess clients' family context by assessing different photos of clients with their families in different situations (Sherman & Fredman, 2013). Additionally, images can facilitate both the therapeutic communication and the healing process (Weiser, 2004). In these the pictures, music therapists may identify possible milestones in clients' history,

in case something happened that clients are not aware of, but the pictures can point out. Overall, the assessment of graphic materials should not be interpreted by itself or only according to music therapists' opinion. These materials should be construed based on clients' perception of them.

Discrete objects

This category includes objects that have been forgotten or brought by clients to the session, revealing something about them (Anguera et al., 2018). These objects can contain important information about certain clients' behaviors and behavior patterns. Some autistic children, for example might bring toys to the session, but they do not use them interactively with music therapists. In these cases, toys can be used to calm clients down or help with transitions between activities (Santos et al., 2013). Music therapists can observe if the toys have any marks on the surface, because it is common for some autistic children to bite toys to calm down. While working out of their office or room, this information can be essential for music therapists, since some objects can provide critical insight for the therapy context (such as a mental health unit, for example). If a client's mother leaves a bus card on the desk in the room, the music therapist knows that they used the bus to arrive at the session and that the child may be a little tired due to the trip. It is important to understand that the assessment of objects may not guarantee reliable information about clients or the context but can suggest essential data that should be considered.

TOOLS AND METHODS FOR REVIEWING RECORDS IN MUSIC THERAPY

Based on the information collected in the scoping review described in Chapter 8, here the tools and methods for reviewing music therapy records are presented. No assessment tools specifically created to review records have been found during the review. The tools shown in Table 8 integrate the record review method with the music therapy observation method, mainly by listening to different musical materials. Other publications focus on record reviews regarding variations in the record review method (Table 9). Some publications present the use of variations in the method for reviewing records related to variations in the observation method (Table 10).

Table 8. Main assessment tools using the record review method associated with the use of other methods

Tool (author, year)	Modality	Target population/context	Aim	Structure	Evidence of validity and reliability
Stages in Researching the Music in Therapy (Bonde, 2007).	Prescriptive, diagnostic, formative, and summative tool.	Analysis of musical materials.	Perform a global analysis of the musical content presented.	Systematic assessment that includes listening to musical materials and/or analyzing musical notation through general questions organized by analyzing five elements: 1. trace: 2. scope: 3. focus and purpose 4. representation 5. presentation.	Not presented.
Documentation of music therapy sessions (Ridder, 2012).	Prescriptive, diagnostic, formative and summative tool.	People with disabilities	Assess basic information about what happened in each session and the course of the music therapy process over time.	Structured form, filled in after each session, for music therapists to document the use of methods and techniques in individual music therapy with people with dementia in a descriptive way and by means of a graph.	Not presented.

Table 9. Main methods of reviewing records in music therapy

Method	Main characteristics	Author (year)
Structural analysis of therapeutic improvisatory music	Assess the musical content of improvisations according to the movements that are fundamental with higher and lower pitches, a vertical harmonic structure, linear harmonic structure, and rhythmic components.	Lee (1989)
Structural analysis of post-tonal therapeutic improvisatory music	Assess several constructs of the analysis of post-tonal therapeutic improvisatory music and consider its tonal value, exploring atonal issues in music therapy improvisation.	Lee (1990)
Understanding music therapy experiences through interviews: a phenomenological microanalysis	Phenomenological analysis of records of interviews to understand a session or the music therapy process.	McFerran & Grocke (2007)
The use of microanalysis and conversation	Assess the records of the musical content of improvisations and conversations throughout the session.	Sutton (2007)
The Hero's Journey as an assessment tool for hip hop songs created in music therapy	Assess song records (musical content and lyrics) using the interpretive clinical assessment.	Viega (2007)
The Semiotic Music Therapy Song Analysis Protocol and its use as an assessment tool in music therapy	Assess songs (lyrics and melody) in the music therapy context built based on the theory and practice of music semiotic.	Sampaio (2018)

Table 10. Main assessment tools that use the record review method associated with the use of other methods

Method	Main characteristics	Author (year)
Auditory music scores	Transcribe, analyze, interpret, and assess the complex auditory material from music therapy sessions through a visual format using fixed graphic codes.	Bergstrøm-Nielsen (1993)
Analysis of notated music examples selected from improvisations of psychotic patients	Combination of different forms of listening with the assessment of scores (reviewing records).	Backer & Wigram (2007)
Music Therapy Analyzing Partitura (MAP)	Transcribe, analyze, interpret, and assess the complex auditory material from music therapy sessions through a visual format using fixed graphic codes.	Gilboa & Bensimon (2007)
Documentation, analysis and interpretation of improvisational music therapy.	Transcribe, analyze, and interpret the music therapy musical material/music therapy objects from the music therapy sessions through a visual format using fixed graphic codes.	Parker (2011)

Based on the description of the tools and variations in the record review method, it is possible to notice the main focus on analyzing musical content. Other topics such as reviewing and studying lyrics and interviews are also present but to a lesser extent.

VALIDITY, RELIABILITY, AND BIASES IN THE CONTEXT OF REVIEWING RECORDS IN MUSIC THERAPY

The study of the validity and reliability of biases in the record context is essential to help music therapists understand the properties inherent in these records. These three concepts are not explained here, because they are defined in Chapters 1 and 7. Each of these three components is studied not only in this review of records, but also in the methods of interviews, observations, tests, and measurements in the following chapters.

The verification of validity properties while reviewing records in music therapy is not common. This is because there is no quantitative data to assess the accuracy of the information. However, it is possible to study evidence of validity while reviewing records according to the consequences of using this method and an ecological validity perspective. In this case, the evidence of validity based on the effects refers to the consequences (intentional or unintentional) that the application of this method can generate, which can be positive or negative (APA, AERA, NCME, 2014).

Reviewing the lyrics of songs sung by clients can have positive consequences, for example, since therapists can talk to clients to understand the reason that led to the choice of that song and thus be able to understand their therapeutic process better. Ecological validity refers to the significance of the document review for clients in their context/environment (DeNora, 2013). For example, reviewing the lyrics of clients' songs is significant for their context/environment because those

people created them. Reliability in examining the records occurs mainly due to the possibility of finding the same results and interpreting the data in the same way or reaching the same conclusions comparing to other assessments performed (Waldon & Gattino, 2018).

Regarding biases, music therapists may make systemic errors during data collection, analysis (Porta, 2014), interpretation, and conclusions of the record reviewing process. During the phases of data collection and analysis, music therapists may use a wrong procedure to transcribe or analyze the information in the records (mistakenly encoding a score or lyrics of a song, for example). Also, therapists may fail to perform a necessary stage or perform it wrongly during data collection or analysis of an existing review method. In the phases of interpretation and conclusion, music therapists may base their judgment on opinions and not on the information present in the assessment (Porta, 2014).

EXAMPLE OF THE USE OF REVIEWING RECORDS IN MUSIC THERAPY

Throughout the initial assessment sessions with the 8-year-old client Beatriz (fictitious name), an unusual situation arose as the music therapist needed to assess a drawing she made during the session. She was referred to music therapy by her mother because she imagined that it could help her deal with speech and language difficulties and diagnosis of developmental delay. During one of the sessions, Beatriz drew something peculiar, a man, a woman, two children, and a dog. As soon as she finished the drawing, the therapist assessed it

and found out that it represented a family (probably the client's family). The therapist asked who each of those people were. She said that her father, mother, brother, dog, and herself were represented in the drawing. For a moment, the music therapist forgot that she had no brothers and asked her brother's name. She found it difficult to answer, which made the music therapist curious, because he thought she had forgotten her brother's name. At the end of the session, the music therapist reported that fact to Beatriz's mother. She mentioned that they were planning to have one more child besides Beatriz. This example demonstrates that by reviewing a specific session record, the music therapist was able to verify an important topic related to the client's family context and interests.

FINAL CONSIDERATIONS

Assessments through reviewing records in music therapy can provide vital information for therapists' work. The different categories described evidenced the existence of many ways to review records. These forms can be adapted to the needs, contexts, and approaches related to music therapists' assessment practices. This chapter also highlights the relevance of knowledge on this subject in disciplines such as psychology and education. Although this knowledge is covered in music therapy, it is not as developed as in these two other fields; therefore, music therapy can benefit from it. It is imperative to have more music therapists publishing about this topic to be more confident while reviewing different records.

CHAPTER SUMMARY

What are the ways used by music therapists to review records?

Music therapists assess different types of records that include documents of the music therapy process, documents of assessments carried out by other professionals, references to clients' condition/context, clients' records on digital media, musical records, clients' artistic productions, graphic material, and discrete objects. Tools and variations in the record reviewing methods developed by different music therapists can be used in the assessment process.

CHAPTER TEN

Interviews in music therapy

Chapter question: How do music therapists conduct music therapy interviews?

INTRODUCTION

In music therapy, different understandings and possible definitions for the term interview are found. Among the definitions studied, the one that best suits the music therapy context is that of APA (n.da): an interview is a directed conversation in which a researcher, therapist, clinician, employer, or the like (the interviewer) intends to elicit specific information from an individual (the interviewee) for purposes of research, diagnosis, treatment, or employment. The same entity also uses the term "clinical interview" to specify the use of interviews in a therapeutic context (APA, n.db). Based on

this definition, interviews can be conducted in person, by phone, or online. They can be standardized, including defined or open questions, varying according to the content of the interviewees' responses. It is essential to clarify that an interview is not a conversation (Keith, 2016). During a conversation, the person asking questions alternates with the person answering them. During an interview, even though the person interviewed may ask the interviewer questions, the interviewer, who in this case is a music therapist, asks most of them. Depending on the type of interview, it should be similar to a conversation, so that the participant feels more comfortable to answer.

Although the interviews are usually conducted in the referral stage, when music therapists are first contacting clients, their family members, or a professional responsible for the case, they can also be applied any time for prescriptive, formative, summative, or interpretive purposes (Brusica, 1988; Waldon & Gattino, 2018). Thus, although the most common scenario is to use interviews in a formative context to get to know clients, music therapists can also use them in a formative context to understand the different musical experiences that are impacting clients. Or they can use interviews in a summative perspective to know the influence of the music therapy process on clients' lives. In addition, music therapists can use interviews with an interpretive purpose to assess clients' verbal discourse, emotions, and thoughts according to a specific theory or theories.

Some models, approaches and orientations use interviews more frequently than others. It is common to use interviews in community music therapy practices, so that the different participants can share their experiences, feelings, and thoughts,

for example, based on music therapists' questions in a collective experience (Cunha, 2016). In the analytical music therapy model, the use of interviews is also very common. Music therapists usually ask clients about their impressions on improvisation and the impacts of this practice on them (Priesley, 1994). In the GIM model, music therapists also use interviews to assess clients before and after the receptive musical experience to understand their different thoughts, feelings, and opinions (Summer, 2011).

This chapter intends to provide an overview of the use of interviews as one of the music therapy assessment methods, describing the types of interviews and the precautions music therapists need to take while conducting an interview. It also describes some verbal techniques developed in music therapy that can be used to perform a successful interview (Schwartz, 2019).

TYPES OF INTERVIEWS IN MUSIC THERAPY

Music therapists plan to conduct interviews for assessment purposes based on the study of who the interviewee is (client, family, or professionally responsible for the case), the purpose of the assessment, the stage of the music therapy process, the context/environment of practice, and the general and specific goals of the interview. Upon studying the factors described, music therapists should choose one of the three types of interviews, namely unstructured, semi-structured, and structured (Garcia-Barrera & Moore, 2013). These types offer

different advantages and disadvantages considering music therapists' assessment needs while using the method.

Unstructured interviews

Unstructured interviews involve a flexible conversation between the interviewer and the interviewee. The interviewer does not have a pre-defined question structure, as the questions arise according to the interviewee's responses and reactions and the needs that arise from the interviewer during the interview (Grills, Castine & Holt, 2018). In this type of interview, music therapists have an idea of the issues discussed, but there is room for planned and unplanned questions.

The great advantage of unstructured interviews is that they enable real-time adjustments depending on the interviewee's responses. If the person interviewed provides an answer that is not well explained or further explored, music therapists can ask questions to get more details about the topic addressed. One of the disadvantages of unstructured interviews is the verification of the psychometric properties. According to Groth-Marnat & Wright (2016), unstructured interviews make it challenging to study validity and reliability evidence. In this modality, there are no standardized measurements that make it possible to verify aspects related to the accuracy and precision of the assessments.

The use of unstructured interviews is perfectly adequate for studying subjective aspects about an individual, as the questions are built according to the specificities that arise in the interview (Kim & Elefant, 2016). Unstructured interviews can be an interesting option when music therapists do not define the

topics they want to ask about but know the topics that should be explored in the interview. The use of unstructured interviews is not recommended for professionals who have difficulty asking questions in an improvised manner or modifying a plan for an assessment session. In addition to the factors presented, music therapists also need to consider how they want to work and choose the type of interview that best suits this purpose.

Semi-structured interviews

Semi-structured interviews refer to interviews with some standardization, but professionals can also be flexible with the procedures and questions if necessary (Grills-Taquechel, Polifroni, & Fletcher, 2009). This is undoubtedly the type of interview that most music therapists use. They usually create their own assessment forms to interview clients. Nevertheless, during the interview, they still have a certain level of flexibility to modify the questions or some procedure planned before (Waldon & Gattino, 2018). Music therapists can easily find different types of interview forms (usually used during the referral stage) for other populations on music therapy association websites, professional music therapist websites, and some websites for companies that offer music therapy services. Before choosing any of these tools to use, music therapists should reflect on whether these forms adapt to their needs if they follow the necessary ethical parameters and comply with the regulations, laws, and cultural specificities linked to their practice. Precisely due to the particularities

regarding many professionals' practice, the best option is to develop a unique tool.

Structured interviews

Structured interviews refer to the use of a strictly determined set of procedures on the way to conduct the interview and the questions. Interview standardization allows therapists to score/quantify clients' answers. Transforming these answers into specific measurements, therapists can study their reliability (precision) and verify their trustworthiness or consistency. In this case, it is also possible to evaluate the validity properties (accuracy) of interviews (Waldon & Gattino, 2018). It is common in psychology and mental health to use semi-structured and structured interviews, especially for making diagnoses. An example of diagnostic interviews is the Diagnostic interview for children and adolescents - fourth edition (DICA-IV; Reich, 2000). The scoping review carried out in Chapter 8 revealed two examples of structured interviews in music therapy, Music Assessment Tool (Chlan & Heiderscheit, 2009) and the Music Preference Ecomap Assessment Tool (Hodge, 2020). Interestingly, both are related to the musical preferences of clients who receive musical interventions mediated by music therapists and nurses. Table 11 shows the fundamental characteristics of these assessment tools.

Table 11. Structured interviews in music therapy

Feature	Music Assessment Tool	Music Preference Ecomap Assessment Tool
Purpose	Prescriptive and formative purpose.	Mainly prescriptive but it can be used formatively if clients have more sessions.
Target population	Clients critically ill and receiving mechanical ventilation support.	Terminal clients who live in special homes.
Aim	Determine the musical preference in order to plan future musical interventions.	Determine musical preference, but also the role of music in clients' lives in the past and in current life situation to determine future interventions.
Structure	17 items organized as general information about clients, open-ended and multiple-choice questions. Focus on clients' musical skills and preferences (likes and dislikes).	32 questions organized in two large units: initial musical preference assessment and musical identity ecosystem. After the questions, the music therapist creates concept maps based on the answers.
Type of data interpretation	Descriptive interpretation based on clients' responses.	Interpretation from an ecological perspective with the elaboration of concept maps representing clients' responses according to different systems.

CONDUCTING AN INTERVIEW IN MUSIC THERAPY

Music therapists need to be aware of several procedures while conducting an interview. Each of these procedures shapes the interview in different ways. These procedures presented here were inspired by different publications in the psychology field (Garcia-Barrera & Moore, 2013; Grills-Taquechel, Polifroni, & Fletcher, 2009; Grills, Castine & Holt, 2018; Groth-Marnat & Wright, 2016), as well as by Schwartz (2019) on the use of verbal skills in music therapy. Here are some of the procedures discussed in this session: preparation for the interview, organization of the space, interaction dynamics during the interview, use of verbal techniques in music therapy.

Preparation for the interview

Before conducting an interview, music therapists need to study the previous records that they already accessed about the interviewee to direct the interview and the possible questions they want to ask. In addition to this practical preparation, music therapists should also perform theoretical preparation, according to the context of the interview, based on five constructs related to the use of verbal skills in music therapy (Schwartz, 2019): words, language, and cognition; listening; social and cultural identity; determining communicative intent; and ethical practice. Understanding words, language, and cognition is essential for music therapists to think about the language and words used during the interview. Listening here

means the ability to listen to the interviewees during the interview. Before the interview, music therapists should self-assess their ability and style of listening in music therapy, so that they can listen to and be listened by the interviewees in a relevant manner during the interview. Social and cultural identity refers to concerns about interviewees' customs as well as social and cultural beliefs, which need to be considered, respecting the particularities of the participants in the interview (Kim, 2020). Determination of intentions in communication involves verifying the meaning and intention of interviewees' words and language. Music therapists should assess the use of strategies to understand what interviewees are communicating. Interviewers should not only focus on the topics they are "interested in listening to" but on all the content expressed verbally and paraverbally by interviewees. Music therapists also need to consider the ethical cautions that should be followed during the interview.

Organization of the space

One of the central aspects of the success of an interview is the organization of the space. This refers to both the physical space and the relational space created between interviewers and interviewees. To conduct virtual interviews, music therapists need to ensure that the interviewees' connection is adequate to sustain a conversation (British Music Therapy Association [BAMT], 2020), and it is also important to check the angle of the cameras of both interviewers and interviewees (AMTA,

2020). For telephone interviews, the main concern is checking the quality of the call.

During face-to-face interviews, it is important to position the chairs so that they are neither too close nor too far apart. The interviewer and the interviewee should be able to look at each other effectively. Music therapists need to decide whether to use a table between the chairs to conduct the interview. In some cases, the table may be on the side not to represent a barrier between music therapists and interviewees. They should also decide whether to record the information using a pen and paper, or a computer, or a tablet, or a cell phone, to think about the ideal location to place the device used to collect the data. Music therapists should also consider the clothes to wear on the day of the interview. A very tight outfit can cause them some discomfort and distraction, due to the need to constantly adjust their posture. Their clothing should draw as little attention as possible, so that interviewees can focus on the interview.

Music therapists also need to check on the objects inside the room not to distract interviewees' attention. It is also important to verify possible external interference such as noise or people that may interfere in the interview.

Interaction dynamics during the interview

During an interview, different dynamics are happening between music therapists and interviewees (Groth-Marnat & Wright, 2016). Music therapists should always pay attention to these dynamics to conduct the interview in the best possible way. A common dynamic is asking interviewees a question, a moment music therapists should be aware of the rhythm, speed,

duration, and metrics of their speech. If music therapists speak too fast or too slow, interviewees may find it difficult to follow interviewers' line of thought.

Music therapists should also be attentive to the melodic intonation of their voice while asking questions, because not using much variation in the melodic intonation may make it difficult for interviewees to perceive the level of affection placed in interviewers' questions (Schwartz, 2019). Music therapists should use a melodic intonation that is inviting, so that interviewees get interested in participating in the interview and answering the questions. Another crucial point is the timbre of music therapists' voice, since variations in timbre are related to variations in content during the interview. Music therapists should adapt the use of their voice to a pleasant timbre to conduct the interview.

If music therapists use a very low-pitched voice, interviewees may feel intimidated to answer the questions. Interviewers should also articulate the words clearly so that interviewees can understand them well. Music therapists need to be aware of the structure of the question. It is often necessary to change the words used so that interviewees understand the focus of the question. Furthermore, music therapists can ask a question directly, stating exactly the point they want to know, or indirectly, by addressing other topics to reach the content of interest.

Another common dynamic during interviews is listening to interviewees' responses (Groth-Marnat & Wright, 2016). Music therapists should demonstrate their interest in listening to interviewees in their posture, gestures, and facial expressions. If it is necessary to take notes, music therapists

should do this in a summarized manner not to distract interviewees' attention. If music therapists take notes with a pencil or pen, they should use legible writing and keywords that can be understood in the future.

Music therapists can interact with interviewees while they are speaking by nodding, saying “I understand” or “right”, or just listening to them attentively. If it is necessary to interrupt interviewees, this should be done politely. Starting and ending the interview is also another important dynamic. Music therapists should be clear about the moment the interview starts and ends not to cause unnecessary anxiety for the interviewee.

Use of verbal techniques in music therapy

Schwartz (2019) stated that specific verbal techniques in music therapy have been developed over time in different therapeutic contexts to meet music therapists' different needs. Verbal techniques can be used in combination with or isolated from musical techniques. Schwartz (2019) established categories of verbal techniques, with a direct application in the interview context, based on a careful review of various uses of verbal language in music therapy and on her own experience in this area. It is important to note that these categories were not created specifically for interviews. Because they relate to verbal techniques, Schwartz (2019) adapted their description to the interview context. The techniques assist music therapists in directing and developing different interview dynamics. This section is not intended to explain each technique in detail but rather describe the different categories of verbal techniques, so that music therapists can deepen their knowledge of the

techniques based on the references described here. The names of these techniques usually specify the actions of music therapists concerning the use of verbal language.

Schwartz (2019) organized verbal techniques into four categories: verbal framing, verbal exchanges, verbal interactions, and verbal interventions. Verbal framing techniques are those used by music therapists to conduct a conversation as follows: creating the image (preparing to imagine the interview), starting with a spoken greeting (greeting interviewees), adjusting the tone (adjusting the intonation in the conversation), defining the experience (explaining the topics of discussion), outlining expectations (understanding interviewees' expectations), establishing limits (establishing limits of what can and cannot happen during the interview), providing directions (providing practical indications of some procedure interviewees have to perform during the interview). Verbal exchange techniques refer to situations with a verbal interaction flow between interviewers and interviewees as follows: entering the clinical space (creating situations so that music therapists can be integrated with the interviewees' space), collecting information (asking questions to seek specific information), creating a contract (defining the agreements and arrangements necessary in the process), define limits (making clear the situations in which music therapists conduct the process or determine procedures to be performed), decide the roles (creating situations to define the role played by each participant during the interview).

Verbal interaction techniques refer to situations of a reciprocal action or influence on the verbal interaction between interviewees and interviewers, but they are hardly ever used in

the first sessions, since it is necessary to deepen the relationships developed in the music therapy process before applying them. They are: creating and sustaining a therapeutic relationship (holding discussions that involve empathy and respect), finding connections, intimacy, validating negative projections (exploring negative emotions about or towards therapists through verbal discussion), sharing meaningful information about the musical experience, communicating social and emotional content related to music, feedback, reflecting, reformulating, translating communications or responses.

Verbal intervention techniques include the use of verbal actions that have a direct impact on creating therapeutic change. Just as with interaction techniques, verbal intervention techniques are not used in the early stages of the music therapy process. These techniques are: connecting (with the different verbal content shared by interviewees), exploring (asking questions that make it possible to explore the content), clarifying (asking questions to seek an explanation for what was said), interpreting (performing interpretations based on what interviewees said), revealing (sharing some experience music therapists had with interviewees that can assist in the interview), confronting (searching for any incongruity in interviewees' answers and sharing it with them), summarizing (doing a synthesis of various contents interviewees approached).

VALIDITY, RELIABILITY, AND BIAS IN MUSIC THERAPY INTERVIEWS

As discussed in Chapter 9, on reviewing records in music therapy, studying the validity, reliability, and bias is also important for interviews. Validity is studied mainly based on the evidence of the consequences of conducting the interviews (AERA, APA, & NCME, 2014) and also by the ecological validity (DeNora, 2013) (both explained in Chapter 9). As with record reviews, the data obtained in interviews are primarily qualitative and, therefore, it is not possible to extend the validity of studies to other types of evidence sources.

Regarding reliability, it is possible to verify whether different interviewers reach the same answers to the questions asked to the same interviewee (demonstrating reliability among professionals performing assessments) (Waldon, Jacobsen & Gattino, 2018). Furthermore, it is also possible to verify the reliability of interviews using alternate/parallel forms of assessment for semi-structured or structured interviews (AERA, APA, & NCME, 2014). To test this type of reliability, music therapists use different versions of interview forms. The question distribution or format is different, but the content assessed/asked is the same. The closer the interviewees' answers are in the different formats, the higher the level of reliability.

Interviews can also generate different types of bias, and music therapists should pay attention to this to minimize them whenever possible. Those known as interviewer biases (Frey, 2018) include systemic errors in the way the questions are asked (about the content or the structure of the question),

mistaken perceptions about clients' identity (regarding age, ethnicity, education level, etc.), and also due to interviewers' manifestations during the interview that hinder or manipulate interviewees' answers (according to attitudes, postures, expressions, gestures, etc.). For interviews with more than one interviewer, when music therapists interview together with co-therapists or professionals in other areas, the occurrence of systemic errors is common and establishes an imbalanced power relationship (Hadley & Norris, 2016), because interviewees may feel intimidated by interviewers' perceptions and judgments.

EXAMPLE OF AN INTERVIEW IN MUSIC THERAPY PRACTICE

João (fictitious name) is 13 years old and was referred to music therapy by his aunt due to his difficulties in expressing himself and dealing with frustrations. According to his aunt, these frustrations were related to his parents' divorce, but only three years after it he began to express them. The music therapy process started with an initial interview with the mother. During this interview, the music therapist used a structured set of questions from an interview form he had created. He chose to use structured questions to learn more about João's life and to understand his mother's expectations towards music therapy. The music therapist sat in front of the mother, with a table separating them, and recorded the mother's responses on his portable computer. After about 30 minutes, the interview was concluded. Traditionally, based on the music therapist's practical experience, to end the interview he closes the

computer, demonstrating that the assessment finished. Furthermore, before saying goodbye to the interviewee, he normally asks if they have any other questions. At this moment of the assessment, João's mother started talking and telling him many things about her life and João's life. To avoid missing this interaction, he did not reopen the computer but was carefully interacting with the mother to collect all the necessary information.

This example demonstrates that a structured or semi-structured interview can be highly modified according to a specific event. Also, even if music therapists have a structure, they need to be flexible enough to improvise according to the different needs that may arise at the moment.

FINAL CONSIDERATIONS

Interviews are an important assessment method in music therapy that can be used at different times and for different purposes in the music therapy process. Further studies on the use of interviews in music therapy in the therapeutic practice are necessary since literature in this field is limited. Although writings from other areas (such as psychology) or related to other themes in music therapy (such as the use of verbal techniques in music therapy) are essential to understand this theme, the number of studies on music therapy interviews should increase in the coming years.

CHAPTER SUMMARY

How do music therapists conduct music therapy interviews?

Music therapists conduct interviews in music therapy for different purposes, at different times in the music therapy process, and with different populations. They can be unstructured, semi-structured, or structured interviews. To conduct interviews, music therapists need to prepare for it, organize the space, use interaction dynamics during the interview, and use verbal techniques in music therapy.

CHAPTER ELEVEN

Observation in music therapy

Chapter question: What are the main characteristics of the observation method in music therapy and how is the observation carried out in the assessment process?

INTRODUCTION

The observation method is one of the most frequently used methods in music therapy due to its practical characteristics and feasible implementation. Depending on the type of observation, music therapists do not need many resources to apply it. Although this method is described in many different ways and by different assessment tools, the description of this method as a whole lacks publication. Observational assessments involve obtaining assessment information by means of direct observation (Spear-Swerling, 2013). Observation is performed

directly using senses, namely sight and hearing, i.e. what music therapists see and hear about something (Waldon & Gattino, 2018). Music therapists can observe individuals or groups of individuals in a direct observation in the environment or perform an observation using audio or video recordings. One of the primary references about observation in music therapy is the book on microanalysis methods edited by Wosch & Wigram (2007). Although this publication is not exclusively about observation, it shares many examples of specific ways to apply it in different music therapy processes and with other populations.

Observation studies are widespread in the field of psychology and mainly linked to the observation of behaviors. In music therapy, therapists observe much more than only actions (related or not to musical parameters) because they can observe thoughts, qualitative and quantitative variations in musical parameters, relationships/interactions, verbal speech, postures, and facial expressions (Storm, 2013a). Hence, music therapists can observe subjective phenomena (such as the relational processes in a musical dialogue) and the quantitative observation about the number of chords or scales used in a musical phrase, for example. Music therapists usually create their own assessment tools or specific ways of using the method during observation practices. However, it is essential to note that, along with tests, the observation method has the most specific assessment tools in music therapy. The purpose of this chapter is to provide an overview of the observation method, showing its main characteristics based on its dimensions, understanding validity, reliability, and biases, as well as explaining how to conduct observations in music therapy. It also includes the main assessment tools and different methods

(particular forms) of observation based on the analysis of the data collected in the scoping review of Chapter 8, as well as a music therapy practice example of an observation.

UNDERSTANDING THE DIFFERENT OBSERVATION DIMENSIONS IN MUSIC THERAPY

Observation is characterized by different dimensions that define its particularities. The main dimensions are: nature of the observed data, observation focus, type of observation, and observed relationships (Ballan & Freyer, 2020; Carpente & Aigen, 2019; Ferrari, 2013; Waldon & Gattino, 2018; Zang & Franklin, 2020). Studying each of these dimensions is essential to have a clear understanding and observation practice.

Nature of observed data

Music therapists observe quantitative, qualitative, or mixed (qualitative and quantitative) information (Waldon, Jacobsen & Gattino, 2018; Gattino, Jacosben & Storm, 2018). Depending on the nature of the information, music therapists can use different types of observations to meet their assessment needs. Usually, observing only quantitative or qualitative data is not enough to understand the complexity of the matter assessed. While observing clients' improvisations, for example, music therapists can assess the number of times clients play or sing the same part of the music. At the same time, it is possible to

verify clients' facial expressions qualitatively. It is worth mentioning that the nature of the topics observed is related to the goals and needs established during the preparation for the observation.

Observed focus

The focus of observation is directly related to the contents that will be observed. The focus refers to where the music therapist's attention will be directed. The focus can be organized according to different categories: 1) focus on the person – music therapists, clients, or both; 2) music-related focus – an independent analysis of musical facts or a focus on musical events; 3) focus on domains – communication, sensory aspects, cognition, emotional aspects, musical aspects, creativity; 4) focus related to the observation content – music therapists can observe behaviors (Michel & Pinson, 2012), musical content (Bonde, 2016), verbal discourse (Shuttleworth, 2006), behavior patterns (Holck, 2007), as well as gestures, postures, and facial expressions (Storm, 2013).

In each of these contents, music therapists can observe quantitative, qualitative, or mixed data. It is common for music therapists to have more than one observation focus. If it is a direct observation, music therapists should not have more than two observation foci, so that they can maintain an attention span during the observation. While observing audio or video recordings, music therapists may have different foci, since they are able to watch or listen to the same section several times.

Types of observation

Although it is possible to describe different observation types according to different assessment procedures, some types of observation are common to most disciplines (Dowdy Twyford & Sharkey, 2013; Groth-Marnat & Wright, 2016; Hurwitz & Minshawi, 2012; Waldon & Gattino, 2018). The types of observation are defined by their level of structure and according to the observer's participation. Concerning the former, observation can be structured or unstructured, whereas regarding the latter, it can be naturalistic or participant.

Structured observation: this type occurs in a controlled environment through a series of procedures or tasks performed by music therapists. Although a common strategy for this type of observation is to use a specific observation tool, music therapists can perform a structured observation by defining activities or musical experiences that require clients' engagement so that therapists can observe certain contents and particular relationships.

Unstructured observation: this type occurs in an unplanned perspective and music therapists observe different contents as they appear spontaneously during the session. This type is fundamental to observe momentary, unexpected, or subjective phenomena that require a type of observation that can be adapted to the present needs. Naturalistic observation: in this type, music therapists observe clients in their natural environment, with no interference or intervention to modify conducts or behaviors. A person under observation may present differences in behavior due to the reactivity phenomenon, i.e. people change their behavior while being observed by other people (Groth-Marnat & Wright, 2016). This type of

observation is fundamental to understand the ways a specific target behavior for music therapists' assessment occurs in a natural environment, for instance (Michael & Pinson, 2012).

Participant observation: this type is a variation of the naturalistic observation. It occurs in cases music therapists continue to observe clients in their environment but become part of it. A typical example of this type of observation is participating in some clients' routine activities, such as playing soccer during recess with clients that participate in group sessions. Although music therapists have an interference, it is possible to observe behaviors, reactions, and interactions that may not be common in the controlled environment of a music therapy session.

Observed relationship

During music therapists' observation (either directly or indirectly), different relationships are established in the environment. Music therapists are usually aware of intermusical, intramusical, interpersonal, and intrapersonal relationships (Bruscia, 1987; Carpente & Aigen, 2019; Ferrari, 2013). Intermusical relationships are those developed between the participants in the observation by means of music. Intramusical relationships refer to how clients react and interact with their own music or musical experience (the focus is on clients' relationship with themselves through music). Interpersonal relationships are those developed between participants in general. Intrapersonal relationships concern how clients deal with their own thoughts and emotions. Depending

on the relationship established, music therapists can have specific foci, contents, and modalities to observe.

VALIDITY AND RELIABILITY OF OBSERVATIONS IN MUSIC THERAPY

Music therapists usually check aspects of validity and reliability, mainly when it is possible to quantitatively define the accuracy (validity) and precision of the observations made (Dowdy Twyford & Sharkey, 2016; Groth-Marnat & Wright, 2016; Waldon & Gattino, 2018). Some examples of measurements that can be studied are behaviors and behavior patterns (either according to the frequency, duration, or latency period), number of words, and musical parameters. Music therapists can compare various measurements that assess the same construct to see how they can relate (convergent validity) (Waldon, Jacosben & Gattino, 2018). They can check how frequently the behavior of initiating an interaction is related to the frequency of the behavior of interacting with music therapists, for example. Or they can assess how likely the frequency of one behavior can predict the occurrence of another (predictive validity). For instance, music therapists can assess the behavior of "performing vocalizations" in one session and see how this behavior is associated with "singing" in a future session.

Music therapists can check test-retest reliability to analyze whether they are quantifying behaviors in the same way when repeating the observation (AERA, APA, NCMJE, 2014). Another common form of reliability is assessments between

professionals to verify if the results match (Plahl, 2007). The reliability of an assessment is essential for structured assessments that seek to obtain quantitative information, given that they require precision.

A fundamental form of validity for assessments is ecological validity (Dowdy Twyford & Sharkey, 2016), which examines whether the results of an assessment can be generalized to real-life or everyday life settings (Andrade, 2018). According to DeNora (2013), ecological validity contrasts with the notions of purely quantitative validity presented in the objectivist paradigm for a notion of validity about the meaning that information has in the different ecosystems individuals live in.

OBSERVATION BIASES IN MUSIC THERAPY

Music therapists are subject to different types of bias during an observation. Among the main ones, are the observer bias (adapted from Porta, 2014) and the observer interference (Groth-Marnat & Wright, 2016). The observer bias refers to the difference between the “true” phenomenon/value and the phenomenon/value observed due to observer's variation. This type of bias happens, for example, when music therapists are observing the number of times (frequency) clients initiate an interaction and they record a number different from what really occurred. During observations of qualitative phenomena, music therapists may misunderstand a word clients said at the end of the song (the word was “life” and they understood “live”). The observer interference occurs when music therapists modify or

manipulate the course of action and interaction of clients in the environment due to attitudes and actions. Although it is understandable to accept that music therapists always interfere in the observation environment, it is vital to avoid these interferences not to hamper the process. As with record reviewing, the interpretation bias (explained in Chapter 9) is also common during observations. There are different ways of understanding what was observed, and music therapists may reach inappropriate interpretations based on their perception of the data collected.

CONDUCTING AN OBSERVATION IN MUSIC THERAPY

The process of conducting an observation in music therapy is organized in different stages, and the observation process can be carried out in different ways (Hurwitz & Minshawi, 2012). These stages were developed especially by observing behaviors (Dowdy Twyford & Sharkey, 2016; Michel & Pinson, 2012) and studying different methods used in phenomenology (Holck, 2007; Jackson, 2016). The different stages for conducting an observation are:

1) Identification of contents to observe;
2) Creation of operational definitions for different contents;
3) Definition of the location and setting for the observation;
4) Selection of a measurement/coding/description system;

5) Collection of data.

Identification of contents to observe

At this point, music therapists need to define the focus/es and the content/s to observe. Music therapists can choose quantitative, qualitative, or mixed content. They should select contents according to the goals of the assessment, the purpose of the assessment (prescriptive, formative, summative, or interpretive) (Bruscia, 1988; Waldon & Gattino, 2018), the context/target population, and the assessment need (internal/external) (Jacobsen, Wigram & Rasmussen, 2019). They also need to define the relationships that should be assessed (interpersonal, intrapersonal, intermusical, or intramusical). Depending on the relationship assessed, music therapists should search for contents that are more sensitive to what they want to observe. Music therapists can choose content that belongs to similar constructs or domains or that are different among them. Regardless of the content selected, music therapists should verify if they have the logistical and operational conditions to assess the desired content.

Creation of operational definitions for different contents

Based on the defined content (behavior, behavior pattern, phenomenon, etc.), music therapists should describe, in the most comprehensive manner, the elements that compose it (Kim, Wigram & Gold, 2009; Plahl, 2007). The operational

definition is essential for music therapists to clearly understand the characteristics of the content they want to assess. The description of the content is usually one paragraph long and presents all its specifications (Michel & Pinson, 2012). Although music therapists have an idea of the content they want to observe, the observation only gains clarity and understanding in the assessment process after the operational definition. After defining, for example, music therapists aim to analyze the phenomenon of social interaction based on the musical experiences carried out between them and the clients, they need to define the types of experiences and the meaning of "interaction" in this case. A complete operational definition facilitates the identification of specific contents during the observation. The operational definition is strongly influenced by the models, approaches, or music therapy orientations that guide therapists' assessment practices.

Definition of the location and setting for the observation

This is an essentially practical stage, which consists in the definition of the environment (controlled or natural) for the observation, the level of systematization of the observational process, the type of music therapists' participation in the natural or controlled environment, and whether the observation is direct or using video or audio recordings (Anguera et al., 2018; Groth-Marnat & Wright, 2016). If music therapists choose to observe a controlled environment, it is vital to think not only about the sequence of activities or proposals they plan to use to

observe the individual or group of individuals, but rather about the distribution of space, musical instruments, or objects they want to use, as well as the acoustics of the place.

For sessions that involve activities or practical experiences with clients, music therapists should prepare a list of activities or at least a superficial description of the sequence of the session. If music therapists plan to observe individuals in their environment, they need to verify with the clients, family, or institution the availability to observe. They should also plan the strategies required to be or not to be noticed by the individuals and/or other people who are part of that environment.

For observations using audio or video recordings, music therapists should check the quality of the audio and/or video and the quality of the equipment used during the process (computer, cell phone, headphones, etc.). It is of vital importance to select the audio and video sections for observation, given that it is practically impossible to watch full videos of many sessions (Wosch & Wigram, 2007a). Thus, music therapists can analyze a few complete videos of the process, choose fragments from all sessions, or only select some sessions.

The method used in music therapy to determine and analyze an excerpt of music therapy sessions is called microanalysis (Wosch & Wigram, 2007a). There are four primary divisions in the microanalysis system based on the amount of the material assessed in a session: complete session, most of the session (half of the session, for example), a specific musical experience (an improvisation, for example), and moment to moment (assessment of minimum changes second by second).

Selection of a measurement/ coding/description system

After defining the location and setting for the observation, music therapists need to specify the means to record the data collected (Kim, Wigram & Gold, 2009; Holck, 2007; Ridder, 2007). For video or audio observations, the system may be associated with the use of a specific software to record and understand the information (Baker, 2007; Erkkilä, 2018). Six methods are generally employed to record data collected during an observation: narrative recording, interval recording, event recording, musical notation recording, duration and latency recording, functional behavior analysis (Bonde, 2016; Hurwitz & Minshawi, 2012).

Narrative recording: music therapists describe the observation in their own words. This recording is fundamental for observing qualitative data related to subjective processes. Music therapists can describe the topics observed, or in some cases, the description includes some interpretations that are inseparable from the observation process (Jackson, 2016).

Interval recording: music therapists record whether a particular behavior or phenomenon occurred during a specific period (Dowdy Twyford & Sharkey, 2016). In this case, there is a particular time to record a behavior or phenomenon. During direct observations, music therapists can use a stopwatch to define the observation periods.

Event recording: in this method, music therapists check the frequency of a given event during an observation. This recording method is common in behavioral approach to music therapy (Naples & MacLeod, 2020) during which, music

therapists usually check for the occurrence of an event during different activities or conditions (Jones & Brown, 2016).

Musical notation recording: music therapists record the information on a score or other notation system that makes it possible to graphically understand the musical structure and content (Bonde, 2016).

Duration and latency recording: this type of recording covers the duration of a behavior, i.e. the length of the behavior by recording the time it begins and ends, and the latency of a behavior, which refers to the interval between a stimulus and the beginning of a behavior (Hurwitz & Minshawi, 2012).

Functional behavior analysis: music therapists observe behaviors based on the triad ABC (Hurwitz & Minshawi, 2012). In this case, they check what precedes the behavior (antecedent), assess the presence of the behavior (behavior), and assess what follows the behavior (consequence). This type of analysis is focused on understanding when the behavior appears and the consequences of this.

Collection of data

In this the stage, music therapists perform data collection. The professionals should carry out their observation as close as possible to the plans. If music therapists make direct observations, they should record video or audio of the session for posterior verification. In cases this is not possible, they should register the information as soon as possible not to forget the data collected (Groth-Marnat & Wright, 2016).

EXAMPLE APPLYING THE OBSERVATION METHOD TO A CASE

A 2-year-old girl, presenting the expected patterns of typical development, was referred to music therapy to receive stimulus using musical experiences. In the first session, the music therapist realized she was not very engaged in the songs he played. Thus, he decided to observe the first session to understand the reason for her low level of engagement. Here is a description of each of the five stages of the observational process:

1) Identification of contents to observe: the music therapist decided to observe only the client's interactive participation with him following the session proposals. The focus was centered on the client, and he observed the intermusical relationship between him and the client in a qualitative perspective.

2) Creation of operational definitions for different contents: this stage followed the operational description of the content “interactive participation according to the music therapist's musical proposals”. This phenomenon consists of situations in which the client expresses herself through visual contact, by playing musical instruments, or by vocalizing interest in the music therapist's musical proposals.

3) Definition of the location and setting for the observation: a video observation was carried out and the music therapist performed a complete assessment of the session using a video reproduction software (QuickTime).

4) Selection of a measurement/coding/description system: the music therapist chose the narrative recording.

5) Collection of data: here is the assessment record based on the collected data – the music therapist performed several musical experiences for 30 minutes following a structure that started with a hello song, continued with improvisations based on the client's interests, and ended with a farewell song. The client participated interactively during the improvisations, especially when the music therapist improvised by making animal sounds. In those moments, she observed the music therapist directly in the eyes and even imitated the animal sounds he reproduced.

OBSERVATIONS TOOLS AND METHODS IN MUSIC THERAPY

Although music therapists can customize the way they perform observations, several assessment tools and variations of the observation method (without using a specific tool) have been published since the 1970s. Table 12 shows the main observation tools in music therapy. Table 13 shows the main observation methods in music therapy. Table 14 shows the main assessment tools that use the observation method associated with other methods. Table 15 shows the main assessment methods that use the observation method associated with other methods.

Table 12. Main observation tools in music therapy

Tool (author, year)	**Modality**	**Target population/ context**	**Aim**	**Structure**	**Evidence of validity and reliability**
Thirteen Categories of Response (Nordoff-Robbins, 1977)	Prescriptive and formative tool.	Children with learning difficulties.	Investigate the quality and extent of child's responses during musical improvisations with a musical therapist.	It verifies diverse responses within the cognitive, communication, interaction, and emotional domains through experiences that involve rhythm, tonality, different musical languages, singing and playing the piano.	Not available.
Music therapy Assessment tool for Emotionally Disturbed Children (Goodman, 1989)	Prescriptive tool	Children with emotional disorders	Provide a global functional description through musical experiences.	Tool with a descripttive and ob-servation checklist according to specific items organized in six categories: choice of natural response, musical preference, musical responseveness, verbal associateons, nonverbal reactions, and client and therapist interaction.	Not available.

Music Therapy Clinical Training Manual (Boyle and Krout, 1988)	Prescrip-tive tool	Not specified	Conduct an overall client assessment in the referral and initial assessment stages.	It presents two tools: the initial interview data form (basic information about the client derived from the interview) and the second session assessment form (a qualitative behavior checklist).	Not available.
Music Therapy Assessment (Boxill, 1995)	Prescrip-tive tool	Develop-mental conditions	Conduct a global client assessment for the initial assessment and treatment plan.	Qualitative tool, with descriptive components and checklists. It in-cludes general in-formation about diagnosis, history (family, develop-mental, medical, treatments), infor-mation on standar-dized tests, gene-ral characteristics, as well as evalua-tion of motor, communication, cognitive, affect-tive and social do-mains, as well as specific musical behaviors.	Not available.
Sample Group Observation Form (Hanser, 1999)	Prescrip-tive tool	Group music therapy sessions.	Global assessment of the group.	Simple qualitative checklist with 11 specific behaviors, with the opportunity for descriptive comments.	Not available.
Thirteen Areas of Inquiry (Loewy, 2000)	Prescrip-tive tool	Children and adolescents; children and parents at day care clinics; hospital envi-ronments; private practice.	Study the central ele-ments of the initial assessment ; provide a format for intro-ductory topics or	Qualitative assessment of hermeneutics according to the use of narrative to evaluate session reports	Not available.

			issues to be worked on throughout the therapeutic process.		
Sample Music Therapy Assessment Form (Lathom-Radocy, 2002)	Prescriptive tool	Special education	Conduct an overall client assessment within the initial assessment of the music therapy process.	Qualitative tool to assess communication, academic, motor skills, emotional response, organizational and social skills. It presents a final section for comments on the general impression of the ability to function in music therapy	Not available.
Computer-based Music Perception Assessment for Children – CMPAC (Waldon & Wolfe, 2006)	Prescriptive tool	Pediatric hospitalized patients aged 4 to 7.	Assess a candidate's responses to music and collect information about musical preferences.	Using a computer, children are instructed to "click" on images of songs they like, which results in the child listening (through headphones) to the corresponding musical excerpts.	Consequence validity.
Music therapy coding scheme (Raglio, Traficante & Oasi, 2006)	Formative tool	Not specified	Monitor changes in interactive behavior between client and musical therapist.	Encoding scheme applied to video recordings (via software).	Concordance between professionals performing the assessment (reliability).

Pediatric Inpatient Music Therapy Assessment Form (Douglass, 2006)	Prescriptive and formative tool	Hospitalized children	Identify the client's needs, communicate the reasons for the therapeutic treatment and guide the choice of goals and continuous assessment.	General observation of the client, including the verification of basic information and physiological information. It also verifies physical, motor, cognitive, and communication skills, as well as socio-emotional and musical behaviors.	Concordance between professionals performing the assessment (reliability).
Category System for Music Therapy (KAMUTHE) (Plahl, 2007)	Prescriptive and formative tool.	Children with multiple disabilities	Assess the pre-verbal communication of the client with the music therapist.	Video analysis tool structured by a list of specific behaviors for the music therapist and client. It verifies the frequency and duration of pre-verbal behaviors, as well as the subjective relationships developed between the behaviors of the client and the music therapist.	Concordance between those performing the assessment.
Music Therapy Checklist (Raglio, Traficante & Oasi, 2007)	Summative and formative tool	Developmental conditions, psychiatric disorders, dementia.	Assess the music therapy process in a single session or throughout the treatment.	Verification of behaviors using a checklist encompassing the domains of non-verbal communication, countenance, verbal communication, musical sound communication.	Concordance between professionals performing the assessment (reliability and validity).
Protocol for observing groups in			Assess forms of communication		

music therapy, an instrument under construction (Zanini, Munari & Costa, 2007)	Formative tool	Group music therapy sessions	(verbal and non-verbal) in the music therapy setting, covering the body-sound-musical manifesta-tions existing during the session.	Qualitative checklist of specific behaviors presented by the different participants in the session.	Not available.
Structural Model of Music Analysis (Grocke, 2007)	Not specified	GIM music therapy	Assess the structural properties of four different music selections to deter-mine simi-larities and differences	Tool used for listening to classical pieces used in GIM music therapy composed of 15 categories, with several compo-nents within each category, totaling 63 components.	Not available.
Music Therapy Special Education Assessment Tool (Langan, 2009)	Formative tool	Special education	Assess communi-cation, social interaction, decision making, musical interaction and response.	Tool organized in eight subdomains to register the frequency of different behaviors in face-to-face assessments.	Not present.
Protocol for assessing clients with optic neuritis (Loureiro, 2009)	Diagnostic and pres-criptive tool	People with optic neuritis	Provide data on the visual capabili-ties of clients with optic neuritis through music	Observation form for the assessment of general health and vision, difficulty with daily activities and visual-spatial coordination. The client continues to answer some questions in order to complement the observation.	Not available.

Music Therapy Assessment for Nursing Home Residents (Norman, 2012)	Prescrip-tive tool	Nursing home residents	Provide a general picture of the resident's level of functionin g, adding to the in-formation already collected from as-sessments from other disciplines.	Descriptive assessment to collect data during an individual or a group session. It is divided into the following domains: communication and social interaction (Section 2); cognitive and motor skills (Section 3); and affective response (Section 4).	Not available.
Music therapy assessment tool specific to persons with severe to profound multiple disabilities (Churchil & McFerran, 2014)	Prescrip-tive tool	People with multiple severe to profound disabilities	Assess the receptivity to music therapy, musical training, social, emotional, cognitive, communic ative, motor and sensory aspects.	Tool organized in 10 pages for the description of general information, as well as behaviors in seven subdomains in face-to-face assessments.	Not available.
Musical Assessment of Child Perceptions in Changing Family Situations (Fansler, 2018)	Prescrip-tive and formative tool	Individual and family music therapy, with children who have suffered traumas related to changing family situations.	Better understand how children who live in changing family situations see their family re-lationships and role in those rela-tionships.	Description using four forms to describe how children use instruments to create a musical and visual portrait of the family.	Not available.

Musical Function Assessment Protocol in Autism Spectrum Disorders (Marsimian, 2019)	Prescrip-tive and formative tool	Autistic children and adolescents up to 14 years' old.	Provide data on client functiona-lity within the autistic spectrum in the context of music therapy sessions.	Qualitative checklist to describe different response categories in the domains of social interaction, communication and language, flexibility and anticipation, symbolization, mnesic, motor and sensory functions.	Not available.

Table 13. Main observation methods in music therapy

Method	**Author (year)**
The effect of videotape analysis on music therapy competence: an observation of simulated and clinical activities.	Alley (1982)
An individual assessment procedure for music therapy for young teenagers with emotional disorders.	Wells (1988)
A different model for assessing and diagnosing disabilities among children through music therapy.	Wigram (1995)
Analysis of musical improvisations to understand and work with elements of resistance in a client with anorexia nervosa.	Frederiksen (1999)
Method for assessing group improvisations.	Metzner (2000)
Assessment method in music therapy for the diagnosis of ASD and communication disorders among children.	Wigram (2000)
A qualitative approach to analyze clients' improvisations.	Bruscia (2001b)
The use of music therapy within the SCERTS model for children with Autism Spectrum Disorder.	DeLoach (2007)

A descriptive ethnographic approach to the microanalysis of video.	Holck (2007)
Microanalysis of emotional experience and interaction in single sequences of active improvisatory music therapy.	Inselmann (2007)
Microanalysis of interaction in music therapy for children with developmental disorders.	Scholtz, Voigt & Wosch (2007)
Microanalysis approach with phenomenological inspiration.	Trondalen (2007)
Measurement of emotional transitions in clinical improvisations with the EQ 26.6 software.	Wosch (2007)
Assessment of children's musical development and music therapy: designing an assessment procedure for children with developmental disorders.	Sabatella & Lazo (2015)

Table 14. Main assessment tools that use the observation method associated with other methods

Tool (author, year)	**Modality**	**Target audience/ context**	**Aim**	**Structure**	**Evidence of validity and reliability**
Music Assessment of Gerontologic Needs and Treatment: The MAGNET Survey (Adler, 2001)	Prescriptive tool	Elderly adults living in specialized nursing homes (over 65 years old).	Assess the functional level of clients and plan appropriate therapeutic interventions.	The assessment protocol involves interviews, observational methods, and musically interactive exercises to assess clients' functionality and plan appropriate therapeutic interventions.	Not available.
Hospice Music Therapy Assessment (Maue-Johnson, &	Prescriptive tool	Terminal clients in nursing homes.	Designed to assist musical therapists in understandin g clients and recommendin	It combines elements of descriptive observation and a scale that assesses	Not available.

Tanguay, 2006)			g treatment goals and plans while integrating the clients' personal and cultural needs and desires.	clients' demographic data, as well as functioning in physical, cognitive, communicati on, musical, physiological , emotional, and spiritual domains. It also has a specific part to describe consideration s about the treatment plan.	
Resource-Oriented Music Therapy Assessment Tool (Economos, O'Keefe, & Schwantes, 2017)	Prescriptive tool	Verbal adults in specialized nursing homes.	Provide a global assessment of clients in a resource-centric perspective.	Assessment that combines elements of descriptive observations and a scale in four specific areas: initial observations, contextual observations, verbal explorations and musical explorations. The tool ends with a section on the objective areas addressed, perceptions, and prominent characteristic s of the therapeutic relationship.	Not available.

Table 15. Main assessment methods that use the observation method associated with other methods

Method	Key characteristic	Author (year)
Standardized procedure for music therapy assessment.	Combination of qualitative observations and a classification of the responses from clients throughout sessions.	Oldfield (1993)
Improvisation and musical drawings as tools in music therapy for children.	Combination of analysis of improvisations (observation) and analysis of drawings (document review).	Erkkilä (1997)
Special education music therapy assessment procedure	Combination of document reviews, interviews, and observations.	King & Coleman (2000)
A method for analyzing improvisations in music therapy	Combination of different forms of listening and the score assessment (record review).	Lee (2000)
Unstructured initial assessment of psychiatric client in music therapy	Combination of different types of assessment (data review, interviews, and observations).	Ala-Ruona (2005)
Microanalysis of selected video clips focusing on communicative response in music therapy	Combination of video clip observation and analysis of graphical representations (document review) of clients' manifestations.	Ridder (2007)

Assessment in music therapy without assessment tools	Combination of different types of assessment (data review, interviews and observations).	Gattino, Jacobsen, & Storm (2018)

Based on the different tools and methods in the observation context, it is essential to mention that they can be used individually or along with other forms of observation (such as those listed in this chapter or using observation forms created by music therapists). Before choosing any of the suggestions here presented, music therapists should study each one in detail and train before implementing them to ensure quality observations and preserve clients' integrity. Talking to people who have already used any of the tools or variations of the methods presented is also crucial to get more detailed information before planning the observation.

FINAL CONSIDERATIONS

Observation practices in music therapy have an interesting development, due to the indirect systematization and organization of the practices, but mainly because of the publication of different observation methods and tools such as tests. Observation is one of the fundamental methods to understand music therapists' assessment processes and practices.

CHAPTER SUMMARY

What are the main characteristics of the observation method in music therapy and how is the observation carried out in the assessment process?

Observation is characterized by different dimensions that define its particularities. The main dimensions are: nature of the observed data, observation focus, type of observation, and observed relationships. Observation is conducted through a five-stage process: 1) identification of contents to observe; 2) creation of operational definitions for different contents; 3) definition of the location and setting for the observation; 4) selection of a measurement/coding/ description system; 5) collection of data. There are different tools and variations of the observation method in music therapy that follow most of the stages described above.

CHAPTER TWELVE

Test and measurements in music therapy

Chapter question: What are the main characteristics of the tests and measurements in music therapy?

INTRODUCTION

Tests and measurements are the category of assessment methods developed for music therapy as a discipline. There are two possible explanations for this statement. First, music therapy began in the United States, a country with a robust behavioral tradition (Davis & Hadley, 2015; Naples & MacLeod, 2020). Interestingly, even the Nordoff-Robbins model, which had a significant development in the United States between the 1960s and 1970s, has a focus on using tests to assess music therapy sessions (Cripps, Tsiris & Spiro, 2016). Second, music therapists need to present the music therapy

process and its results in an objective and quantitative manner (Edwards, 2005; Abrams, 2010). In many cases, music therapists need to prove their work to professionals in other areas or public authorities, and the traditional way to demonstrate this is by presenting measurements that are simultaneously understandable and measurable.

It is important to note that despite the need for quantitative proof of music therapy work, there are other ways to show the importance of music therapy based on the impact it generates on people (Stige, 2016). The purpose of this chapter is to show an overview of tests and measurements used in music therapy and to review the main concepts related to them. To achieve this purpose, some of the results of the scoping review presented in Chapter 8 are here described.

CONCEPTS ABOUT TESTS AND MEASUREMENT

Although the terms "tests" and "measurements" are similarly used in the literature, it is important to define them. The term measurement refers to the representation of any quantitative attributes of objects or events (Colman, 2015), such as weight, speed, score, duration, frequency (Waldon, Jacobsen & Gattino, 2018). Tests are an example of a measurement, but they reproduce a particular type of measurement, because the only way to quantify a piece of knowledge, object, or event is through a score. The test score summarizes the evidence contained in the responses of the examinee to the test items that relate to the construct or constructs that are being measured (Thissen & Wainer, 2011).

A test is a device or procedure in which a sample of an examinee's behavior in a specific domain is obtained and subsequently assessed and scored using standardized procedures (AERA, APA & NCME, 2014). Device refers to an assessment tool, which, as explained in Chapter 1, usually relates to a written document created for assessment purposes. However, the term test does not refer only to an assessment tool, since it can be used as a procedure with the fundamental purpose of using a scoring system. In many cases, such as in specific psychological and educational tests, the term refers to situations in which the ability of an individual to do something is assessed (Wright, 2020; Gergen & Gill, 2020). Nonetheless, the term test can also be associated with the classification of a behavior, behavior pattern, sensation, opinion, among others using a score. The main types of tests used in music therapy are scales, rubrics, structured questionnaires/inventories, and checklists.

Scale: a tool used to assign standard scores to people or items based on some numerical dimension, such as an agreement with an attitude expressed or the frequency of an occurrence (APA, n.dc). Scales are usually associated with classifications for behaviors and/or skills. Some examples of scales in music therapy are the Individualized Music Therapy Assessment Profile (IMTAP) (Baxter et al., 2007) and the Individual Music-Centered Assessment Profile for Neurodevelopmental Disorders (Carpente, 2013).

Rubric: a type of common test in the educational field used to assess the domain of described skills and content (Stanley, 2019). The professional performing the assessment assigns a scoring system (continuously) to the skills or content of the

person for a specific task. In this type of test, music therapists create the scoring system based on the assessed skill or content specificity, allowing them to have a more personalized score for the assessment context. An example in the music therapy field used to create rubrics is the Goal Attainment Scaling (Carpente, 2018).

Structured questionnaire/inventory: a document that consists of a set of standardized questions with a fixed outline, which specifies the wording and the exact order of the questions to obtain information from the respondents (Cheung, 2014). The term inventory can also be used to refer to questionnaires (Colman, 2015), but in this case, it is used in the sense of bringing together a set of items in the same tool (Colman, 2015).

Checklist: used to identify specific behaviors or performance characteristics (Zakrajsek, Carnes & Pettigrew, 2003). In many situations, they are used as a screening tool, because they do not provide in-depth information. It is important to note that checklists can be qualitative or used as a result measurement.

Music therapists usually assess different types of measurements such as blood pressure, heart rate, electroencephalogram signals (Waldon, 2016), frequencies or sets of sound frequencies (Baker, 2007), number of musical notes in one score (Bonde, 2016), or graphic representations of musical expressions or interactions (Erkkilä, 2018). In recent years, there has been advances in the use of measurements based on specific softwares for the field of music therapy, such as the Computer Aided Music Therapy Analysis System (CAMTAS) (Hunt et al., 2000) and the Music Therapy Toolbox (Erkkilä, 2007).

Psychometric properties of tests and measurements in music therapy: standardization, validity, reliability, and bias

Given the quantitative nature of tests and measurements, it is necessary to study their psychometric properties in greater detail compared to the methods presented in previous chapters. Psychometric properties, i.e. the internal attributes of tests, are characteristics of tests and other measurements that identify and describe attributes of an assessment tool for use in a specific situation. It is worth mentioning that the psychometric properties are the only method of assessing standardization, validity, and reliability.

Standardization

As explained in chapter 1, standardization refers to the standardization of procedures used in the application, analysis, and interpretation of an assessment and at the same time refers to the establishment of the norms of the assessment (normalization) where there is a reference group or normative group as a standard of comparison each time a new individual is assessed (Churchill, 2015; Urbina, 2014; Waldon, Jacobsen, & Gattino, 2018). Most tests in music therapy present an evident concern with standardization. However, no test has gone through a standardization process and compares the people being assessed to a normative group. Indeed, this is an important goal for the coming years within the profession. Thus, one has to be very careful with the term standardization to avoid misinterpretations.

Validity

Validity refers specifically to the degree to which empirical evidence and theoretical foundations support the appropriateness and adequacy of the conclusions and interpretations drawn from assessments (AERA, APA, NCME, 2014). Validity has been a significant concern in music therapy studies even though the understanding about it has changed over time. It has already been considered a finite process in which a measurement or test is validated or not. Nevertheless, considering current trends, it consists of an ongoing process, in which each new study provides new evidence of validity regarding a specific assessment type (Urbina, 2014).

Until 2014, it was divided into three different types: content validity, criterion validity, and construct validity (AERA, APA, NCME, 1999). The new perspective is based on the premise that music therapists continuously assess some construct (Waldon, Jacobsen & Gattino, 2018). Therefore, the term "construct validity", which has already been used in the discipline to refer to the degree to which a measurement approaches or captures a given construct (Waldon 2016), can produce a very linear way to understand the validity process. Currently, the term type of validity has been replaced with validity evidence, which refers to evidence of the construct. Validity includes five sources of evidence: evidence based on content, evidence based on internal structure, evidence based on similar measurements, evidence based on external criteria, and evidence based on consequences (Waldon, Jacobsen & Gattino, 2018).

Evidence based on content: also known as content validity, it refers to the degree to which the test content is related to the

construct assessed. During the operational conceptualization of a test, the test creator discusses it with specialists and searches the literature to check if the test items are related to the construct (AERA, APA, & NCME, 2014). A common type of content validity is apparent validity. The test creator sends it to specialists, who assess the clarity and relevance of the items according to the construct assessed.

Evidence based on internal structure: it analyzes the degree to which the relationships among test components and test items conform to the construct assessed (AERA, APA, & NCME, 2014). The most common way to study this type of evidence is using factor analysis, which verifies the degree to which the items of a test can be grouped in a category that associates the different items according to a common characteristic. These categories are called factors, which can be found without prior planning (exploratory factor analysis) or by confirming already established factors (exploratory factor analysis) (Urbina, 2014).

Evidence based on similar measurements: it assesses the degree to which test scores relate to measurements of other tests or other measurements (AERA, APA, & NCME, 2014). The usual ways to assess this source of evidence are through convergent and discriminant validity.

Convergent validity assesses the degree to which test scores are associated with measurements of other tests or measurements used to assess the same construct. Waldon, Jacobsen & Gattino (2018) stated that convergent validity is necessary mainly to demonstrate that in music therapy it is possible to create tests to assess the same constructs assessed

by other disciplines, using musical experiences as the major differential.

Discriminant validity, in turn, refers to the degree to which scores of one test are associated with scores of another test or measurements used to assess a different construct.

Evidence based on external criteria: also known as criterion validity, it analyzes the degree to which test scores can be associated with some measurement based on an external criterion recognized as something standardized (AERA, APA, & NCME, 2014). Music therapists can compare, for example, the degree to which the score of a test that assesses cognition using musical experiences such as IMTAP can be related to the score of a math exam for a specific client. In this case, the criterion is the math test (a standardized assessment measurement).

Two ways can be used to assess evidence based on external criteria, predictive evidence and concurrent evidence. In the case of predictive evidence, it is possible to assume that the client will perform first the music therapy assessment and then the math test. In this case, the assessment of the music therapy test can predict the future result of the math test. In the case of concurrent evidence, the music therapy test and the math test are applied simultaneously, and it is possible to compare the results of both tests concurrently.

Evidence based on consequences: refers to the consequences that a test can bring towards its impact on society (Waldon, Jacobsen & Gattino, 2018). This source of validity evidence is not connected to any specific statistical comparison.

Reliability

Reliability means the degree to which a measurement is reliable or consistent (Drost, 2011), or a test or other measuring tool is free of random errors, producing the same results (precision) in several applications with the same sample. Among the different psychometric properties assessed, reliability is probably the most studied one in the various music therapy tests (Spiro, Tsiris & Crips, 2016). Reliability can be divided into four types: interrater or interobserver reliability, test-retest reliability, internal consistency, and parallel forms reliability (AERA, APA, & NCME, 2014). Interrater reliability verifies the degree to which independent professionals have similar classifications judging the same skills or characteristics in the same person or target object (Drost, 2011). Test-retest reliability measures the consistency of the results of an assessment repeated over time (AERA, APA, & NCME, 2014). Typically, test-retest reliability is verified quickly, so that the measurement assessed does not demonstrate changes over time. Internal consistency checks the interrelation or homogeneity between multiple items in a test intended to measure the same thing (Drost, 2011). Parallel forms reliability, also called reliability of alternative forms (Furr & Bacharach, 2008), refers to creating two different but equivalent versions of a test to assess the same content and measure their correlation.

Bias

The occurrence of biases is common during the application of tests and measurements. They relate to people's responses to

the development of the test or measurements and their interpretations. Some of the biases are: construct bias, response bias, acquiescence bias, extremity bias, social desirability response bias, and predictive bias (Waldon, Jacobsen, Gattino, 2018).

Construct bias: it occurs when people respond differently to a test and this difference is not connected with the differences between people but with problems in constructing the test.

Response bias: it refers to situations in which people respond to a test in a systematically biased manner, making it impossible to obtain accurate results. Acquiescence bias: it refers to the act of accepting or agreeing to something and occurs when an individual always provides affirmative answers to the items of a test.

Extremity bias: it occurs when an individual always tends to answer choosing the most extreme test options.

Social desirability response bias: it occurs when a person responds to a test in a socially expected manner regardless of the person's true characteristics.

Predictive bias: it refers to a situation in which a test is applied to predict a specific result for a determined population but gives systematically different predictions for subgroups of that population.

DESCRIBING SOME TESTS AND MEASUREMENTS IN MUSIC THERAPY

In the last ten years, different reviews have been carried out to describe most of the existing music therapy tests. Among them, the ones carried out by Waldon (2013), Churchill &

McFerran (2014), Churchill (2012), Spiro, Tsiris & Crips (2016; 2018), and Zmitrowicz and Moura (2018) were essential for developing the area of tests in music therapy, given that they made possible the study of this subject in a broader perspective. Except for the study performed by Waldon (2013), all the other reviews did not carry out a study exclusively about tests.

Additionally, none of them had any parts for measurements that were not associated with assessment tools. Thus, this section intends to present the available tests and the existing measurements in music therapy. As explained in Chapter 8, the tests and measurements included in the review were studied by reading the abstracts, reading the full papers, and searching for information about tests in secondary publications referenced in the papers. For the tests, the description of these assessments follows the same format presented in Chapters 9, 10, and 11 for reviews, interviews, and observations respectively.

Therefore, the tests used in music therapy assessment are here described according to the following categories: autism and other neurodevelopmental conditions (Table 16), in the geriatric context (Table 17), for children and adolescents (Table 18), in the mental health context (Table 19), for people with neurological disorders (Table 20), in the educational context (Table 21), and with no specific categories (Table 22).

Table 16. Tests used in music therapy assessment for autistic people and other neurodevelopmental conditions

Tool	**Modality**	**Target audience/**	**Aim**	**Structure**	**Evidence of validity**

(author, year)		**context**			**and reliability**
Nordoff-Robbins Scale I: Child-Therapist Relationship in Coactive Musical Experience and Musical Communicativeness (Nordoff & Robbins, 1977)	Prescriptive, diagnostic and formative tool	Initially developed for autistic people, but later applied to a wide variety of diagnostics in the context of disabilities.	Identify observable behaviors that help define the level of developpment of the client-therapist relationship	Scale organized by observing responses about children's participation and resistance.	Not available.
Nordoff-Robbins Scale II: Musical Communicability Scale (Nordoff & Robbins, 1977)	Prescriptive, diagnostic and formative tool.	Initially developed for autistic children, but later applied to other neurodevelopmental conditions	Identify levels of observational communicability.	Structured scale with three activity modalities to support assessment: instrumental, vocal, and body movement.	Not available.

Nordoff-Robbins Scale III: Forms of Activity, Stages, and Qualities of Engage-ment (Nordoff & Robbins, 1977)	Prescrip-tive, di-agnostic and for-mative tool.	Initially developed for autistic children, but later applied to a wide variety of diagnostic in the con-text of di-sabilities.	Consider the com-plexity of the mu-sical form in client's responses and the stage or quality of the invol-vement expressed in these responses.	Classificatio n scale accor-ding to basic beat time range (instru-mental coacti-vity); rhy-thmic forms (instrumenta l coactivity); expressive components (instrumenta l coactivity); melodic form (singing).	Not available.
Music Therapy Assessment Profile for Severely/ Profoundly Handicappe Persons (Michel and Rohrbacher (1982)	Prescrip-tive tool	Children with seve-re and profound multiple disabi-lities.	Assess global functi-oning through develop-mental milestones for up to 36 months.	Scale that mainly assesses through musical tasks the appropri-ate level of functionally and verify the current levels of perfor-mance.	Not available.

Music therapy assessment of communication and self-expression preferences and capabilities in children with severe to profound disabilities (Shoemark, 1993)	Prescriptive and formative tool.	Children with multiple severe and profound disabilities.	Assess communication and self-expression of children with severe to profound multiple disabilities.	Highly comprehensive test based on music. It encompasses 14 different domains.	Not available.
Music Therapy Assessment (Grant, 1995)	Prescriptive tool.	Children with developmental disorders.	Assess children's adaptive behaviors and skills based on intervenetion strategies that can be programmed to help meet needs related to disabilities.	Scale that assesses sensorimotor skills, cognitive, auditory/ visual perceptual skills, communication skills and social skills.	Not available.
				Four scales classified in	

Assessment of the Quality of Relationship – AQR (Schumacher & Calvet - Kruppa, 1999)	Prescriptive and formative tool.	Autistic children.	Assess the quality of relationships and thus help assess the music therapy work.	seven levels of relationship: instrumental; vocal-pre-speech; physical-emo-tional and specific characteristics of the therapeutic quality of the relationship.	Interrater reliability.
Music Therapy Assessment Profile for Pervasive Developmental Disorder (Kim, 2005)	Prescriptive tool	Children diagnosed with pervasive developmental disorders.	Identify client's urgent needs and set treatment goals.	Scale with 110 items organized in six domains: communication skills, cognitive skills, motor skills, emotional skills, social skills and musical skills.	Content validity
Music Therapy Diagnostic Assessment (Oldfield, 2006)	Diagnostic tool	Autistic people	Diagnose symptomatic behaviors of a wide variety of conditions (autism, attention deficit disorder, Tourette's	Observational checklist with scoring categories from 0 to 2, where 0 = none of this behavior was noticed; 1 = some of this behavior was noticed; 2 =	Convergent validity.

			syndrome etc.), u-sing music	a lot of this behavior was noticed.	
Music Therapy Assessment Tool for Adults with Develop-mental Disabilities (Snow, 2009)	Prescrip-tive and forma-tive tool.	Adults with develop-mental disorders	Provide basic in-formation about the partici-pants and enable the assessment and mea-surement of changes throughout the music therapy process in a music-centered perspective	Likert scale that includes classification s and qualitati-ve descript-tions to assess attention, playing dura-tion, inter-acttion, mobi-lity, rhythmic synchrony, following changes, limits, and engagement.	Test-retest and inter-rater re-liability.
Autism Develop-mental Skillset Assessment (Reschke-Hernández, 2010)	Prescrip-tive and forma-tive tool.	Autistic children.	Provide a practical and efficient way to get informa-tion on the develop-ment of treatment goals and objectives.	Scale based on a checklist structure organized in four domains: expressive speech and language skills, receptive speech and language skills, social skills, and behavior.	Content validity, inter-rater re-liabi-lity, reliabi-lity of scores (genera-lization)

Music Therapy Assessment and Review (Wallace & Webster, 2010)	Prescriptive and formative tool.	Intended for adults with intellectual or multiple disabilities.	Conduct a global assessment of client's performance in the music therapy session, whether in an individual or group context.	It is a comprehensive two-page checklist of musical and non-musical behavioral responses and behaviors, with a coding system.	Not available
Intramusical Relationship Scale (Ferrari, 2012)	Formative and formative tool.	Developmental conditions	Assess the level of intramusical relationships clients develop with musical instruments during a session, pointing out the highest level of relationship during the session.	Scale organized in nine levels to assess the degree to which clients get involved with musical instruments.	Criterion validity.

Betz Held Strengths Inventory for Children with Disabilities (Betz, & Held, 2013)	Prescriptive tool.	Children with multiple disabilities.	Identify resources of children with multiple disabilities that are not normally detected. Useful for building treatment plans and managing simultaneous assessments.	Scale that assesses whether children respond to the following four categories: sensorimotor, perception, language, and psychosocial.	Not available.
IMCAP-ND (Carpente, 2014)	Prescriptive and formative tool.	Neurodevelopmental conditions.	Assess client's developmental capabilities to engage in relational music creation.	Assess interactions and responses in three scales: Musical Emotional Assessment Rating Scale (MEARS), Musical Cognitive/ Perception Scale (MCPS), and Scale III: Musical Responsiveness Scale.	Interrater reliability.

Music Therapy Communi-cation and Social In-teraction (Guerrero et al., 2014)	Prescrip-tive and forma-tive tool.	Children with special needs.	Document and assess the communi-cative and socially interactive responses elicited during music therapy sessions.	Video coding to assess the domains: en-gagement, pre-engage-ment and e-motional com-munication.	Interrater reliability.
Music-based Scale for Autism Diagnosis (Bergmann et al., 2015)	Diag-nostic tool.	Adults (≥ 18) with intellect-tual disa-bilities and limi-ted speech, possibly with ASD.	Assess autistic traits among adults with limited speech through non-ver-bal quality and regar-dless of age in a musical-body interaction	Diagnostic algorithm composed of 26 items. Each item should be scored on a 4-point Likert scale accor-ding to the increasing severity of symptoms.	Confir-mation factor analysis, internal consis-tency, cons-truct validity, criterion validity, conver-gent validity, and in-ter-rater agree-ment.

Rhythmic Synchrony in Music Therapy Assessment Protocol (Sampaio, 2015)	Prescriptive and formative tool.	Autistic children.	Assess rhythmic synchrony as a parameter to bring important information about perception, attention, and social interaction.	Scale that classifies musical interaction in six levels.	Internal consistency, interrater reliability and dynamic confirmatory factor analysis.
Assessment Tool for Measuring Social Interactions of Preschool Children with ASD (Yang, 2016)	Prescriptive and formative tool.	Children with disabilities.	Measure social interactions in the music therapy setting.	A 46-item questionnaire described by six factors (dimensions): response to instruction, joint attention, response to play, emotional response, expressing demands and "answers about musical preference".	Item analysis, cons-truct validity (term used by the author), concurrent validity, exploratory factor analysis, and content validity.

Music in Everyday Life (Gottfried et al., 2018)	Prescriptive and formative tool.	Autistic people.	Assess the estimated average use of music with your children in the past week.	Questionnaire including quantitative and qualitative items or-ganized in 8 domains according to the activities carried out in the last week.	Internal consistency.
Musical Development of Children with Autism Scale (Freire et al., 2019)	Prescriptive and formative tool.	Autistic children	Assess the musical development of autistic children.	Scale composed of 38 items organized in six categories: restrictive behaviors, social interaction/ cognition, perception/ rhythmic exploration, perception/soun d exploration, vocal explora-tion and body movement with music.	Internal consistency and convergent validity.

Table 17. Tests used in music therapy assessment in the geriatric context

Tool (author, year)	**Modality**	**Target audience/ context**	**Aim**	**Structure**	**Evidence of validity and reliability**
Music Therapy Assessment Tool (Glynn, 1992)	Formative tool.	People with Alzheimer's disease.	Assess the effects of music therapy on the behavior patterns of clients with Alzheimer's disease.	Tool organized in three parts: part 1 – composed of 28 items; part 2 – composed of 23 items, and part 3 – composed of nine items.	Internal consistency, interrater reliability and content validity.
Music-Based Evaluation of Cognitive Functioning (Lipe, 1994)	Prescriptive and formative tool.	People with dementia.	Assess cognitive functionning among elderly people with dementia.	Scale formed by responses to specific listening, verbal, singing and rhythm tasks observed and scored.	Test-retest reliability; internal consistency; criterion validity.

Residual Music Skills Test – RMST (York, 1994, 2000)	Prescriptive tool.	People with Alzheimer's disease.	Identify musical behaviors acquired throughout life without formal musical training.	It consists of 11 musical items that include active and passive production, organized in six subsections.	Test-retest reliability, Interrater reliability, criterion validity; and construct validity.
Geriatric music therapy clinical assessment (Hintz, 2000)	Prescriptive, diagnostic and formative tool.	Geriatric clients (including long-term care and rehabilitation clients; cognitive and/or physical deficits).	Assess client's skills, needs, and functioning levels for the purposes of descriptiontion, prescriptiontion and evaluation.	Task-based tool encompassing the following domains: expressive musical skills, receptive musical skills, behavioral/ psychosocial skills, motor skills and cognitive/ memory skills.	Not available.

Music in Dementia Assessment Scales (MIDAS) (McDermott, 2013)	Prescriptive and formative tool.	People with dementia.	Measure the observable musical involveement of people with moderate or advanced dementia who may have limited verbal skills to directly communicate their musical experiences	Scale formed by five items of the Visual Analogue Scale: interest, response, initiation, involvement and pleasure. It has a version for music therapists and a version for the team members.	Interrater reliability, internal consistency, concurrent validity, construct validity.
Music Therapy Assessment for People with Dementia (Mitsudome, 2013)	Prescriptive tool.	People with dementia.	Assess the behaviors and responses of people with dementia in musical and non-musical situations	Tool organized in three domains: singing or vocalization, instrumental improvisation and non-musical domains. The scale items are based on a five-point scale.	Interrater reliability

Evaluation of musical engagement in dementia (Lem, 2015)	Prescriptive and formative tool.	People with dementia.	Evaluate musical involvement to assess clients' involvement based on creativety, duration, energy and assertiveness.	It was not possible to describe the structure of the tool due to the limited access to the scale data.	Not available.
Music Therapy Engagement scale for Dementia (Tan et al., 2018)	Prescriptive and formative tool.	People with dementia.	Assess engagement of people with dementia in the context of music therapy.	Scale organized into five items to measure musical involvement, relationship through music, verbal communication emotional response and extent of general responseveness. Each item is measured using a 4-point Likert scale resulting in a total score of 20.	Internal consistency interrater reliability, content validity, exploratory factor analysis, convergent validity.

Music therapy orientation test (Berruchon, Nab & Bréard, 2020)	Prescriptive and formative tool.	People with Alzheimer's disease.	Assess clients' musical cognitive skills and guide the music therapy plan.	It was not possible to describe the structure of the tool due to the limited access to the test data.	Concurrent validity, criterion validity, convergent validity.

Table 18. Tests used in music therapy assessment for children and adolescents

Tool (author, year)	**Modality**	**Target audience /context**	**Aim**	**Structure**	**Evidence of validity and reliability**
Musical-Perception Assessment of Cognitive Development (Rider, 1981)	Prescriptive and diagnostic tool.	Children.	Assess musical perception capacity.	Scale composed of 14 items that assess clients' perception of musical tasks based on the stages of development established by Jean Piaget. For each item, the person performing the assessment needs to check one of three options: correct, almost correct or incorrect.	Interrater reliability, convergent validity.

Assessment Progress Report (Bauman & Beuter, 1988)	Prescriptive and formative tool.	Preschool children.	Assess gross motor, fine/ perceptual motor, communication/ language) and cognition skills, and also behaviors.	Assessment scale that uses a coding system (0 no show, no attempt - 4 correct answers), with some space for additional comments.	Not available.
Skille Musical Function Test (Sikstrom & Skille, 1995)	Prescriptive and diagnostic tool.	Children.	Assess the potential and musical functionning of children in an active musical performance.	Tool organized using a systematic observational process according to three functional levels: 1) evolutionnary 2) functional level; 3) individual's sensitivity and receptivity to music.	Interrater reliability, test-retest reliability, convergent validity.
Music Therapy Rating Scale (von Moreau, 1996)	Prescriptive and formative tool.	Used for different populations, but originally used for children and adolescents in the psychiatric context.	Assess musical expression and communication skills that occur during music therapy.	Tool organized in two scales. Expression scale: 14 items assess clients' solo musical improvisation. Communication scale: 13 items classify clients' musical improvisation with the therapist. Items classified into seven levels.	Interrater reliability.

IMTAP (Baxter et al., 2007)	Prescriptive tool and formative tool.	Children and adolescents.	Provide detailed information about the client among a spectrum of possibilities.	Scale system organized in ten domains: expressive communication, receptive communication, oral motor, fine motor, broad motor, sensory, social, emotional, cognitive, and musical skills.	Interrater reliability, test-retest reliability, convergent validity, content validity.
Music Attentiveness Screening Assessment, Revised (Wolfe & Waldon, 2009)	Prescriptive and diagnostic tool.	Hospitalized pediatric clients, aged 4 to 9 years old.	Assess clients' ability to respond to musical stimuli used as procedural support during invasive medical procedures.	Children listen to two recordings and are instructed to perform a physical response by pointing to specific points when induced by music. The person performing the assessment records the responses on a protocol/form. The raw scores for each record (items 1 and 2) are calculated, as well as an overall gross score (a combination of both items).	Construct validity, test-retest reliability, inter-observer reliability.
The Music Therapy Star (Mac Keith & Burns, 2011)	Formative tool.	Children.	Measure changes during the music therapy process.	Covers five areas related to the results in music therapy: relationship, use of voice, attention and awareness, play and creativity, emotional well-being.	Not available.
				The items of the tool are classified	

Attention Profile in Music Therapy assessment tool (Eslava-Mejía, 2017)	Prescriptive and formative tool.	Children.	Provide a basic profile of children's attention skills, as displayed in the music therapy.	into categories of attention (alert, divided, selective and sustained attention) and complementary scales (motivation, relationship, general performance, and impulsiveness).	Interrater reliability, content validity, exploratory factor analysis.
Music therapy Sensory Instrument for Cognition, Consciousness and Awareness (Pool & Magee, 2020)	Diagnostic tool.	Children and young people (2-18 years old) with disorders of consciousness	Provide a differential diagnosis and a profile of responsiveness to stimuli, awareness and functionning of people with disturbances of consciousness	Scale organized in 15 items in seven behavioral domains (auditory, visual, communication, cognition, sensorimotor, emotion, excitement) to assess the presence or absence of operationally defined behavioral criteria. The scale describes one of the following profiles of consciousness: vegetative state, minimally conscious, and emerging state.	Validity and reliability are under study.

Table 19. Tests used in music therapy assessment in the mental health context

Tool (author, year)	**Modality**	**Target audience/ context**	**Aim**	**Structure**	**Evidence of validity and reliability**
Psychiatric Music Therapy Questionnaire (Cassity & Cassity, 1984)	Prescriptive tool.	Adults, adolescents, children in the psychiatric context.	Determine clients' problem-oriented behavior that can be used as the basis for a music therapy intervention.	Questionnaire structured in three parts: a brief survey of musical preference, an inventory of 75 items designed to detect client's needs and a post-interview observation.	Content validity.
Music Interaction Rating Scale (Pavlicevic, 1991)	Prescriptive and formative tool.	Adults with schizophrenia.	Assess co-improvisation between client and therapist during music therapy sessions.	Observational assessment scale/ micro-analysis of video images, organized in six aspects of clinical co-improvisation.	Interrater reliability.
Beech Brook Music Therapy Assessment (Layman, Hussey & Laing, 2002)	Prescriptive and formative tool.	Children with severe emotional disorders.	Assess change/ development and guide	Scale organized in four domains: behavioral/ social functioning, emotional responsiveness, language and communication skills, musical	Interrater reliability.

			treatment planning.	skills. The items are organized into a five-point continuum.	
Text analysis method for micro processes of single music therapy sessions (Ortlieb et al., 2007)	Prescriptive and formative tool.	Mental health.	Identify and analyze in a quantitative and qualitative manner the verbal meanings and transitions during a music therapy session.	Tool that quantifies verbal expressions and transitions through three quality categories: 1) What contextual structures did I perceive? 2) What feelings arose? 3) What feelings arose within me as a result of what I perceived?	Not available.
Interest in Music (Gold et al., 2012)	Prescriptive tool.	Mental health.	Assess clients' musical interest according to reflecting prosocial and socially avoidant aspects of interest in music.	12-point Likert self-completed questionnaire.	Internal consistency, test-retest reliability, concurrent validity.

Meaningfulness of Songwriting Scale (Baker, Silverman & MacDonald, 2016)	Diagnostic and formative tool.	Mental health.	Measure the meaning of a therapeutic composition process.	Scale composed of 21 items designned to measure 11 domains of meaning in a composition process and the meaning of the post-creation of a song. Scores range from 21 to 105, with higher scores indica-ting greater significance derived from the musical process and product.	Content validi-ty, internal consistency, test-retest reliability, measurement error, construct validity.

Table 20. Tests used in music therapy assessment for people with neurological disorders

Tool (author, year)	Modality	Target audience /context	Proposal	Structure	Evidence of validity and reliability
Music Therapy Assessment Tool for Awareness in Disorders of Consciousness (MATA-DOC) (Magee, 2007)	Diagnostic tool.	Disorders of consciousness	Measure clients' behavioral responses to specific auditory information in the music therapy environment. It contributes to the understanding of clients' states of consciousness and helps treatment planning.	Includes 14 items covering five behavioral domains: motor responses, communication, arousal and auditory and visual responses	Interrater reliability
Music-Based Attention Assessment (Jeong & Lesiuk, 2011)	Prescriptive and formative tool.	People with traumatic brain injury.	Assess the attention of clients with traumatic brain injury.	Systematic observation scale based on 48 items, three subtests in different melodic structures assessed by scores between 0 and 1.	Item discrimination and difficulty (reliability), internal consistency, confirmatory factor analysis (validity).

Assessment Protocol of Attentional Capacity in Music Therapy (Rosário, 2015)	Formative tool.	People with tuberous sclerosis.	Measure the occurrence of observable attentional behaviors in the music therapy process.	Scale composed of 17 items that assess clients' attention in the following categories of responses: eye contact, smile, sing or vocalize, accompany, touch, reproduce, sustain, repeat, immediate response, and wait for the turn.	Interrater reliability, confirmatory factor analysis.
Music Therapy Assessment Tool for Advanced Huntington's Disease (O'Kelly & Bodack, 2016)	Prescriptive and formative tool.	People with Huntington's disease.	Measure responses in the psychological, physical and social domains of functionality in clients with advanced Huntington's disease.	Scale of 15 items organized in six subscales: arousal/attention, physical presentation, communication, musical, cognition, and psychological/behavioral.	Construct validity, internal consistency, interrater reliability, intrarater reliability.
Interpersonal Music-Communication Competence Scales (Hald, Baker & Ridder, 2017)	Prescriptive and formative tool.	People with acquired brain injury.	Assess general communicative skills that focus predominantly on non-linguistic aspects of daily communication through musical interactions, allowing items to be related to four dyadic musical improvesations.	Adaptation of the Interpersonal Communication Competence Scale according to the use of musical experiences. Composed of 30 Likert-type items, grouped into ten subscales that represent ten domains of interpersonal communication: self-disclosure, empathy, social relaxation, assertiveness, interaction management, altercentrism, expressiveness, support, immediate, and environmental control.	Interrater reliability, internal consistency

Table 21. Tests used in music therapy assessment in the educational context

Tool (author, year)	**Modality**	**Target audience/ context**	**Proposal**	**Structure**	**Evidence of validity and reliability**
Musical behavioral scale (Skille, 1987)	Diagnostic tool.	School context.	Provide a diagnosis of clients' musical behaviors in different forms of non-verbal communication.	Scale based on the observation of behaviors in the following domains: rhythmic communication, dynamic communication, melodic communication, improvised communication, vocal musical communication,	Not available.

				communication through movement.	
Music Therapy Functional Skills Assessment (Gleasman, 1995)	Prescriptive and prescriptive tool.	School context.	Determine functional, interpersonal, communication, music, and movement skills.	It is not possible to describe the structure of the tool due to the limited access to the test data.	Interrater reliability
Concise Emotional Inventory (Madsen, Madsen & Madsen, 2009)	Prescriptive and diagnostic tool.	Young adults (school context).	Access people's emotional state in a wide variety of defined life content areas.	Questionnaire based on a Likert scale, designed to represent areas that can emotionnally impact, both in the short and long term, the lives of students.	Alternate (parallel) forms reliability
Music Therapy Career Aptitude Test (Lim, 2011)	Prescriptive and diagnostic tool.	Music therapy students.	Measure the affective domain of music therapy students, including their self-awareness regarding the career of music therapy, value	Scale that assesses areas of self-concept in the affective domain, personal value in therapy, and human development/ improvement, aesthetic experience in music, willingness to learn and practice, preference for mu-	Internal consistency, construct homogeneity, item discrimination,

			in human development, interest in general therapy, and ability to be a professional music therapist.	sic as a therapeutic medium, desire for the profession of music therapy, level of conviction and/or devotion to the music therapy profession and career planning.	criterion validity.

Table 22. Tests used in music therapy assessment with no specific categories

Tool (author, year)	**Modality**	**Target audience /context**	**Proposal**	**Structure**	**Evidence of validity and reliability**
Music Therapy Evaluation Scale (Wasseman, 1973)	Summative tool.	Adults with emotional and learning challenges.	Quantitatively identify any changes in musical aptitudes and social behavior that may occur during a music therapy program administered over a relatively short period of time.	Tool with three component scales: 1) Rhythm group; 2) Singing group; 3) Vocal dynamics group.	Interrater reliability
IAPs (Bruscia, 1987)	Prescriptive, diagnostic, formative tool.	People with learning difficulties and severe emotionnal difficulties (originally).	Assess how clients explore different musical parameters using an improvisation to assess how these parameters relate	Tool structured according to the assessment of different gradients of six profiles: integration, va-	Not available.

		Later expanded to other populations.	to their difficulties and strengths.	riability, tension, congruence, salience and autonomy. Each profile consists of musical element scales.	
GIM Responsiveness Scale (Bruscia, 2000)	Formative tool.	Clients in GIM music therapy.	Systematically observe a travelers' experience.	Systematic observation scale organized by five domains classified using a 5-point Likert scale.	Interrater reliability, content validity, construct validity.
Predictable Factors in Sedative Music (Hooper, 2012)	Diagnostic tool.	Terminal clients in nursing homes.	Identify the predictability or unpredictability of different musical elements of sedative music.	Observation through the exact descripttion of elements of predictability or unpredictabili ty about form, tempo, volume, texture, melody, and harmony.	Interrater reliability
Assessment for Cognitive and Emotional-Behavioral	Prescriptive and formative tool.	Not specified.	Assess cognitive and emotional behavior skills	Composed of 15 items that uses rhythmic patterns, based on degrees of	Content validity

Domain using Rhythm (Duerksen & Chong, 2013)			using rhythm production.	clarity in the grouping/gestalt, salience in the part-whole relationship and complexity in repetition vs. variability.	
APCI (Jacobsen 2016)	Prescriptive, diagnostic and formative tool.	Families in risky situations	Assess the interaction between parents and children in structured and free musical activities. Useful for clinical work, research, and as a screening assessment.	Scale that assesses interactions according to the following domains: mutual attunement, non-verbal communication, parental response, child autonomy, parent-child interaction in music (total).	Comparison of scores to standardized tests of parenting skills. Interrater reliability, re-test reliability test, internal consistency, simultaneous validity.
Music Therapy Session Assessment	Prescriptive and		Assess the relationship between therapists and	Observational scale organized in seven items. For each item, there is a specific form of	Exploratory

Scale (Raglio et al., 2017)	formative tool.	Not specified.	clients during active music therapy sessions.	scoring and the person performing the assessment needs to mark whether a behavior is present or absent.	factor analysis.
Music Matrix (Wood & Crow 2018)	Prescriptive and formative tool.	People in nursing homes.	Describe in details how active a person is when making music.	Quantitative checklist filled out by means of recall analysis after the session and by video evaluation that assesses the client in ten different dimensions	Not available.
Simple rating scales (Hoskyns 2019)	Prescriptive and formative tool.	Group context.	Provide an objective assessment of the active or passive characteristics of the participants and the behaviors assessed in the context of the session.	Set of five scales to assess volume (speech), continuity (music), attention to the group task, and leadership.	Not available.

Tests for autistic people and other neurodevelopmental conditions represent the most frequent category, with 21 tests (most specifically for autistic people). This result could be

explained by the high number of music therapists who work in this area around the world and also by the number of woks, especially about music therapy and autism, published in the last ten years (Bielininik et al., 2017; Geretsegger et al., 2014; Steinbrenner, 2020).

The second most frequent category is the geriatric context, with 11 publications, including primary studies about dementia and Alzheimer's disease, followed by the categories of tests for children and adolescents (n = 9), mental health (n = 7), school/educational context (n = 5), and tests for neurological conditions (n = 4). Among the tests described, most use some verification of the reliability properties, and a considerable number verify some evidence of validity. It is important to note that this list of tests does not represent all music therapy tests, mainly because tests may not have been located due to the search criteria or materials studied. However, this set of tests provides an overview of the existing tests in music therapy. The assessment measurements used in music therapy are shown in Table 23. As with the tests, the measurements presented here do not represent the totality of music therapy measurements.

Table 23. Assessment measurements in music therapy

Measurement	**Main characteristic**	**Author (year)**
CAMTAS	Assessment of the speed of the material recorded in music therapy using the CAMTAS software.	Hunt (2000)
Assessment using electroencephalogram		Saji, Ueno, & Sugai (2004)

analysis in music therapy for people with dementia	Assessment using electroencephalogram for people with dementia.	
Using speech analysis software for sung and spoken voice analysis	Assessment of the pitch variations of the spoken and sung voice using the Multi-Speech™ software model 3700 with the 5121 module to assess pitches in real time	Baker (2007)
Music Therapy Toolbox	Analyses of temporal surface, registration, dynamics, tonality, dissonance, and pulse using the Music Therapy Toolbox software.	Erkkilä (2007)
Text analysis method for microprocesses	Identification and analysis in a quantitative and qualitative manner of the verbally expressed process of expressed meanings and transitions during a music therapy session.	Ortlieb et al. (2007)
Upper Limb Motion Analysis for the Assessment of Self-movement in Music Therapy	Assessment of movements capacity using a system of analysis of images of the movement.	Suzuki et al. (2009)
Music Therapy Logbook	Qualitative and quantitative analysis of audio and musical instrument digital interface (MIDI) materials, including time-decomposed analysis of duration, instrumentation, tempo, and interaction between clients and therapists. It uses a multichannel wireless digital audio recording system not to limit movements or instrumentation choice.	Steeter et al. (2012)
Musical Profile Evaluation	Assessment of typical performance, time evolution, and individual preferences in different musical elements using music information retrieval Toolbox (version 1.5) and MIDI Toolbox (version 1.0.1). The	Leutele (2016)

	musical parameters analyzed are: activity (duration and note counting), heartbeat (tempo and clarity), dynamics (centroid and variation), tone (centroid and variation), and modality (strength and mode).	
Method of motor behavioral assessment for children with developmental disorders during music therapy sessions	Assessment using an approach that consists of a signal measurement process, a feature extraction process, and a behavior evaluation process, which together are used to assess motor function and response to instructions. The pulse trajectories during the ringing of bells are analyzed to assess gross motor function, and the time spent to respond to musical instructions and to complete the task are evaluated. Modern technologies such as kinetics can be used to establish a fully automated assessment system.	Soh et al. (2016)
Assessment of emotional states through physiological signals and their application in music therapy for people with disabilities	Assessment of physiological signals from the electrocardiogram and the electrical activity of the skin through an adapted musical instrument.	Ramírez et al. (2020)

The measurements used in music therapy show a varied spectrum of quantitative assessments of different events, skills, or contents of musical experiences. Although in a smaller number compared to tests, measurements have an essential assessment potential in music therapy. It is important to mention that all literature measurements have been published

in the last 20 years, which demonstrates a growing interest in using them, mainly linked to the use of technologies.

EXAMPLE OF THE USE OF A TEST IN MUSIC THERAPY PRACTICE

The example here refers to the formative assessment carried out while working with a 4-year-old boy, described in the study of Dal Zot (2015). The client was referred to music therapy because of his difficulties associated with the autism condition, mainly related to communication and social interaction. The music therapist used the IMTAP scale system during the initial assessment and the assessment of the treatment results. In these two assessments, the music therapist applied the scales of receptive communication/auditory perception, social, musicality, and expressive communication. The scales were applied after three initial assessment sessions and 11 treatment sessions. Both the assessment and the treatment sessions were based on the use of musical improvisation. IMTAP generates percentages as final scores for each scale. Table 24 shows the difference in these scores before and after treatment.

Table 24. IMTAP scores before and after the music therapy of a 4-year-old-boy from Dal Zot (2015)

IMTAP Scale	Before (%)	After (%)
Receptive communication/auditory perception	3.3	25
Social	14.53	38
Musicality	2.4	19

Expressive communication	14.1	33

Based on the results obtained, it is possible to notice an improvement in all scales, mainly on the social one. These results were communicated to family members who, upon realizing this change, decided that the client should continue the music therapy sessions for another year.

FINAL CONSIDERATIONS

This chapter used a long description to provide essential information about this assessment method due to the complexity and specificity of tests and measurements in music therapy. Although it is clear that many tests and measurements are available, it is necessary to create more tools to account for domains not covered by them. Moreover, the existing tools need to continue being studied to verify their evidence of validity, reliability, and standardization

CHAPTER SUMMARY

What are the main characteristics of the tests and measurements in music therapy?

Tests and measurements represent a quantitative way of assessing different attributes of an event, object, or knowledge. In the case of tests, the quantitative way to measure these attributes is through scores. The test score

is a summary of the evidence in the examinee's responses to the test items that relate to the construct or constructs being assessed. Measurements refer to any quantitative assessment of something, including scores. In other words, we can consider that tests are subcategories of measurements, but the reason for using this different term is to emphasize that quantitative assessments go beyond scores. The main types of tests are scales, rubrics, structured questionnaires/ inventories, and checklists. For measurements, this is not easy to describe due to their great variety. However, it is possible to say that in music therapy there is a tendency to study measurements associated with musical experiences either through musical parameters or non-musical measurements.

CHAPTER THIRTEEN

Creating, adapting and translating assessment tools in music therapy

Chapter question: How can assessment tools be created, adapted, and translated in music therapy?

INTRODUCTION

As explained in Chapter 1, assessment tools are instruments or artifacts created to collect information about the clients (Waldon & Gattino, 2018). Assessment tools are also known as assessment instruments (Baxter et al., 2007) and are often used in music therapy practice. Although the description of these tools is extensive in music therapy literature (Cripps, Tsiris, Spiro; 2016; Spiro, Tsiris & Cripps, 2018), the number of publications on their creation, adaption to music therapy practice, and translation is still limited. Thus, this chapter aims to provide basic guidelines for music therapists to create, adapt,

and translate assessment tools to solve or seek options for the different needs in their practice.

CREATING ASSESSMENT TOOLS IN MUSIC THERAPY

The creation of assessment tools in music therapy is not clearly described in music therapy literature. This is the reason publications in the fields of psychology and education inspired the guidelines presented here. A part of these publications concerns creating tests (AERA, APA, NCME, 2014; Pacico, 2015) since they are a trendy type of assessment tool for different purposes. The other part of the publications addresses observational tools and interviews (Brookhart, 2010; Chapman & King, 2012).

The creation of assessment tools is considered very complex by most music therapists because they attribute this task exclusively to researchers or assessment specialists in this area. This vision is mainly associated with creating formal assessment tools (Urbina, 2014; Pacico, 2015). As explained in Chapter 1, formal tools have a high degree of application rigor and are built based on a complex and detailed construction process, which is the case with tests and some observation tools (Wheeler, 2013).

In the field of education, the concern and rigor regarding the creation of tests are similar, but among educators it is common to create informal assessment tools in their daily lives to help solve problems, make decisions, and learn more about their students' learning process (Brookhart, 2010; Chapman & King, 2012). Informal tools do not have methodological rigor in their

application and construction, as is the case with some types of observations, interviews, or informal measurements to assess clients.

Therefore, professionals in the field of education create tools to assess a specific situation, as well as scoring or description systems to register the assessed phenomena. Consequently, the assessment tools developed in this context have less methodological rigor than the tests, but maintain the basic principle necessary, namely assessing the construct or contents of the domain. These two different understandings about assessment tools, created with greater or lesser methodological rigor, are also present in music therapy. The purpose of this chapter is to show some guidelines for the creation of an assessment tool in music therapy.

These guidelines can either develop assessment tools with great methodological rigor, such as tests, or informal/practical tools, as is the case with most of the tools for observation, interviews, and document reviews. To create these guidelines, a thorough review of the standards for educational and psychological tests developed by the AERA, APA, and NCME (2014) was carried out. Moreover, the description and assessment documents on psychological and educational tests created by the European Federation of Psychologists' Associations (Evers et al., 2013) and the guidelines for translation and adaptation of tests proposed by the International Test Commission (ITC, 2017) were studied.

Additionally, specific materials were investigated to create assessment tools for education (Brookhart, 2010; Chapman & King, 2012), and other materials in the psychology field were also reviewed to have a clear description of the different stages of the process (CFP, 2018; Pacico, 2015; Urbina, 2014). The

guidelines presented here are organized in eight stages for the development of an assessment tool: 1) preparation; 2) literature review and expert consultation; 3) conceptualization of the assessment tool; 4) development of the assessment tool; 5) application of the preliminary version to focus groups and a pilot sample; 6) application of the preliminary version to a target population; 7) analysis of the assessment tool; 8) review/correction of the assessment tool. Figure 11 summarizes these eight stages to create an assessment tool, highlighting the different procedures in each stage.

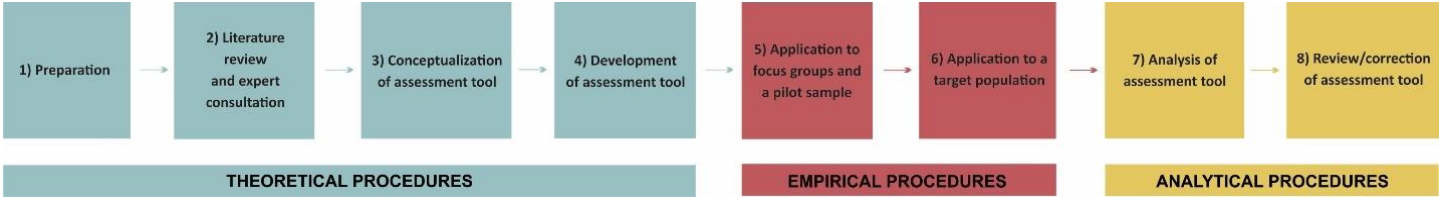


Figure 11. Summary of stages to create an assessment tool

Before proceeding to each of these eight stages, it is essential to emphasize that the procedures used in the process of building a tool are organized into three categories (Pasquali, 2010): theoretical procedures, empirical procedures, and analytical procedures. Theoretical procedures concern studies of the theoretical conceptualization of the tool related to the constructs, domains, and contents of the domains and enable the verification of evidence of validity connected to the content.

Empirical (experimental) procedures concern the collection of data, whether in the focus group, in the pilot sample, or in the target sample, to verify the psychometric qualities of the tool. Analytical procedures, in turn, refer to statistical or qualitative analyses carried out to study the evidence of validity, reliability, and standardization of the tests, and they also refer to the analysis of results in general. Although the process of reviewing/correcting a tool to produce a new version includes theoretical procedures, it is essentially analytical, given that it is necessary to compare the latest version of the tool to the previous one to correct the flaws in the preliminary version.

Stage 1: Preparation

Before starting the process of creating an assessment tool, music therapists need to consider whether it is indispensable to create it and understand some quality standards for developing one. The professionals who plan to build a tool should answer the following questions (adapted from Pacico, 2015):

1) Is it necessary to create an assessment tool in this area/context?

2) Are there other assessment tools that assess the same variable?

3) What are the advantages of this new assessment tool?

4) What does the assessment tool assess?

5) What is the professional's goals with this assessment?

6) Who is going to use this assessment tool?

7) What are the qualifications required for the person who is going to apply the assessment tool?

8) Who is going to be assessed and what are the eligibility criteria to apply this assessment tool?

9) How is this assessment tool going to be applied?

10) How are the scores/results going to be obtained and interpreted?

These ten questions are fundamental for music therapists to ensure it is indispensable to create a new assessment tool, as well as to provide a basic summary of the topics they intend to assess even before the formal proposal begins. In addition to these basic questions, music therapists need to study the requirements in terms of quality standards to create an assessment tool. A good assessment tool should generally have the following characteristics (adapted from CFP, 2018):

1) Presentation of the theoretical foundation, with particular emphasis on the definition of the construct/s, describing its constitutive and operational aspects;

2) Definition of the assessment goals and application context, detailing the target population;

3) Definition of the theoretical relevance and technical quality of the stimuli used in the assessment tool;

4) Presentation of empirical evidence of the technical characteristics of the items of the assessment tool;

5) Presentation of empirical evidence of validity and estimates of accuracy in the interpretation of test results, characterizing the procedures and criteria adopted for the investigation (only applicable to tests);

6) Presentation of the system for recording, analyzing, and interpreting the tool, explaining the logic that underlies the procedures, depending on the interpretation system adopted for the assessment tool;

7) Presentation of the request and correction of the assessment tool to ensure standard procedures.

Stage 2: Literature review and expert consultation

In this stage, it is necessary to review the assessment tools that assess the same construct in other disciplines and/or music therapy tools used in other populations compared to the population of interest. With this in mind, music therapists need to find information in the literature that helps define and provide a framework to the constructs, domains, and contents of the domains they want to assess.

A review of the publications is also necessary to establish the unique contribution that this tool can provide based on the study of a construct, domain, and content of the domain for a specific population. The literature can also contribute to study the format of the tool and the ways it should be registered, analyzed, interpreted, and presented according to its results. In

this stage, music therapists should choose a literature model for creating assessment tools to organize their construction process. The nature of the literature reviewed is varied, since music therapists can read texts within and outside the music therapy scope about the specific population and construct of interest. Nonetheless, it is also necessary to read publications on music therapy assessment as a whole. In addition to the literature review, it is of paramount importance to consult experts.

They might be specialists in the studied construct or population and/or experts in general assessments inside or outside the music therapy field. It is essential to provide clarity and relevance to the construct, domain, and content of the domain assessed. Much of the information that music therapists need may not be available in the literature. Therefore, the experience of other professionals can be crucial to provide a more precise definition of the construct or population assessed.

Due to the limited number of publications on this theme (compared to publications in other areas such as psychology, social work, and education), it is more difficult to understand the ways different constructs, domains, and contents of domains have already been studied in music therapy. Therefore, collaboration of other professionals can be precious in this process.

Stage 3: Conceptualization of the assessment tool

In this stage, music therapists conceptualize the construct or content of a domain that they plan to assess. Usually, music

therapists start by choosing a construct, and within it, they look for a specific domain or area to assess. Based on the selected domain, they define the domain concepts they want to assess. In other words, music therapists start from an abstract idea generated by the construct they plan to assess, concretely represented by items of an instrument intended to assess specific contents such as behaviors, behavior patterns, or musical parameters.

Music therapists also conceptualize the assessment tool, thinking about the content of the domain they intend to assess, and search for possible ways to assess them according to the items of the tool (AERA, APA, NCME, 2014). The conceptualization stage is fundamental for music therapists to have a clear notion about the construct they want to assess rather than on the ways this can occur.

To provide a practical example of the conceptualization of the triad construct–domain–content of the domain, it is important to base it on a specific assessment tool. Considering that music therapists intend to create a tool to assess the quality of clients' interaction in the communication circles created during a musical improvisation in music therapy, the construct is interaction. The domain is the quality of the interaction in communication circles, whereas the content of the domain refers to the ways the quality of this interaction is verified in the communication circles created during improvisations.

Music therapists can ascertain the quality of the interaction analyzing their clients' behaviors in relation to the ways they develop visual contact with the therapists, through clients' musical responses to music therapists, or through clients' musical initiatives to maintain the communication circle.

Stage 4: Development of the assessment tool

This is undoubtedly the most critical stage of the process of creating an assessment tool. It is organized into four substages: specifications of the assessment tool, items development and review, assembly of assessment tool forms, and development of procedures and materials for security and application of the assessment tool.

Specifications of the assessment tool

In this substage, music therapists develop the assessment tool by specifying the following parameters:

1) Purpose and intended use – define the main goal of the tool as well as the population, context, or moment of the music therapy process in which music therapists plan to apply the assessment tool;

2) Content specifications – define the behaviors, behavior patterns, musical parameters, or tasks they plan to assess using the tool;

3) Format specifications – define whether the tool is a record review, interview, observation instrument, or test. Moreover, describe the procedures for data collection (musical experiences or a conversation, for example) and possible adaptations of the format for different populations;

4) Extension of the assessment tool – define the number of items in the tool and the time it takes to be applied;

5) Psychometric specifications, in cases the tool assesses quantitative data – verify the difficulty, discrimination, and

correlations between items, and establish the desired values for the reliability and validity of the tool;

6) Specifications of the scores or transcripts of the assessment tool – define the procedures to score or transcribe the information according to the assessed data;

7) Specifications of the process for the application of the assessment tool – define the procedures to apply the tool;

8) Refinement of specifications of the assessment tool – verify the nuances of the construct, domain, or content of the domain;

9) Use of adaptive procedures – consider the need to adapt the assessment of previously defined constructs, domains, or contents of the domain to ensure that different people can use the tool.

To understand each of these nine parameters, it is important to visualize them taking a specific assessment tool as an example. Table 25 shows the development of each of these nine parameters using a hypothetical assessment tool, here named Observation of the Quality of Interactions in Communication Circles.

Table 25. Different parameters in the development of the assessment tool Observation of the Quality of Interactions in Communication Circles

Parameter	Description
Purpose and intended use	It assesses the quality of the interaction in the communication circles in musical improvisations based on clients' responses. The tool is intended for individual sessions and can be used for any populations.
Content specifications	It assesses the quality of the communication circles based on a classification of clients' behaviors (musical and non-musical) during the improvisations performed by music therapists and clients.
Format specifications	It consists of a checklist with quantitative and qualitative items (gathering the characteristics of a test and an observation tool) to describe different musical and non-musical behaviors.
Extension of the assessment tool	It has four quantitative and two qualitative items, which can be verified over a 30-minute session with the client.
Psychometric specifications	It is expected that the tool reaches an internal consistency of 90% and an interrater reliability of 95%.
Especifications of the scores or transcripts of the assessment tool	The first four items are scored using a 5-point Likert scale, with the highest scores indicating a higher quality of interaction. The last two items are qualitative descriptions regarding the quality of the interaction through musical and non-musical behaviors.

Specifications of the process for the application of the assessment tool	It is applied during a 30-minute session of improvisational music therapy. Music therapists should score, analyze, interpret, and reach the assessment conclusions based on the tool form filled out upon watching the video over 45 minutes.
Refinement of specifications of the assessment tool	Although all the behaviors assessed are related to the quality of the interactions in communication circles, on the one hand, musical behaviors specifically relate to the musical forms clients use to interact in these circles. On the other hand, non-musical behaviors represent responses that may or may not be associated with the musical dynamics during the session.
Use of adaptive procedures	In case some clients have difficulties to participate in improvisations, music therapists can provide a second assessment session. Improvisations can also be simpler, depending on the cognitive and sensory functioning of the person undergoing the assessment.

Items development and review

Music therapists need to compile the items of the tool, since they usually create more items than necessary. These items are typically presented to a focus group that assess their clarity and relevance as the assessed construct. Usually, music therapists send the items to a group of experts, and they often classify and describe the items using specific tables. Figures 12 and 13 show how experts assessed the clarity and relevance of the behaviors/items of the KAMUTHE assessment method (Plahl,

2007) translated and cross-culturally adapted into Brazilian Portuguese by Gattino (2012).

Assessment of the clarity (Music Therapist Categories)

Behaviors	0	1	2	3	4	5
Vocalize						
Play an instrument						
Sing a song						
Sing a song and accompany with the musical instrument						
Comment verbally						
Compliment Child						
Question/Call/Ask the child						
Invite the child to participate						
Use gestural language						
Offer an instrument						
Handle an Instrument						
Make the child move						

* 0 (did not understand anything in this item; 1 (understands a little bit); 2 (I understood partially); 3 (I understood almost everything, but had a few questions); 4 (understood almost everything); 5 (understood perfectly and don´t have any questions).

Figure 12. Assessment of the clarity of behaviors by experts using the KAMUTHE assessment method from Gattino (2012

Assessment of the relevance of items for pre-verbal communication (Music therapist categories)

Behaviors	1	2	3	4
Vocalize				
Play an instrument				
Sing a song				
Sing a song and accompany with the musical instrument				
Comment verbally				
Compliment Child				
Question/Call/Ask the child				
Invite the child to participate				
Use gestural language				
Offer an instrument				
Handle an Instrument				
Make the child move				

* 1. Not-relevant, 2.Little relevance, 3. Relevant, 4. Very relevant

Figure 13. Assessment of the relevance of behaviors by experts using the KAMUTHE assessment method from Gattino (2012)

Some people may respond to an item differently than expected due to a specific characteristic of a group. In this case, it is essential to specify the items that may be different (proposal to adapt the tool) for other groups (APA, AERA, NCME, 2014). Music therapists can create "cognitive laboratories" to check the barriers to respond to the assessment tool and verify if the cognitive processes under assessment are consistent with the assessed construct. They should also pay attention to the creation of the items considering the following factors: adequacy of the content and format of the item to meet the purpose of the tool and the populations it is intended for; clarity of the item expression; grammar corrections; adherence to some basic writing rules for items that have terminology changes over time (Urbina, 2014). As they create the items,

music therapists can perform small pilot situations to check if the proposed item works for the target population.

Assembly of assessment tool forms

Music therapists gather the items in one or more forms in the assessment tool to identify one or more pools of items adapted to different conditions or application contexts. The assessment tools need to ensure the principles of equity, mainly regarding accessibility and universal access. Thus, the tool can present versions adapted for specific contexts or populations. A tool can be adapted for children, for example, decreasing the level of complexity of the language proposed to enable their understanding. In situations clients cannot answer an assessment tool alone, the tool may include a version of the forms for family members or professionals who care for them.

Development of procedures and materials for security and application of the assessment tool

In this substage, different ways to protect the data assessed should be considered. Music therapists should consider the use of equipment such as portable data storage devices, computers, cell phones, or tablets to analyze stored data. It is also necessary to think about security measures to store assessment recordings, documents, and paper materials. In these cases, music therapists can store the materials in lockers or other places that can guarantee access restricted to whoever assessed the client. To store assessment data in a cloud, music therapists should ensure that the cloud is encrypted, not allowing other people to access the information. Therapists also need to

guarantee the confidentiality and anonymity of the information collected as much as possible. Thus, they can identify clients' files or documents using initials or codes that only they know. In this stage, music therapists should reflect on how they manage the application of the assessment tool. Therapists should think about the materials, formats of application, spaces, and equipment needed to assess. They should also determine whether it is necessary to prepare the assessed person or provide some basic explanation about the tool before its application. In this substage, music therapists should consider creating explanatory manuals to apply the tool or specific training when necessary.

Stage 5: Application of the preliminary version to focus groups and a pilot sample

Music therapists should apply the tool to focus groups (usually music therapists or specialists in this field) and to pilot samples (people who are not part of the target group of the assessment tool) (Pacico, 2015) to have an initial assessment of its quality regarding data collection, analysis, interpretation, and possible conclusions that can be drawn about the results obtained with it. The specialists in the focus group can point out possible changes that need to be made in the construction of the tool so that it can be applied to the target population sample. The application of the tool to the pilot sample can indicate its performance in a context that is closer to the real

world and can also indicate necessary changes before its application to the target sample. In this stage, it is important to check the reliability and validity before applying the tool to the target population.

Stage 6: Application of the preliminary version to a target population

After that, the tool can be applied to the target population. In a more rigorous methodological context, as in the case of tests, the creator of the tool should conduct a survey to demonstrate its practical application to a large sample, enabling the study of different psychometric properties related to the evidences of its validity and reliability. In cases of development of an informal tool for music therapy practice, music therapists should apply it directly to the client or group of clients they want to assess. Regardless of the context, research or direct practice, music therapists should ensure clients' safety and well-being during the application of the tool (Bates, 2015).

Stage 7: Analysis of the assessment tool

Based on the data collected during the application stage, music therapists should assess the results obtained. This is an opportunity to check the different characteristics of the assessment tool that work and those that do not work. The strengths and points to be improved in the tool should be analyzed. During the analysis, music therapists should establish general conclusions about the functional aspects of the tool and

its application, as well as the possible improvements it needs. In this stage, evidence of validity and reliability is also calculated or studied, as well as the standardization in cases of tests.

Stage 8: Revision/correction of the assessment tool

This is the last stage of the process. According to the analysis of the results of the previous stage, music therapists should perform the necessary changes and corrections in the tool. They are essential to correct procedures, items, or forms that did not work during the application of the tool to refine it. In this stage, the modifications and the procedures to make them should be specified so that therapists can understand what needs to be done while applying the tool.

ADAPTION ASSESSMENT TOOLS IN MUSIC THERAPY

In certain circumstances, adaptations of assessment tools are necessary, mainly when its original version is considered important for the environment/population assessed, but it needs to be more specific and/or sensitive to the context. Although these adaptations are not traditionally reported in music therapy literature, some examples were presented by Abrams (2007), Wigram (2007), and Wosch (2007), and more recently by Lawes (2012) and Wigram & Jacobsen (2018).

ITC (2017) provided guidelines for adapting tests, principally concerning the language and cultural context of

application, as well as their translation. Despite being an adaptation of the tools, their translation is more related to a discussion of the terms in the language of the original tool and their cross-cultural adaptation to another language. This topic is discussed in more details at the end of this chapter to ensure the specificity of the subject. Therefore, a tool may need to be adapted considering its procedures, items, materials used for its application, and the population it is intended to. For the adaptation of assessment tools in music therapy, six stages should be considered: preconditions (preparation); development of adaptations; confirmation; application; scoring/form completion and interpretation; documentation (ITC, 2017).

Preconditions (preparation)

In this stage, music therapists should plan and perform procedures before the adaptation to ensure that the adaptation process is conducted in the best way possible. They should request the authorization of the creator of the assessment tool to carry out the necessary adaptations. Assessment tools have copyrights that belong to their author, or a specific publisher, or a company. It is ideal to have their permission to carry out an adaptation.

However, this is not always possible, because bureaucratic procedures often prevent the obtention of these rights. In practical terms, music therapists should have a clear perspective on the use of the adaptations. In some cases, they plan to use the adaptations exclusively during their practice, whereas in other situations, they intend to disclose the

adaptations publicly through a publication, suggesting guidelines so that other music therapists can also apply them. In the second case, it is advisable to sign an agreement with those responsible for the copyright of the original tool to avoid being sued.

Music therapists should also be aware of the types of adaptation they want to make in this stage. If the adaptations are related to the content of the assessment, it may be necessary to exclude some items or modify the way they are written to meet the needs of a specific population. It is possible that the adaptation is related to a procedure of the assessment tool that needs to be adapted to a country's cultural or socioeconomic context. For the authors of the translation and cross-cultural adaptation of IMTAP in Brazil, tools such as the dulcimer and q-chord are not part of the reality of Brazilian music therapists. Therefore, they suggested some modifications, such as the use of a guitar instead of a dulcimer and a keyboard instead of a q-chord (Silva, 2013).

Adaptations can also be made on the ways the assessment data are analyzed and presented. Wigram (2007) created a system to quantitatively analyze the information referring to the "autonomy" and "variability" profiles of the IAPs assessment tool (a more qualitative/subjective tool) and to present this information in quantitative tables. Wigram & Jacobsen (2018) recently updated this system. Music therapists should study the literature before planning the adaptations of an assessment tool, so that they are equivalent to the original tool, guaranteeing its basic properties. In this stage, they do not perform the adaption, but only study them.

Development of adaptations

In this stage, music therapists can implement changes in the tool based on the preparation discussed in the previous stage. They should carry out the adaptation ensuring the maintenance of the same meaning proposed in the original tool. For tests, a broader study of the tool is usually performed encompassing larger data collection. In this stage, the evidence of reliability and validity of the adapted version is verified and the results are expected to be similar to or better than the evidence of the original tool. Music therapists should verify if the goals, format, and application of the assessment tool were not negatively affected due to the modification.

Wosch (2007b) also developed adaptations of the IAPs and described all of them. Basically, the adaptation concerns the analysis of only the autonomy profile and not of the six profiles originally described by Bruscia (1987). Wosch (2007b) carried out adaptations using the following procedures: audio or video recording of the clinical improvisation; transference of the recording to audio software; production of a score for clinical improvisation; microanalysis of clinical improvisation using the autonomy profile in a tab and through a written description; production of a diagram that displays all the important interpersonal transitions during clinical improvisation.

Confirmation

In this stage, music therapists should apply the adapted version of the tool in a real situation. During this application, the tool should strictly follow the adaptations. Examples of this procedure were given by Wigram (2007) and Wosch (2007b) to show their adaptations of IAPs applied to specific cases.

Application

In this stage, music therapists should prepare forms and documents to apply the tool based on the adaptations made. The forms should have a clear explanation about the understanding of the adaptations to apply the tool to different populations and contexts. Wigram (2007) and Wosch (2007b) created specific tables for the adaptations of the IAPs.

Scoring/form completion and interpretation

The information present in the assessment tool should be filled in and scored according to the adaptations. Consequently, for the interpretations, the impact of the adaptations should be taken into consideration so that they can be understood. In the IAPs adaptation performed by Wigram (2007), for example, data on the autonomy and variability profile are filled in a particular way, different from the original tool proposed by Bruscia (1987). In the adaptation carried out by Wigram (2007), it is necessary to quantify the frequency of clients' manifestations using a gradient of profiles of autonomy and

variability. In contrast, in the original tool, these profiles are described qualitatively. The interpretation of data proposed by Wigram (2007) is based on objective findings by means of frequencies, whereas in the original tool, they occur subjectively.

Documentation

The documents used to report the assessment results should clearly state the adaptations made and their impact on the disclosure of the assessment results. In music therapy, this documentation usually refers to papers or book chapters reporting the entire adaptation process. Some examples of this type of documentation of adaptations of IAPs are presented by Abrams (2007), Wigram (2007), Wosch (2007b), and Wigram & Wigram (2018). The article published by Lawes (2012) of an adaptation of the AQR, originally developed by Calvet-Kruppa (1999), is also worth mentioning.

GUIDELINES FOR THE TRANSLATION AND CROSS-CULTURAL ADAPTATION OF ASSESSMENT TOOLS IN MUSIC THERAPY

Assessment tools are commonly used in music therapy. However, not all music therapy tools have been translated into the language spoken in the country of application, and in these cases, there is no guarantee that it retains its main characteristics. Moreover, using an assessment tool in a country other than the one of its creation can cause structural

differences on issues related to the use of language and cultural aspects specific to the original country (ITC, 2017). Therefore, music therapists should translate and cross-culturally adapt the tool before using it to guarantee the conceptual equivalence of constructs and items, as well as semantic, operational, psychometric or measurement (if applicable), item, functional, and criterion equivalence (Herdman, Fox-Rushby and Badia, 1988). Here is a brief description of these concepts:

Conceptual equivalence of constructs and items: if constructs exist, they are relevant and acceptable in all cultures.

Semantic equivalence: items mean the same thing to people from different groups and in the source and target languages.

Operational equivalence: it ensures that standardized methods for research application are appropriate for the target culture.

Psychometric or measurement equivalence: it is achieved when comparable psychometric properties are observed in the source and target measurements in a research context, especially with large samples.

Item equivalence: it is observed when items are comparable and reflect the same value in the original and in the translated version.

Functional equivalence: it is verified if the tool is ready to be used in the language it was translated into.

Criterion equivalence: it is obtained when the interpretation of the scores "is the same between the groups and when compared to the rules for each group," such as for tests.

Translating assessment tools in music therapy is a frequent practice, and two great examples of tools that have been translated into different languages are Music in Everyday Life

(MEL) (Gottfried et al., 2018) and MIDAS (McDermott, Orrell & Ridder, 2014). Both tools and all their translations are available on the following web pages: https://mel-assessment.com and https://www.musictherapy.aau.dk/midas/. Music therapists can choose different models for translating and cross-culturally adapting assessment tools.

Ridder, McDermot & Orrell (2017) established guidelines that should be used for the translation and cross-cultural adaptation of music therapy assessment tools. Their model is not the only one music therapists can follow, but it is the only one aimed specifically at the music therapy field. Other models are traditionally used in psychology and education (Borsa, Damásio & Bandeira, 2012; ITC, 2017) and they have some differences in the order and procedures developed in each stage compared to the model proposed by Ridder, McDermot & Orrell (2017). The ten stages for the translation and cross-cultural adaptation of assessment tools in music therapy are: 1) preparation; 2) translation by two independent translators; 3) reconciliation; 4) back translation; 5) review of back translation and comparison to the source language; 6) harmonization; 7) cognitive debrief; 8) review of cognitive debrief, results, and completion; 9) proofreading and final verification of typographical errors and text and design errors; 10) final report. A brief description of these stages is provided here with additional information based on the author's experience with translations of assessment tools in music therapy.

1) Preparation: in this stage, it is necessary to organize the translation team, seek formal authorization to translate the tool, and prepare a general translation project. After establishing the team, music therapists can choose specialized translators or music therapists who have a lot of experience with both

languages, the original one and that of the intended translation. Music therapists that have experience with translations tend to be more precise, because they also understand the terms used in the music therapy field. Given that obtaining copyrights can take time, a minimum six-month schedule for the translation should be considered. Usually, the process is faster for tools the author has the copyrights. For translations connected to research projects, the ethical approval is required.

2) Translation by two independent translators: the initial translation involves at least two independent translations of the tool (two versions no. 1). In this stage, translators should be able to get as much information as possible to ensure the quality of the translation.

3) Reconciliation: based on the analysis and reconciliation of both translated versions no. 1, a single version of the tool, named version no. 2, is created as a draft of the final version of the tool.

4) Back-translation: version no. 2 is back-translated into the original language. This should preferably be done either by a specialized translator or by a native speaker of the original language of the tool.

5) Review of back translation and comparison to the source language: the back-translated version is reviewed and compared to the original tool, preferably with the participation of the creator of the tool. The final reconciled back-translation is produced in the target language and version no. 3 is created.

6) Harmonization: the goal of this stage is to solve any problems related to translation discrepancies between the versions in both languages.

7) Cognitive debrief: the properties and possible errors of version no. 3 are checked. This stage involves collaboration with relevant stakeholders in each culture to check for apparent validity regarding relevance and clarity.

8) Review of cognitive debrief, results, and completion: music therapists check the results of the previous stage and create version no. 4 of the tool, i.e. the final version.

9) Proofreading and final verification of typographical errors and text or design errors: this is a stage to review minor errors in the final version of the tool.

10) Final report: in this stage, music therapists write a general description of the entire translation project. This report is usually transformed into a scientific publication. Examples of translation reports turned into scientific publications are found in Gattino et al. (2016a; 2016b) and Gattino, Azevedo and de Souza (2017).

One of the questions frequently asked by music therapists is the possibility of using original tools, which have not been translated or adapted to a specific country. Although this is not a recommended practice, in some cases, clients can benefit from this practice, mainly if music therapists have completed specific training in a music therapy test and are qualified to apply it.

It is important that the test does not involve asking clients questions, but rather only items assessed by music therapists. Tests that involve clients' answers to questions should be avoided, because questions need to be translated and adapted cross-culturally to ensure proper application in a specific language. In case of using a test in the original language and not in the local language, the following procedures are recommended: review the items of the tools to ensure that

music therapists understand their meaning; check if it is necessary to adapt any procedures to the cultural context of the country of application.

FINAL CONSIDERATIONS

Understanding the stages to create, adapt, and translate assessment tools opens new possibilities for music therapists beyond the mere use of tools in their practice. The guidelines presented in this chapter should not be considered absolute truths, but possible ways to facilitate music therapists' practice in these areas. A greater number of publications on these three themes is necessary in the music therapy field.

CHAPTER SUMMARY

How can assessment tools be created, adapted, and translated in music therapy?

Music therapy assessment tools can be created in different ways and this chapter suggests guidelines divided into eight stages: 1) preparation; 2) literature review and expert consultation; 3) conceptualization of the assessment tool; 4) development of the assessment tool; 5) application of the preliminary version to focus groups and a pilot sample; 6) application of the preliminary version to a target population; 7) analysis of the assessment tool; 8) review/correction of the assessment tool. For the adaptation of assessment tools

in music therapy, six stages should be considered: 1) preconditions (preparation); 2) development of adaptations; 3) confirmation; 4) application; 5) scoring/form completion and interpretation; 6) documentation. The translation and cross-cultural adaptation of assessment tools in music therapy should follow ten stages: 1) preparation; 2) translation by two independent translators; 3) reconciliation; 4) back translation; 5) review of back translation and comparison to the source language; 6) harmonization; 7) cognitive debrief; 8) review of cognitive debrief, results, and completion; 9) proofreading and final verification of typographical errors and text and design errors; 10) final report.

CHAPTER FOURTEEN

Selecting music therapy assessment methods

Chapter question: How can music therapists select music therapy assessment methods?

INTRODUCTORY ASPECTS

Choosing one or more assessment methods is an essential task in music therapy practice (Gattino, Jacobsen & Storm, 2018). The selection of a method requires that music therapists understand the different methods available and be aware of possible factors that influence their assessment practice (Isengerg-Grzeda, 1988). Before considering this choice, music therapists should reflect on whether to use an assessment tool that is part of a method. Moreover, professionals need to verify whether the method involves an assessment by music therapists, a self-assessment carried out by clients, or an

assessment performed by family members or professionals who work with the clients.

It is also essential to determine if music therapists prefer to be limited to the proposals of methods created for the discipline or if they want to apply generic methods used by professionals in different areas. Some examples of generic proposals are tools for assessing anxiety such as the Zung Anxiety scale (Dunstan & Scott, 2020), depression such as the Beck Depression Inventory-II (Toledano-Toledano & Contreras-Valdez, 2018), health-related quality of life such as the 36-Item Short Form Health Survey questionnaire (Lins & Carvalho, 2016), communication such as the Children's Communication Checklist-1 (Lane, Van Herwegen & Freeth, 2019), and spirituality such as the Spirituality Self Rating Scale (Goncalves et al., 2009), answered by the clients or their guardians. These generic self-declaration tools were created by professionals in other areas than music therapy and are used in different contexts such as health and education (Ferrari, 2017).

Music therapists may also use assessment tools that are not specific to music therapy, but that can be applied if they have specific training or qualification to use them, such as ADOS, the gold standard scale for the diagnosis of ASD (Bieleninik et al., 2017). However, this does not allow music therapists to diagnose ASD (Western Psychological Services [WPS], nd) or any other condition. The scale is only used to characterize the behaviors related to ASD diagnosis. In addition to being music therapists, some professionals also hold a degree in other areas such as psychology, neuropsychology, speech therapy, physiotherapy, and occupational therapy, for example. Therefore, they can also use the methods and assessment tools created for these disciplines to collaborate with the music

therapy assessment process. It is worth noting that the use of generic methods or methods developed for other professions should not completely replace specific methods in the music therapy field. Otherwise, the assessment processes may be mischaracterized and therefore not specific to music therapy as a discipline.

An essential guide is presented in this chapter to assist music therapists in choosing the assessment method or methods for their assessment process. This guide was inspired mainly by the proposals of Isenberg-Grzeda (1988) and Gattino, Jacobsen & Storm (2018), but it is not restricted to them. Isenberg-Grzeda (1988) proposed four primary factors that influence music therapists' assessment practice, whereas Gattino, Jacobsen & Storm (2018) created a guide to perform music therapy assessments without assessment tools.

INTRODUCING A GUIDE FOR SELECTING ASSESSMENT METHODS IN MUSIC THERAPY

The choice of one or more assessment methods in music therapy depends on a series of questions that music therapists should answer before making a decision. As explained at the beginning of this chapter, these questions are influenced by music therapists' knowledge of the methods and factors related to the assessment process. Table 26 shows a guide structured around 13 basic questions that need to be answered to help music therapists decide about the method or methods to be used, as well as an explanation for each question, and provides specific spaces for the answers

Table 26. Guide to select the music therapy assessment method

Question	Explanation	Response
1) Who or what will be assessed (client, family, music therapist, professional in another area, or service)?	Music therapists can assess a single person, more than one person, or a service. Specify exactly who or what will be assessed.	
2) What is the purpose of the assessment (prescriptive, diagnostic, formative, summative, or interpretive)?	Define the main purpose of the assessment.	
3) Is the assessment about a specific stage of the music therapy process? If so, specify it.	Choose one of the following stages: referral and acceptance; initial assessment; definition of treatment plan; implementation of treatment; discharge or termination process.	
4) What is the context of practice and the target population for the assessment?	Describe the area of practice and the diagnosis or condition whenever necessary.	
5) Is the assessment connected to a public institution or agency? If so, specify the institution or agency and describe the rules that need to be followed in the assessment according to them.	Music therapists should specify any requirements on behalf of the institution or agency that influence their decision process or assessment methods.	
6) Why is this assessment necessary? Please explain.	Specify the actual needs that led to the assessment of the case.	

7) What is the focus of the assessment? (behaviors, patterns of behaviors, thoughts, opinions, verbal speeches, musical parameters, gestures, expressions, capacities, approaches, and musical or non-musical relationships).	To answer this question, first choose a category or categories (described in the left column of this question) and detail the focus according to it.	
8) What is the fundamental theoretical understanding for this assessment?	Briefly describe the basic theoretical basis that for this assessment.	
9) How will music be understood and used in this assessment?	Describe whether music will be considered a resource or the center of the process and indicate the possible musical experiences that will be used.	
10) Will the assessment be carried out in person, virtually, or by studying records?	Specify the modality that will be used to collect data.	
11) Will the assessment use a single method or multimethods? Please explain.	Music therapists need to choose from one or more methods that meet the needs and focus of the assessment.	
12) Who will carry out the assessment (client, professional in another area, family member, or music therapist?	Define the person that will be responsible for collecting the assessment data.	
13) Does the assessment depend on the use of assessment tools? Please explain.	Describe the justifications for using the assessment tool to collect data.	

These 13 questions allow music therapists to detail, even if not in-depth, the proposal they want to use for data collection. They have been organized progressively, starting with more general questions and ending with more specific ones to facilitate music therapists' decision making. They should provide clear and objective answers so that the decision can be made confidently. Each of these questions is explained in detail below.

1) Who or what will be assessed (client, family, music therapist, professional in another area, or service)? Define who or what will be assessed. Music therapists can choose between different methods. If the option is not to assess the client, the possibilities for specific assessment methods and tools that are available in the discipline is significantly restricted (Gottfried et al., 2018; Jacobsen, 2018; Tsiris, Spiro & Pavlicevic; 2018, Tsiris et al., 2020). Therefore, either music therapists use the few offers available in this field or think of more general ways to apply the methods and generic assessments that are not exclusive to the music therapy field.

2) What is the purpose of the assessment (prescriptive, diagnostic, formative, summative, or interpretive)? The purpose is fundamental for music therapists to be able to describe the general goal of the assessment process (Waldon & Gattino, 2018; Bruscia, 1988). Depending on the choice, music therapists can review the assessment tools and methods that are more specific for their purposes. Given that the tools and methods described in previous chapters of this book specify their purposes, it is interesting to check them to guide the process.

3) Is the assessment about a specific stage of the music therapy process? If so, specify it. As they plan to collect data,

music therapists should define whether a specific stage of the process is being assessed. In many situations, this is not possible because music therapists perform only one session with the client or group and, therefore, they must assess all the stages in a single session (Ferrari, 2013).

4) What is the context of practice and the target population for the assessment? As explained in Chapter 3, the context refers to the situation in which the assessment takes place. In this case, music therapists need to consider the following contexts: individual/group sessions; music therapy process/service assessment; service area or environment; internal/external assessment, i.e. music therapist assessment/ client assessment; assessments that are connected to/ disconnected from the treatment process. The context influences music therapists' theoretical and practical understanding of the assessment process (AMTA, 2013).

For each of these five context dimensions, specificities should be considered in the assessment process. Depending on the area of expertise, some forms of assessment are more common in some contexts than in others. For instance, it is common for music therapists to use generic tools to assess clients' pain in medical contexts (Bernatzky et al., 2011), while in community contexts, they use different interview formats so that clients can communicate about their experience (Andrade & Cunha, 2015; Arndt & Maheirie, 2017).

5) Is the assessment connected to a public institution or agency? If so, specify the institution or agency and describe the rules that need to be followed in the assessment according to them. Although music therapists have autonomy in their professional practice, this can be influenced by the rules of the institution they work in (Isengerb-Grzeda, 1988) or by the

requirements of public agencies (social security, health department, etc.) (Waldon 2016). These requirements include the guidelines, laws, and regulations music therapists need to follow. They are expected to adapt their assessments to the quality standards of the institution or even use its own assessment methods. In behavioral clinics, for example, music therapists are usually instructed to assess clients based on behavioral measurements. While conducting assessments for different public agencies, music therapists should respond specifically to a set of goals proposed by these entities and, therefore, the assessment method focuses on meeting these requests.

6) Why is this assessment necessary? Please explain. Although this question is undoubtedly the most important one, it is not mentioned among the first ones so that music therapists can start this process reflecting on the basic components of an assessment. It is easier to justify assessment needs after this reflection. To answer to this question, music therapists should consider their own needs during the assessment process as well as the needs or requests of clients, family members, other professionals, and public agencies. Among the main reasons are: raise hypotheses, make decisions, communicate relevant aspects of the process, or have more profound knowledge about something specific (Riecken et al., 2017).

7) What is the focus of the assessment? (behaviors, patterns of behaviors, thoughts, opinions, verbal speeches, musical parameters, gestures, expressions, capacities, approaches, and musical or non-musical relationships). The focus is on the content music therapists plan to assess (Colman, 2015). To have a clearer idea of the focus, they should define the content and the domain (Schaffer, 2006) the content belongs to

(Colman, 2015). In other words, music therapists should define the assessment area or areas of interest and the content in the assessed area, which leads to the determination of the nature of the data assessed. They can be quantitative (Waldon, 2016), qualitative (Keith, 2016), or mixed (Bradt, Burns & Creswell, 2013), considering the number of foci music therapists want to assess.

8) What is the fundamental theoretical understanding for this assessment? According to Isenberg-Grzeda (1988), the theoretical basis followed by music therapists influence the way they perform assessments and, in turn, guide the assessment method choice. As presented in Chapter 6, different models, approaches, and theoretical orientations can be used in music therapy, and each of them conducts the assessment to specific directions. Music therapists should have a clear understanding of the theoretical foundations that permeate their practice to choose the assessment method in line with these approaches. Isenberg-Grzeda (1988) considered critical not only the theoretical approach of music therapists, but also their beliefs and ways of understanding the world. Therefore, it is crucial to bear in mind that the theoretical approaches adopted for the assessments relate to music therapists' experience in an area and their own perspectives of the world.

9) How will music be understood and used in this assessment? Several ways of thinking about the use of music and using it during the assessment process are possible (Isenberg-Grzeda, 1988). Carpente & Aigen (2019) considered that music can be either a resource to be observed during the assessment process or the center of the process in cases all aspects assessed depend on the relationships created. To understand the role of music it is fundamental to take into

account the ways it will be analyzed and interpreted during the process. Understanding music in an assessment can be related to specific theoretical perspectives (according to a model, approach, or orientation) or to a particular use of music (to produce specific and controlled responses or to offer possibilities for developing intermusical relationships, for example). Regarding the use of music in assessments, music therapists should define the musical experiences (improvisation, recreation, composition, or receptive) they want to focus during data collection. 1

0) Will the assessment be carried out in person, virtually, or by studying records? Music therapists need to structure data collection based on the opportunities offered for assessment. Due to the restrictions imposed during the COVID-19 pandemic, they started to consider not only face-to-face assessments of clients, but the virtual modality as well (Vaudreui et al., 2020). Music therapists can also assess clients without conducting assessment sessions. It is possible to send assessment questionnaires to be filled out by the clients, who send them back to music therapists later (a frequent practice), and also assess records (scores, drawings, letters, etc.) the clients produce during the process. Music therapists can also assess video recordings of previous sessions that show clients during a musical experience, a verbal dialogue, or an interview (Waldon & Gattino, 2018).

11) Will the assessment use a single method or multimethods? Please explain. This question refers to the use of only one assessment method or a combination of several methods in the same data collection process (Wright, 2020). The more complex and diverse the content assessed is, the greater the probability of using different methods in the same

assessment. It is difficult for music therapists to use a single method in the assessment process. Consequently, they generally use a combination of different methods, since each one refers to a specific point of view regarding the content assessed. The combination of different points of view of each method enables a more holistic perspective and provides more details about the content assessed. Nevertheless, in some contexts, music therapists can use only one method, because the goal of the assessment is particular.

12) Who will carry out the assessment (client, professional in another area, family member, or music therapist? Defining the person responsible for applying the assessment is essential to limit the possibilities of methods. In many cases, music therapists are the ones who apply the assessment. However, in some contexts, they should assign it to other people due to issues related to the environment (McDermott, Orrell & Ridder, 2015) or in order to generate different points of view (Gottfried et al., 2018), even though music therapists are still responsible for the interpretation of the assessment.

13) Does the assessment depend on the use of assessment tools? Please explain. The last question refers to the use of a specific assessment tool in the assessment process. Some professionals choose assessment tools to enable greater standardization in the assessment format and greater organization of information. Nonetheless, other music therapists prefer to use assessment methods based on procedures and techniques that do not depend on a specific device for their application (Gattino, Jacobsen & Storm, 2018). Even if the use of assessment tools or not is related to the beliefs and experience of music therapists, this decision should be based mainly on the assessment context, needs, and content.

Table 27 illustrates the application of the guide in a hypothetical example inspired by a real case. The case was modified to provide a more didactical understanding of the use of the guide. This example refers to an assessment process carried out with a group of employees in a specific company. The music therapist was asked to perform a brief music therapy process in an hour-long session with a particular group, composed of ten professionals at different levels of hierarchy in the company. Even though he had an idea of the points he would assess during the session, the need for a specific assessment process arose during the session. The music therapist was surprised by the difficulty of creating shared musical experiences between the participants. It was precisely this difficulty that led him to assess the situation more specifically. Therefore, he sought an assessment method that could provide a better understanding of the course of the session based on the analysis of the audio recording. Ten employees in a company hierarchically different.

Table 27. Application of the guide for a group of employees in a company applying a brief music therapy process

Question	Explanation	Response
1) Who or what will be assessed (client, family, music therapist, professional in another area, or service)?	Music therapists can assess a single person, more than one person, or a service. Specify exactly who or what will be assessed.	Ten employees in a company hierarchically different.

2) What is the purpose of the assessment (prescriptive, diagnostic, formative, summative, or interpretive)?	Define the main purpose of the assessment.	Mainly summative, since this was the only session with the employees.
3) Is the assessment about a specific stage of the music therapy process? If so, specify it.	Choose one of the following stages: referral and acceptance; initial assessment; definition of treatment plan; implementation of treatment; discharge or termination process.	All stages were combined in the same session, because it is a brief music therapy.
4) What is the context of practice and the target population for the assessment?	Describe the area of practice and the diagnosis or condition whenever necessary.	Organizational context (music therapy for employees in companies).
5) Is the assessment connected to a public institution or agency? If so, specify the institution or agency and describe the rules that need to be followed in the assessment according to them.	Music therapists should specify any requirements on behalf of the public institution or agency that influence their decision process or assessment methods.	The assessment was not related to requirement, since it was planned by the music therapist.
6) Why is this assessment necessary? Please explain.	Specify the actual needs that led to the assessment of the case.	Understand why participants have difficulties to interact musically among them.
7) What is the focus of the assessment? (behaviors, patterns of behaviors, thoughts, opinions, verbal speeches, musical parameters, gestures, expressions, capacities,	To answer this question, first choose a category or categories (based on the list in the question) and detail the focus according to it.	Assess how participants use the musical parameters and the relationships they create with them.

approaches, and musical or non-musical relationships).		
8) What is the fundamental theoretical understanding for this assessment?	Briefly describe the basic theoretical basis that for this assessment.	The basic theoretical understanding is The field of play orientation of Carolyn Kenny, which considers the interaction using music to be a field with different experiences and connections between participants.
9) How will music be understood and used in this assessment?	Describe whether music will be considered a resource or the center of the process and indicate the possible musical experiences that will be used.	Music is understood as a way to communicate and express different needs of the individual. Musical improvisation was chosen.
10) Will the assessment be carried out in person, virtually, or by studying records?	Specify the modality that will be used to collect data.	The assessment was carried out recording a video of the session.
11) Will the assessment use a single method or multimethods? Please explain.	Music therapists need to choose from one or more methods that meet the needs and focus of the assessment.	A multimethod assessment was chosen, because it was necessary to understand the use of the parameters and at the same time the inter and intramusical relations created between them.
12) Who will carry out the assessment (client, professional in another area, family member, or music therapist?	Define the person that will be responsible for collecting the assessment data.	Music therapists.
13) Does the assessment depend on the use of	Describe the justifications for using	It does not depend on the use of tools, but it can benefit

assessment tools? Please explain.	the assessment tool to collect data.	from the use of assessment tools.

The assessment methods chosen by the music therapist for this case were the observation method KAMUTHE (Plahl, 2007) combined with the short version of IAPs (Bruscia, 1987). Although KAMUTHE was created for children, it can be adapted to work with adults, inasmuch as it assesses different types of musical relationships established between participants during a session. The short version of IAPs was chosen because it allows music therapists to assess the way participants relate to different musical parameters during improvisations. It is important to note that the choice was influenced by the music therapist's experience with these two methods. The selection depends on the methods music therapists have experience with and feel confident about.

FINAL CONSIDERATIONS

The guide proposal presented in this chapter can be considered a method to organize the selection of one or more assessment methods. It is necessary to have practical and theoretical knowledge to decide the assessment methods suitable for data collection in each case. The guide is not intended to restrict music therapists to a single possible format of selection, but rather present an organized way of choosing one or more methods.

CHAPTER SUMMARY

How can music therapists select music therapy assessment methods?

Music therapists should select assessment methods based on their knowledge and experience with different ones. Moreover, they should analyze various factors that influence this choice: who or what will be assessed, the purpose of the assessment, the stage of the music therapy process assessed, the context of practice and target population for the assessment, the assessment rules required by an institution or public agency, reasons for the assessment, the focus of the assessment, the theoretical basis for the assessment, the way music is understood and used, the assessment modality (in person, virtual, or based on records), the use of a single method or multimethods, who will carry out the assessment (client, professional in another area, family member, or music therapist), and whether the assessment depends on the use of assessment tools.

PART 4: ANALYSIS, INTERPRETATION AND CONCLUSIONS

CHAPTER FIFTTEEN

Analysis of assessment data in music therapy

Chapter question: How do music therapists analyze assessment data?

INTRODUCTION

According to the Cambridge Dictionary (2021), the term "analysis" refers to the process of studying or checking something in an organized way to learn more about the topic or a specific study about something. In music therapy assessment process, data analysis refers to an organized process to study or verify the information obtained during data collection. The analysis and interpretation involve the production of inferences and deductions based on the data found. However, the main difference between analysis and interpretation is that the former starts with the exploration, immersion, creation, or decomposition of the data collected, while the latter aims to

understand the senses and meanings derived from the data obtained (Eyre, 2016; Kroonenberg, 2008; Migner-Laurin, 2013; Wheeler, 2016). It is worth mentioning that music therapists can perform the analysis of records collected either in a single session or in several different sessions at different times. Thus, they can make a more focal or a more procedural analysis.

Music therapists perform data analysis related to the type of data assessed (Keith, 2016; Eyre, 2016; Waldon, 2016). Eyre (2016) systematically organized the types of data that music therapists analyze in qualitative research, whereas Waldon (2016) described some specific types of data analyzed in music therapy in quantitative research. Bonde (2016), in turn, described the types of musical analysis used in the research context. Based on the analysis of the categories organized by these authors, it seems possible to generalize them to the context of music therapy practice.

After an in-depth study of these publications, their categories for specific data analysis in the context of music therapy assessment process can be summarized as follows: reports produced during the music therapy process; transcriptions of observations made by music therapists (descriptive transcriptions, tables, graphs, etc.); transcriptions and records of the application of music therapy assessment tools (descriptive transcriptions, tables, graphs, etc.); musical information (transcriptions using scores, descriptive reports, graphical representations using software, etc.); written records of measurements (such as heart rate, blood pressure, etc.); biographical and clinical information supplied by other professionals (graphs, documents of previous assessments, communications, etc.); verbal communication from clients

(stories, narratives, metaphors, images recorded by means of descriptive transcriptions, schemes, drawings, etc.); lyrics (choices of pre-composed songs and composed lyrics); behaviors (recorded using descriptive transcripts, diagrams, tables, graphs, etc.); actions and interactions (recorded descriptively, in schemes or graphs); experiences (recorded descriptively, in schemes or graphs); works of art produced during the session (recorded by means of descriptive reports or images); movements (recorded by means of descriptive transcriptions, tables, diagrams, or graphs).

The depth of these analyses depends on the knowledge that music therapists have of different methods for data analysis, the use of specific software, and the time they have to carry them out. On a regular basis, most music therapists report that they do not have enough time to analyze the data of their assessment practices. Although this lack of time is understandable due to the many attributions they have, it is advisable that music therapists find solutions to increase the time dedicated to analysis not only during the sessions, but also after them. It is also worth noting that the analysis of data carried out in a research context is deeper than that of the music therapy practice. This probably happens because researchers usually dedicate more time to carry out the analysis and also due to the greater depth of the ontological, epistemological, and methodological aspects inherent in their analyses.

In fact, the ontological, epistemological, and methodological aspects inherent in the analysis of the assessment process in music therapy need to be explored in greater detail, and the professionals should receive specialized training on them. According to Wheeler & Bruscia (2016), ontology is the study of what exists or what is real, while

epistemology is the study of what is possible to know and how it is possible. The authors affirmed that ontology precedes epistemology because human beings need to contact the nature of reality and truth before determining how they can be known. Hence, the process of analysis of assessment data in music therapy involves contact with what exists or is real and, based on this, music therapists should search for a way to understand what was collected. Based on this ontological and epistemological understanding, music therapists can comprehend the reality of the information collected using quantitative, qualitative, or mixed methods of analysis (Edwards, 2012; Bradt, Burns & Creswell, 2013).

The quantitative methods of analysis describe the information collected numerically and search for differences, associations, or dependence between the quantitative variables analyzed (Upton & Cook, 2020). Quantitative methods focus on knowledge in the field of statistics. The specific section about quantitative methods of analysis summarizes the main information regarding statistics that music therapists need to understand to perform a quantitative analysis (Meadows, 2016). Although this chapter offers basic information on statistics applied to music therapy, music therapists should have training and supervision sessions to acquire specific knowledge of this area.

The qualitative methods of analysis establish unique and subjective descriptions, relationships, constructions, and creations based on the data collected according to the perception of the music therapists who perform the assessment (Hiller, 2016; Wheeler & Bruscia, 2016). Unlike quantitative methods centered on numerical data, qualitative methods mainly study subjective information such as verbal, musical,

and artistic materials, or qualities attributed to something (Wheeler & Bruscia, 2016). Qualitative methods usually describe, group, classify, or perform triangulations between the different phenomena analyzed (Ghetti & Keith, 2016; Hadley & Edwards, 2016; Hoskyns, 2016; Jackson, 2016; O'Callaghan, 2016). Music therapists should also receive specific training on the analysis of qualitative data to be more confident. Although the data collected during music therapy sessions can be separated into quantitative and qualitative, music therapists usually separate the categories of analysis into mixed data (a combination of qualitative and quantitative analysis) and music data analysis (focusing especially on analyses of music that can be quantitative, qualitative, or mixed).

MUSIC DATA ANALYSIS

One of the differentials in music therapy analysis is the possibility of analyzing music data (Bonde, 2007). Moreover, music therapists can analyze music data using a recording, a score, or graphical representations generated by analysis softwares or adapted scores that include schemes or drawings (Wosch, 2007b; Lee, 2016). Music therapists can exclusively analyze the musical content by studying the following musical parameters: harmony, melody, texture, tempo, rhythm, intensity, shape, phrasing, timbre, and lyrics (if applicable) (Lee, 2003). They can also study the musical content connected to the musical relationships developed between the participants who created this content (music therapists, clients, groups, etc.). It is also possible to study the musical content in an intramusical perspective by analyzing the emotions,

physiological reactions, and expressions (gestures, facial expressions, and approaches, for example) of clients during their musical production (Storm, 2013a). Another possibility is to study the musical content according to the clients' narratives before, during, or after their musical production (Bruscia, 2002). Furthermore, music therapists can compare a specific musical content to other musical contents or artistic productions (such as drawings, sculptures, or choreographies) developed in the same session (Waldon, 2016b). Music therapists can also analyze the musical content using records of previous sessions, in documents, recordings, graphic records, or artistic artifacts.

Bonde (2016) created a decision tree as a starting point for music therapists to organize and decide how to carry out music data analysis (Figure 14). The author considered that music analysis can be understood in a spectrum of possibilities. At one extreme, are the objective analyses, whereas at the other, are the interpretive analyses. The author made it clear that music analysis should be accessible from a multidisciplinary perspective that includes colleagues in other professions. Within this spectrum described by Bonde (2016), music therapists can analyze music according to different categories: understanding the concept of music, methodology, focus, aim, methods, techniques/tools.

Understanding the concept of music: describing whether music can be a stimulus (more quantitative understanding), a means (a mixed understanding), or a source of meaning (more qualitative understanding).

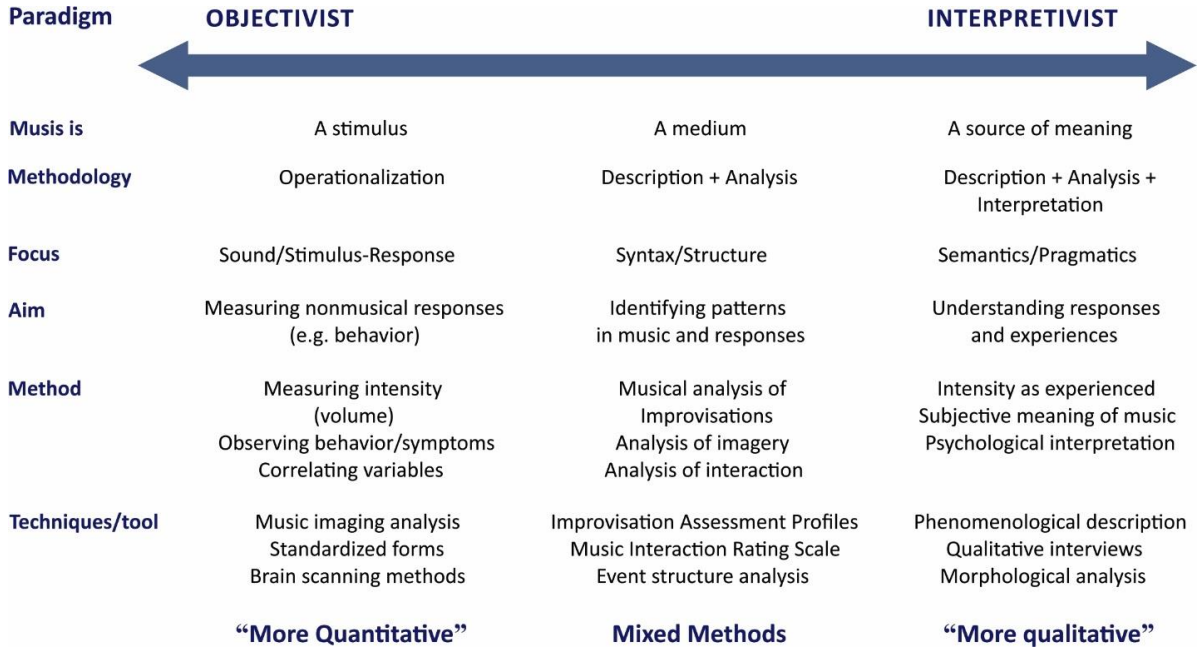


Figure 14. The spectrum of music analysis from Bonde (2016)

Methodology: this refers to how music data can be studied such as by the operationalization of the contents (more quantitative understanding), description and analysis (a mixed understanding), or description, analysis, and interpretation (more qualitative understanding).

Focus: assessing music as a sound/stimulus-response (a more quantitative understanding), syntax/structure (mixed understanding), and semantics/pragmatics (more qualitative understanding).

Aim: this refers to the main purposes of the musical analysis. For example, for a more quantitative understanding, measure nonmusical responses, for a more mixed understanding, identify patterns in music and responses, and for a more qualitative comprehension, understand responses and experiences.

Methods: this refers to the practical methods (procedures and techniques) used to analyze musical information. Any ways to measure a musical parameter or behavior associated with music can be considered a more quantitative understanding, whereas improvisation, images, or interaction analyses can be related to a mixed understanding. In turn, analyses of the intensity of what has been experienced, subjective meanings, or psychological interpretation are considered more qualitative.

Techniques/tools: this refers to the specific assessment techniques or tools used to collect data. This category is mainly connected with the assessment tools described in previous chapters to analyze musical content, whether using a score, a software, a recording, or a combination of different types of analysis. Bonde (2016) considered that tools that describe music using graphical representations (as is the case with some

software), standardized quantitative assessment tools, and brain scanning tests are within a more quantitative spectrum. The use of tools such as the IAPs (Bruscia, 1987), the Music Interaction Rating Scale (Pavlicevic, 2007), and the analysis of structural events can be considered a mixed understanding, while phenomenological descriptions, musical information related to qualitative interviews, or morphological analyses are understood from a qualitative perspective.

QUANTITATIVE ANALYSIS

Music therapists perform quantitative analyses based on numerical information available in descriptive transcriptions, tables, diagrams, or graphs produced during the data collection stage. Quantitative analysis is based on the use of different statistical procedures. Statistics is a general term used for various mathematical procedures carried out to describe numerical information or relationships between quantitative variables (Upton & Cook, 2019).

There are two basic types of statistics: descriptive and inferential. Descriptive statistics use mathematical methods to summarize sets of numbers. This can include items such as totals (number of clients), averages (average age of clients), standard deviation (variation in the age of clients), frequency (percentage of clients who have siblings), and so on (Meadows, 2016). Inferential statistics refer to a mathematical method that uses the probability theory to verify how variables relate. In inferential statistics, music therapists assume that the people, items, or events assessed represent a sample drawn from a certain population (Meadows, 2016). Therefore, the data

collected by music therapists during their practice refer to a sample and can be generalized to the population according to a specific margin of error, since therapists do not have all the members of the population to confirm the results at 100% confidence level. For example, a music therapist is assessing a group of children with typical development in Porto Alegre (Brazil) in the initial assessment stage of the process. In this case, the music therapist can consider children with typical development in Porto Alegre (Brazil) as the population.

The definition of the population the clients belong to depends on the type of generalization music therapists want to establish. If music therapists consider that the data in that sample refer to the population of all children with typical development in the world, the generalization of the results is difficult, due to cultural and language variations that influence the manifestations of children with typical development around the world. Therefore, the population the clients belong to should be carefully defined, so that in case of inferential comparisons the results can be generalized appropriately.

Statistics use different numerical variables for descriptions and comparisons (Upton & Cook, 2019). These variables, explained in detail in Chapter 2, are organized into the following categories: nominal, ordinal, discrete, and continuous. The study of the procedures of descriptive statistics and inferential statistics and the analysis of the data generated in these procedures are usually carried out using softwares or specialized web pages. The use of Excel software is indicated for descriptive statistical procedures, while the Statistical Package for the Social Sciences (SPSS) (Behrens, 2016) is recommended to calculate descriptive and inferential statistics.

Both Excel and SPSS generate graphs and tables that can be used in analysis. The Social Science Statistics (https://www.socscistatistics.com) webpage is suggested, because it has tools to calculate descriptive and inferential statistics. To create graphs, VISME (https://www.visme.co) is recommended.

Descriptive statistics

Descriptive statistics (considering calculations) aim to summarize the information found by means of descriptions of the central tendency of the information (most frequent data or central values), as well as measures of dispersion (dispersed throughout the distribution such as the least frequent values, extreme values, or the variation pattern of the numbers) (Upton &Cook, 2019). The measures of central tendency for ordinal, discrete, and continuous variables are: mean, median, and mode (Meadows, 2016).

Mean refers to statistics calculated from the sum of all values found divided by the total number of events, items, or people. Median indicates the number or value that is in the central position in an ordered data set, i.e. it splits the dataset in half. Mode refers to the most frequent value within the distribution (Meadows, 2016). The most used measures of dispersion for ordinal, discrete, and continuous variables are: variance, standard deviation, interquartile range, and range. Variance is the average squared difference of the values from the mean, i.e. a measure of dispersion that shows how far each value in the set is from the mean (Upton & Cook, 2019). The standard deviation is the typical difference between each data

point and the mean, and is the square root of the variance. The interquartile range is the middle half of the data. The data can be divided into quarters, called quartiles. The first or lowest quartile contains 25% of the sample with the smallest values (25th percentile), the second quartile contains the values up to 50% of the ordered sample (50th percentile), the third or upper quartile contains 25% of the sample with the highest values (75th percentile). Therefore, the interquartile range is the difference between the upper quartile (75th percentile) and the lower quartile (25th percentile).

The range refers to the difference between the highest and the lowest values in the sample. During analysis, nominal data are described by means of frequencies of the occurrence of a certain phenomenon or characteristic (Waldon, 2016a). Thus, it is common for music therapists to describe the most frequent phenomenon or characteristic as the central tendency and the least frequent characteristics or phenomena to measure dispersion, and to present them as percentages. To better understand central tendency and measures of dispersion, music therapists usually study them based on the analysis of the Gaussian distribution (Figure 15), used when the data have a normal distribution (Upton & Cook, 2019), i.e. the central values are the most frequent, whereas the extreme values are the least frequent. Splitting the Gauss curve in half, each part has the same size and distribution. The normal distribution curve is usually presented according to the distribution of data for a specific population.

In Figure 15, μ represents the population mean for this variable, exactly in the center of the curve, and σ represents the standard deviation of the population for the same variable. In the normal distribution, the mean, median, and mode coincide

exactly in the center of the curve. The curve shows a standardization of the dispersion that occurs according to the mean value-adding or decreasing standard deviations. The curve also shows that 68% of the values are between -1 to +1 of the standard deviation from the mean, 95% of the values are between - 2 to +2 standard deviations from the mean, and that 99.7% of the values are between -3 to + 3 standard deviations from the mean. As music therapists graphically transform the data of the sample, it is unlikely to have a curve as identical to a population curve. However, they can check whether the data have a normal distribution using specific statistical tests (explained below). If the data have a normal distribution, the same characteristics and properties described above apply, as in the normal distribution curve for a population.

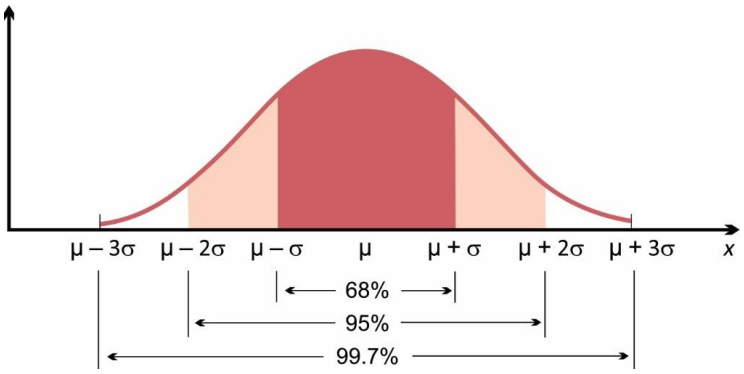


Figure 15. Gauss curve

Inferential statistics

Inferential statistics (calculations) are used when making decisions based on data and, in essence, examine the relationships between variables (Meadows, 2016). They are essential for examining the relationships studied in a sample and determining the extent to which they can be generalized to a representative sample population. Samples can be chosen in two main ways: randomly or conveniently (Upton & Cook, 2019). In a random sample, each member of a specific population (for example, men with prostate cancer) technically has an equal chance of being chosen to participate in the assessment, thereby increasing the potential of generalization of the results of that study.

A convenience sample is usually taken from an existing music therapy group or an environment where music therapists work in. Inferential statistics use possible outcomes from the sample that can be generalized to larger populations (Meadows, 2016). These outcomes are established by testing hypotheses. In other words, inferential statistics apply tests to check the possibility of generalizing the results for a population. There are two basic assumptions in inferential statistics, the null hypothesis and the alternative hypothesis. The former postulates that there is no relationship (difference, association, dependence, for example) between the variables analyzed, while the latter states that there is a relationship (difference, association, dependence, for example) between them. In inferential statistics, the analysis occurs by accepting or rejecting the null hypothesis. Thus, music therapists should verify whether they accept the possibility that there are no relationships between the compared data. If the null hypothesis

is rejected, then the alternative hypothesis is accepted and, consequently, there is a relationship between the variables and therefore they can be generalized for the population.

According to a convention, if the probability value is below 5%, the null hypothesis is rejected, while if the probability of accepting the null hypothesis is greater than 5%, there is an indication that the relationship found between the sample data is due to chance. In inferential statistics, a specific term is used to designate the probability that the null hypothesis is true: the P-value. Inferential statistics aim to study possible relationships between data based on the probability that the null hypothesis is true. Therefore, when the probability that the null hypothesis is less than 5%, music therapists indicate a statistically significant difference between the data, thus pointing to the rejection of the null hypothesis and acceptance of the alternative hypothesis.

When the null hypothesis is rejected, music therapists should present the results according to the P-value, which indicates the probability for the null hypothesis. Thus, when the P-value is less than 5%, music therapists typically represent it by $P < 0.05$ or indicate exactly the probability that the null hypothesis is true. As mentioned before, inferential statistics occur through tests (Upton & Cook, 2019), which are organized into two broad categories: parametric and non-parametric.

Parametric tests should be used to compare data that have normal distribution, whereas non-parametric tests should be applied to data that do not have normal distribution. To know if data distribution is normal or not, music therapists should apply a normality test. The main ones are Shapiro–Wilk and Kolmogorov–Smirnov tests (Razali & Wah, 2011). Based on normality confirmation, music therapists already know whether

to use parametric or non-parametric tests. In addition to normality, they should be aware of the type of variables (nominal, ordinal, discrete, or continuous), the number of groups, and the number of independent variables (not influenced by other variables) and dependent variables (influenced by independent variables) they need to analyze. Furthermore, music therapists should be aware of whether comparisons are made with information from the same people (intrapersonal comparison), between different people (interpersonal comparisons), or involving comparisons between the same people and different people. It is also possible for music therapists to check whether the data variance occurs in a homogeneous or heterogeneous fashion.

The statistical tests used in inferential statistics were created to study relationships of difference, correlation, or regression. In music therapy assessment, music therapists mainly use correlation tests because they need to verify if a variable is associated with another or not. The most used types of correlation in music therapy are Pearson's (parametric test), Spearman's (non-parametric test), and Kendall's correlations (non-parametric test) (Upton & Cook, 2016). They are principally used to study sources of evidence of validity such as convergent validity, discriminant validity, predictive criterion validity, and consequent criterion validity (Waldon, 2016a).

There are also other specific statistics to measure reliability such as the Intraclass Correlation Coefficient (for discrete and continuous variables), Kappa coefficient (for nominal variables comparing two professionals performing assessments), weighted Kappa (for ordinal variables comparing two professionals performing assessments) (Carpente & Gattino,

2018), and Krippendorff's alpha (for any variables with more than two professionals performing assessments) (Gerge et al., 2020). Music therapists can also use tests that check the difference between variables, mainly to compare data collected in a session to data collected in previous sessions. They can also perform regression tests that study not only differences between variables but mainly how certain variables are caused by or dependent on others (Warne, 2020). Regression tests should be applied to large samples and study their characteristics thoroughly.

VISUAL PRESENTATION OF QUANTITATIVE ANALYSES

Music therapists usually show the results of their assessments using tables and graphs. The tables usually indicate measurements of central tendency, dispersion, and correlation values. Graphs usually show the occurrence of a specific phenomenon overtime or the degree of association between variables. Table 28 shows an example of a table used to present descriptive data obtained by Gattino (2012) on the use of the KAMUTHE (Plahl, 2007) with a sample of autistic children. Table 29 shows concordance results between professionals performing assessments for the KAMUTHE method related to the same study. Figure 16 shows a hypothetical example of clients at different ages in a music therapy clinic. Figure 17 shows a fictitious example of a graphical representation of behaviors using the ELAN software.

Table 28. Example of the occurrence and duration of behaviors

Behavior	Duration in seconds (mean ± SD)	Mean number of occurrences (mean ± SD)	Total number of occurrences
Gaze to therapist's face	12.94 (± 22.93)	1.15 (± 1.81)	45
Create sound with an instrument/body	35.89 (± 37.99)	0.87 (± 1,47)	67
Vocalize	3.07 (± 1.47)	1.71 (± 1.47)	6
Move rhythmically	19.74 (± 35.61)	0.15 (± 0.36)	34

Table 29. Example showing the different intraclass correlation indices of the occurrence and duration of behaviors

Behavior	Intraclass correlation index	Significance
Gaze to therapist's face	0.991	P < 0.01
Create sound with an instrument/body	0.954	P < 0.01
Vocalize	0.992	P < 0.01
Move rhythmically	0.992	P < 0.01

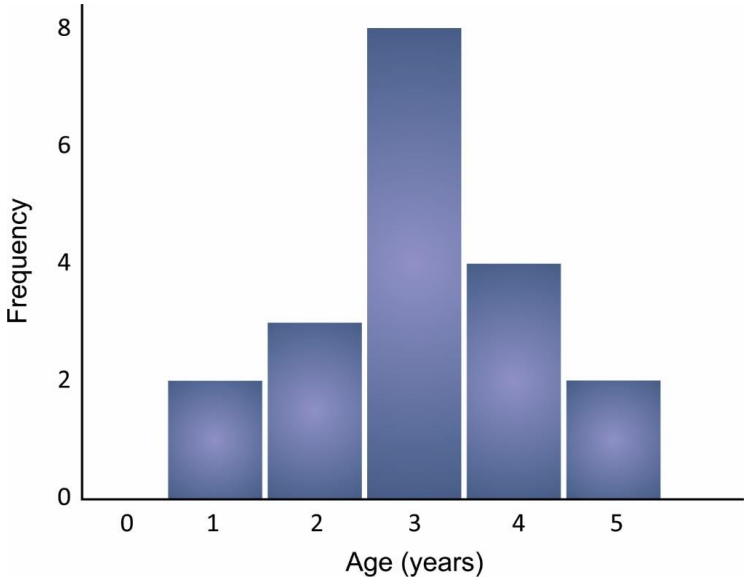


Figure 16. Histogram on the age distribution of 44 clients at a clinic

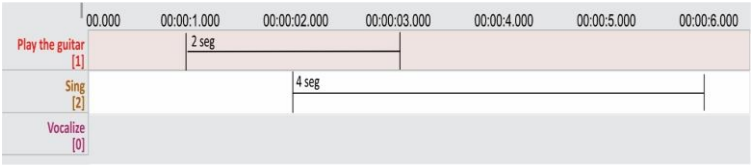


Figure 17. *Representation of the duration of a musical behavior using the ELAN software*

QUALITATIVE ANALYSES

Music therapists perform analyses of the quality of data using descriptive transcriptions of different materials and graphs, diagrams, or images. Qualitative analysis begins by studying the procedures and reflections on the phenomenological method and content analysis. Jackson (2016) explained that the phenomenological method explores and explains the nature of a phenomenon in a first-person experience. This method aims to describe and discover the essence of a phenomenon and the possibility of representing the information assessed in different ways. Content analysis refers to a set of methodological tools used to represent the content of messages by means of objective and systematic procedures that make it possible to make inferences about the knowledge related to the production/reception conditions (inferred variables) of these messages (Bardin, 1977; Bardin, 2011 cited in Câmara, 2013; Silva & Fossa, 2015).

Despite the variations in the ways to conduct or explain qualitative analysis in music therapy, the qualitative analysis method for the music therapy assessment practice can be organized in the following stages: 1) grouping and phenomenological reduction; 2) outlining meaning units; 3) grouping meaning units to form themes; 4) reviewing the analysis (validating it and, if necessary, modifying it); 5) extracting general and unique themes and making a summary.

It is important to observe that these stages are not purely for analysis, because it is necessary to perform certain interpretations in some of these stages, a point explained in Chapter 16.

1) Grouping and phenomenological reduction: in this stage, music therapists perform a deep analysis of transcriptions or other collected materials and, based on this information, they seek to achieve a holistic and intuitive understanding of the analyzed phenomena (Holroyd, 2001).

They perform a methodological procedure called epoché seeking awareness regarding prejudice, beliefs, and judgments that can influence their experience while studying the phenomenon (Keith, 2016). They should also be aware of their capacity to reflect, which refers to the ways they perceive their responses to the world around them, to stories and other people and events, in order to use this knowledge to inform and direct their actions, communications, and understandings (Jackson, 2016). Reduction is also a term used by music therapists, since they can create reductions summarizing a large amount of data that need to be analyzed.

2) Outlining meaning units: at this point, music therapists already have a holistic and intuitive view of their data and have made the necessary reductions when appropriate. Thus, the time to organize and describe the data using different codes and categories enables searching for patterns, similarities, and differences between the different data. The meaning units are used to understand the phenomena more systematically. Although some interpretation can influence music therapists' codes and categories, this stage is essentially analytical.

A common way of outlining meaning units is by highlighting them in a text transcript, for example, with certain categories and codes that use different colors or create tables to organize the information. Figure 18 shows an example of how to perform coding for a transcript of an interview conducted with a client. The green highlight indicates when the client is

talking about himself, while the yellow highlight refers to other people. Music therapists can create and organize meaning units using qualitative computer-aided data analysis software (Baker, 2016). These programs enable the systematic association (“categorization” or “coding”) of text segments, for example, and the possibility of writing notes (“memos”) and posting them in any assessments. The most used softwares for qualitative data analysis in music therapy are MAXQDA, NVivo, and ATLAS. ELAN can also be used, but it is limited to analyzing transcripts and annotations exclusively for videos.

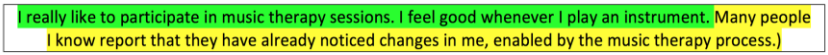


Figure 18. Organizing categories by codes

3) Grouping meaning units to form themes: in this stage, music therapists use their interpretive perceptions about the content to be able to group the different codes and categories into larger themes commonly found in their analyses, and seek to find the essence of the assessed phenomenon according to these themes. Groenewald (2004) considered this an artistic process, since music therapists seek the essence of the phenomenon based on their constructions, perceptions, and judgments about the analyzed data. They should be able to access not only their transcriptions, but also the original files such as session recordings, drawings, graphs, or other artistic artifacts produced by clients to be able to perform the triangulation of different information and thus have a better understanding of the essence of the phenomenon studied.

4) Reviewing the analysis: in this stage, music therapists review the themes and perform modifications if necessary. This process is essential so music therapists can reflect on the analysis processes carried out and whether something was omitted or not valued when the themes were initially created.

5) Extracting general and unique themes and making a summary: in this stage, music therapists should make a summary and confirm the themes found up to the end of the analysis. This stage refers to completing the analysis. It is common for music therapists to create concept maps to explain the themes and the relationships developed between them.

After this basic description of the qualitative data analysis process, it is worth noting that music therapists do not need to analyze all these stages during their practice every time qualitative data are analyzed. In some cases, they can analyze the first two phases, because they only need a general description of the qualitative information. In other situations, they can carry out the first stages to interpret the data, not in an essentially phenomenological process but a hermeneutic process (interpretation) based on the understanding of different theories.

MIXED DATA ANALYSIS

Mixed data analysis refers to the possibilities of comparing and integrating qualitative and quantitative analyses (Bradt, Burns & Creswell, 2013). This is a common practice when music therapists collect assessment data using different methods and assessing various types of information. In these situations, they focus on the ways data of a qualitative

assessment relate to data of a quantitative assessment. Obviously, this type of analysis involves a direct process of interpretation, given that music therapists need to verify the meaning and what the combination or integration of this information represents. Software such as MAXQDA enable the triangulation of quantitative and qualitative information so that music therapists can study possible meanings or representations identified during the assessment (Baker, 2016).

FINAL CONSIDERATIONS

The analysis process in music therapy is related to musical analysis and specificities regarding quantitative, qualitative, and mixed analysis. The data analysis process involves ontological and epistemological understandings that create a framework for the different types of analysis. Music therapists need to deepen their knowledge of statistics, music analysis, phenomenology, and content analysis to have more tools and a deeper perspective in their analyses.

CHAPTER SUMMARY

How do music therapists analyze assessment data?

Music therapists analyze assessment information based on different types of transcripts or records that can provide artistic, musical, or general information about the assessment context. The assessment information can be studied using quantitative, qualitative, or mixed analyses. Music therapists should study specific topics of each type of analysis to perform a successful one.

CHAPTER SIXTEEN

Interpretation and conclusions in the music therapy assessment context

Chapter question: How are the processes for interpretation and reaching conclusions carried out during the assessment process?

INTRODUCTION

During or after the analysis of the collected data, music therapists perform the interpretation of information. After the interpretive process, the professionals can come to conclusions about the assessment. These two processes are fundamental for music therapists to complete the assessment process. The purpose of this chapter is, therefore, to explain the particularities in these two processes. Although these themes are fundamental for the music therapy assessment, the number of publications on them is still small. The interpretation is

discussed mainly in publications about music therapy research (Edwards, 2013), while the conclusions are mentioned in guidelines on music therapy practices (AMTA, 2013; CBMT, 2020). The discussion of these themes specifically in relation to music therapy assessment was inspired by publications in psychology, social work, and music therapy, mainly in the research field.

INTERPRETING ASSESSMENT DATA IN MUSIC THERAPY

The term interpretation can be explained in different ways in music therapy, but it is commonly associated with the interpretation of qualitative research data based on phenomenology and hermeneutics (Hiller, 2016). However, interpretation goes beyond interpreting qualitative information, since it is possible to interpret quantitative or mixed data. Interpretation is a term that can be defined as the process of explaining or making sense of something (Merriam-Webster, nd). In the context of music therapy assessment, this meaning is attributed to any information collected during the process. According to the Random House Kernerman Webster's College Dictionary (2010), interpretation concerns the attribution of meaning to creative work, actions, behaviors, etc. This definition is important because it emphasizes practice of interpretation in creative work. Unlike other areas such as psychology, social work, neuropsychology, and psychiatry, interpretations are frequent in creative works, mainly related to the musical experiences in music therapy (Bruscia, 2014).

Interpretation also refers to the process of understanding information while considering an individual belief, judgment, or circumstance (Merriam-Webster, nd). This form of interpretation is related to the interpretive assessment in music therapy defined by Bruscia (1988), which refers to interpreting assessment information based on a specific theory. In addition to the definitions previously mentioned, another definition found in the Random House Kernerman Webster's College Dictionary (2010) is also worth mentioning. It explains interpretation as the execution of a dramatic element, music, etc., to reveal a meaning or demonstrate its existing concept. This definition of interpretation is crucial for music therapy assessment, because it emphasizes that it is not only linked to an external judgment from someone who interprets an artistic expression. Thus, the people who express themselves through art are making sense of their own artistic creation. With musical experiences, this meaning process occurs in a temporal way (Sears, 1996) and is shaped moment by moment through the flow of expression (Abrams, 2011). In summary, the term interpretation in the context of music therapy assessment can be considered the act of manifesting or explaining the meaning of the data collected, especially regarding artistic processes (from the perspective of music therapists or clients) related to musical experiences, according to some belief, judgment, or circumstance.

Although there is a specific moment for interpretation during the assessment process, it is indirectly present in other moments of the process as well. During a session with clients, music therapists may interpret the meaning of the happenings according to their personal beliefs or a theoretical framework based on a model, approach, or orientation in music therapy

which supports their practice. Furthermore, interpretation is also present in critical judgment and reflection processes. As music therapists assess the importance and credibility of information, they attribute meaning to it based on their judgment of it. During a reflection, music therapists also interpret, inasmuch as they seek to make sense of the parts that worked (or not) in the process, considering the different circumstances found.

Considering interpretation as searching for meaning in data, it is necessary to reflect on the understanding of the term "meaning" in music therapy. Bruscia (2000a) considered three possible ways for this: as a result, as a process, or as communication. As a result, meaning is the general sense of purpose and fulfilment in life that clients hope to find through music therapy. As a process, meaning refers to how each client can discover what brings more meaning to life over time. As communication, meaning refers to how music therapists understand what clients want to communicate when they say or do/play something. Clients should also understand what music therapists want to communicate. Precisely, this last form of meaning described by Bruscia (2000a) is the most important for the music therapy assessment context, since the intention of music therapists with this interpretation is to understand and explain what this process to communicate meaning represents.

Studies on interpretation are also associated with therapeutic interpretation (Stolorow, 1994) and theoretical interpretation in the context of therapy (Gazzola & Stalikas, 2004). Therapeutic interpretation concerns how therapists seek to understand and explain what happens to their clients in different ways and help individuals during their process of finding meaning in the therapeutic process (Stolorow, 1994),

thus making sense of their manifestations. Therapeutic interpretation is related to interpretation during the assessment process. It is present in each of the four stages of this process, especially in the third one, when interpretation takes on special importance based on the data collected. Theoretical interpretation, in turn, considers the theories and concepts that therapists use to interpret certain practices and events during the therapeutic process (Gazzola & Stalikas, 2004). Theoretical interpretation is especially relevant in the music therapy assessment context, given that music therapists use certain theories and concepts to organize their practices during the assessment process that are connected to a model, orientation, or approach (Aigen, 2013; Bruscia, 2014; Edwards, 2016b).

The theoretical interpretation is explained in Chapter 6, which addresses music therapists' assessment based on the models, approaches, and orientations that structure their assessment understanding and practice. In the specific context of theoretical interpretation related to the “analysis, interpretation, and conclusions” stage, interpretation concerns how a given theory or concept can explain the data found in an assessment. This is precisely the proposal of an interpretive assessment (Bruscia, 1988), explained as one way of interpreting the information collected during the assessment process.

ONTOLOGICAL AND EPISTEMOLOGICAL CONSIDERATIONS ON THE INTERPRETATION OF ASSESSMENT DATA

The topics interpreted in music therapy depend on how music therapists understand the reality during the assessment context (ontological considerations) and the different types of knowledge related to this interpretation (epistemological considerations). As already defined in Chapter 15, ontology is the study of what exists or what is real, while epistemology is the study of possible knowledge and how it is known (Wheeler & Bruscia, 2016). One way of understanding interpretations is to comprehend them from an objectivist or interpretive logic (Wheeler & Bruscia, 2016).

According to the objectivist paradigm, there is only one reality we can understand through our senses. Therefore, the objectivist view assumes a truth and a reality and that they can be known through interpretations according to the data assessed. The objectivist perspective is centered on the analysis of quantitative data and considers positivism (knowledge is understood by means of variables that are observable or measurable) and post-positivism (discoveries are not considered absolute truths, but situations and circumstances) its epistemological basis (Cohen, 2016). Objectivist logic focuses on generalizations about the information collected, much more than on individual data perspectives.

The interpretive paradigm understands reality relatively and subjectively, since several truths are possible, and considers fundamental the individual perspectives related to a specific phenomenon (Wheeler & Bruscia, 2016). The interpretive logic

is not the only one in which interpretations exist, but it is the one that fundamentally values interpretation as the center of the assessment process. In practical terms, what really differentiates the interpretive perspective from the objectivist perspective is not the interpretation but the understanding of reality as subjective (Bleith, 1976; Bradt, DS Burns, JW Creswell, 2013). Due to this subjective characteristic, the term subjective perspective was chosen for this book instead of interpretive perspective. The interpretive paradigm is fundamentally based on qualitative data, and its epistemological foundation is constructivism (individuals build reality) and social constructivism (reality is built by the notion of knowledge related to a specific socio-historical situation) (Hiller, 2016).

During mixed data assessments, music therapists need to understand reality in an integrated manner, connecting the objectivist and subjective perspectives. In these situations, music therapists understand data through pragmatic logic. According to Magee (2016), this refers to a philosophy that assesses the truth of the meaning of theories or beliefs regarding the success of their practical application. Pragmatism understands that the meaning derived from information is constructed and results from empirical discoveries (Bacon, 2012). Also, pragmatism considers reality complex and, thus, studying only one way of understanding reality is not enough.

The study of the interpretation of assessment data according to idiographic and nomothetic perspectives is also worth mentioning. The former refers to the interpretation that is only considered within a specific reality, whereas the latter understands the study of data in a perspective that can be generalized to other contexts, and they are typically applied to

subjective and quantitative assessments respectively. However, this classification is not an absolute rule, since music therapists can use idiographic perspective to assess clients' goals information, which are not generalized.

Based on this brief description of ontological and epistemological aspects, it is important to note that there are other ways of understanding the different realities and the different types of knowledge attributed to them in music therapy (Hillecke, Nickel & Bola, 2005; Migner-Laurin, 2013). Nevertheless, those are the most cited ontological and epistemological perspectives in music therapy literature.

INTERPRETATION MODALITIES IN MUSIC THERAPY

The types of interpretation can be grouped in different ways. In this book, the categories “suspicious” and empathic interpretation (2012), as well as the categories normally used to study quantitative and qualitative data, namely phenomenological (Jackson, 2016; Ridder, 2020), hermeneutic (Loewy & Paulander, 2016; Ridder, 2020), actuarial (based on statistical data) (Canivez, 2013), and psychometric interpretation (Canivez, 2013), in addition to interpretive assessment (Bruscia, 1988) are described. Table 30 presents a summary of the main characteristics of each interpretation modality.

*Table 30***.** Some modalities of interpretation and their characteristics

Suspicious interpretation	**Empathic interpretation**	**Phenomenological interpretation**	**Hermeneutic interpretation**	**Actuarial interpretation**	**Psychometric interpretation**	**Interpretative assessment**
- It seeks to interpret the information collected to find an explanation of what happened, understanding the possible causes and factors that influence the explanation of this fact or phenomenon.	- The music therapist focuses his or her intepretation from the way the data is presented, rather than "digging" further information from what has been found.	- It is based on a process of constructing meaning from what is interpreted. - The central structure of experience in phenomenological interpretation is its intentionality, since it is being directed toward something, since it is an experience of or about some object.	- Hermeneutic interpretation seeks the meaning of the phenomena evaluated from the different understandings that can be understood or "captured" about them.	- It is performed from the collection of quantitative data and is related to a purely statistical interpretation from the collected scores or measures.	- It is based on the intepretation of scores or measures according to psychometric fundamentals (mainly validity and reliability).	- Search for meaning from studying the data from a specific theory, construct, or body of knowledge.

Suspicious” and empathic interpretation

The classification established by Willing (2012) is not specific for the music therapy field, since it belongs to psychology, but it can be easily adapted to it. According to the author, two types of interpretation are possible: “suspicious” and empathic. The term “suspicious” refers to the type of interpretation therapists use, which resembles the way detectives or police officers solve a criminal case. This type seeks to interpret the information collected to find an

explanation about what happened, understanding the possible causes and factors that influence the explanation of this fact or phenomenon. Empathic interpretation seeks to elaborate and expand the meaning of the information collected. Music therapists focus their interpretation on how data are presented instead of "digging" for other information based on what was found. These professionals focus on what is expressed instead of focusing on what is hidden, i.e. they focus on the characteristics and qualities of the data and establish connections between them according to different patterns and relationships.

Phenomenological, hermeneutic, actuarial and psychometric interpretation

These four forms of interpretation are related to the type of data interpreted and the interpretation proposals that can be applied to them. For quantitative data interpretation, music therapists aim mainly to explain the data in detail (in a descriptive way or through the relationships between them) and find a cause for the numbers found or a specific meaning (usually based on interpretation scores). For qualitative data interpretation, music therapists usually seek the essence of the collected data, create meaning based on what is analyzed or based on a specific theory or concept. For a combination of quantitative and qualitative data (mixed data), their interpretation can explore the data found and create different triangulations with them. However, no representative method of interpreting mixed data can be implemented in the music therapy assessment context.

Phenomenological interpretation is based on the understanding of epistemological constructivism and socio-constructivist perspectives (Hiller, 2016). The central structure of the experience in phenomenological interpretation is its intentionality, given that it is directed towards something, because it is an experience of an object or about it (Smith, 2005). Phenomenological interpretation can be divided into two basic types: transcendental and existential (Ridder, 2020; Willing, 2012). Transcendental interpretation seeks to understand the phenomenon by studying its essential structure and detailed description, leaving aside any relationship with the natural world around us (Smith, 2005). It investigates the intrinsic structures of consciousness through the contents of experience that are transcendent to consciousness structures (Yee, 2019).

Existential interpretation seeks to explain the essence, structure or form, human experience, and human behavior (Jackson, 2016). Jun (2008) postulated that this type of interpretation perceives the individual as active and creative rather than a passive or reactive object in nature. According to the author, existential interpretation considers that interpretations are subject to environmental influences, internal experiences, and the sense of existence attributed to individuals and their relationships with other people. The main difference between transcendental and existential phenomenological interpretation is that the former seeks meaning from a "pure" perspective on the phenomenon, whereas the latter elaborates meaning from the experience and state of the individual assessed (Jackson, 2016).

Hermeneutics refers primarily to a science dedicated to the study of the art of interpreting (Zimmermann, 2015). As a

method, hermeneutics refers to a specific way to understand and interpret significant human actions and the products of such actions, as well as texts (Mantzavinos, 2005). Precisely, this focus on studying the understanding and interpretation is what makes hermeneutic interpretation unique (Ridder, 2020). Understanding refers to comprehending content or "capturing" an idea about something, while interpretation seeks meaning. Thus, hermeneutic interpretation seeks meaning in the assessed phenomena based on the different understandings that can be comprehended or "captured" about them. In practical terms, music therapists interpret data based on the hermeneutic circle, which occurs through a movement coming and going from parts of the experience to the overall experience to increase the depth of engagement and understanding of the phenomenon (Ridder, 2020).

Actuarial interpretation is based on collecting quantitative data and is related to a purely statistical interpretation based on the scores or measurements collected (Canivez, 2013). Music therapists use different descriptive statistics (measurements of central tendency and dispersion) and inferential statistics (especially tests for the analysis of differences and dependence between data). In addition to quantitative data, this interpretation considers the use of qualitative data that can be used to calculate different statistics. The term "actuarial" is used instead of "statistical" because it is commonly applied to assessments to differentiate an analysis based solely on statistical data from a psychometric analysis, which is also based on statistical data, but related to validity and reliability measures, and the decisions of the professional performing the assessment are based on a clinical or therapeutic judgment. The actuarial interpretation focuses on interpreting data and not on

the clinical or therapeutic judgment of the person performing the assessment.

Although actuarial interpretation is related to the use of complex statistics (such as different types of regression) for the interpretation of tests (as in the field of psychology), in music therapy assessment it also refers to the use of simple statistics (such as descriptive measures), focusing on its interpretation characteristics based solely on statistical data that differentiates it from the psychometric interpretation and not the calculations that can be used. Typically, the softwares or web pages used for calculating statistics generate a set of results that need to be interpreted by the professional performing the assessment. These results can be interpreted in different ways. If the music therapist compares the scores of a group of clients in a certain scale at the beginning of the treatment and after five months of treatment and the statistical test shows no statistically significant difference, this does not mean that the difference does not exist, but rather that it may also exist due to chance.

Psychometric interpretation is used to apply tests or assessments that provide a quantitative variable. It is based on the interpretation of scores or measurements according to psychometric foundations (mainly on validity and reliability) (Canivez, 2013). This interpretation can be used in a descriptive (performance level), predictive (performance estimate on the related variable), and classificatory (assigning a classification according to the instrument or assessment situation) manner. Psychometric interpretation is not limited to the interpretation of scores or measurements. It also considers data such as observing the person being assessed or any other type of record (previous reports or documents prepared by other professionals).

Based on the interpretation of the scores or measurements and other types of assessment, music therapists make a decision, judgment, or inference related to the individual. This interpretation is considered clinical or therapeutic rather than actuarial (statistics) because they are based on music therapists' knowledge, critical thinking, reflections, and analysis of the meaning of data instead of being restricted to interpreting statistical information.

Interpretative assessment

The other types of interpretation presented above are not specific to music therapy and refer to the search for meaning based on the collected data. However, interpretive assessment is a specific form of interpretation for music therapy, which concerns the search for meaning based on the study of data using a specific theory, construct, or body of knowledge (Bruscia, 1988). Usually, the material used for interpretation belongs to the field of music therapy, but music therapists can use knowledge from other areas to interpret information. Nonetheless, the use of theories from other areas can make it difficult to characterize the music therapy process, since music therapists have to explain the process using something that does not belong to their field.

In interpretive assessment, data are not explained in an isolated manner, but rather based on pre-existing knowledge that provides meaning to the information. It is not a simple task to think about the theory or concept that can explain the information in the process. Therefore, music therapists should first consider the theories and concepts that are part of their own

practice and those related to the context/purpose/target population of the assessment. Bruscia (2012a) organized a compilation of some of the main theories used in music therapy. Table 31 shows theories organized according to different themes, and Table 32 summarizes the theories related to common themes.

Table 31. Theories in music therapy related to different themes.

Theory	**Author (year)**
The Humanistic/Existential Trend in Psychology	Ruud (1978, 2012)
The roots of music therapy in traditional healing rituals	Sekeles (1996), Perilli & Cicinelli (2012)
The Developmental-Integrative Model in Music Therapy	Sekeles (1996), Andsell (2011)
The Individual as Improviser: the Concept of Individual in Music Therapy	Ruud (1998)
Music and Identity	Ruud (1998)
Music as communication	Gfeller (2005)
Music as a Therapeutic Agent: Sociocultural Perspectives	Gfeller (2005)
The Function of Aesthetic Stimuli in the Therapeutic Process	Gfeller (2005)
Music Therapy within the Context of Psychotherapeutic Models	Scovel & Gardstrom (2005)
Analogy: A Core Category in the Writings of Music Therapists	Smeijsters (2005, 2012)
Forms of Feeling and Forms of Perception	Smeijsters (2005, 2012)
Defining and Re-defining the Core Category of Analogy	Smeijsters (2005)
The Death-Rebirth Myth as the Healing Agent in Music	Kenny (2006)
The Mythic Artery	Kenny (2006)
Music and Spirit: Acknowledging a Greater Reality	Kenny (2006)
The Magic of Music Therapy	Kenny (2006)
The Field of Play	Kenny (2006)
Beautifying the World	Kenny (2006)
The Earth is our Mother: Reflections on the Ecology of Music Therapy from a Native Perspective	Kenny (2006)

Time for Integration: Journey to the Heartland	Kenny (2006)
Processes in Music Therapy	Sears (2007)
A Re-vision and Expansion of Processes in Music Therapy	Sears (2007)
Time, the Servant of Music	Sears (2007)
Musicking as Self-Care	Ruud (2010)
Musical Meaning in Music Therapy	Ruud (2010)
A Relationship-Based Theory of Music Therapy: Understanding Processes and Goals as Being-Together-Musically	Adams (2012)
Implications of Embodied Cognition and Schema Theory for Discerning Potential Meanings of Improvised Rhythm	Hiller (2012)

Table 32. Theories used in music therapy to common themes.

Theory	Author (year)
The Architecture of Aesthetic Music Therapy Beginnings: On Music Form and Architecture Clinical Listening Musical Form and Clinical Form Reflections and New Directions	Lee (2002, 2013)
Feminist music therapy perspectives	
A Feminist Sociology of Professional Issues in Music Therapy	Adrienne (2006)
Feminist Music Therapy: Transforming Theory, Transforming Lives	Curtis (2006)
A Reflection on the Role of Informants from Feminist Theory in the Field of Music Therapy	Edwards (2006)
Feminist Music Therapy (Gender Politics in Music Therapy Discourse)	Rolvsjord (2006)
Viewing Music Therapy Assessment through a Feminist Therapy Lens	Shuttleworth (2006)
Embracing Feminism in Music Therapy	Hadley (2012)
Emotional Processes in Music Therapy Emotions and Music in Personality Development The Isomorphism of Music and Emotion Emotional Intelligence and Music Therapy	Pellitteri (2009, 2013)
Nordoff-Robbins Music Therapy Paths of Development in Nordoff-Robbins Music Therapy (music)	Aigen (1998)

Paths of Development in Nordoff-Robbins Music Therapy (the clinical process)	
Music-Centered Music Therapy Origins and Foundations of Music-Centered Music Therapy Values Central to Musicking Music-Centered Music Therapy Rationales, Practices, and Implications of Music-Centered Music Therapy	Aigen (2005)
Music Therapy Definitions Musical Origins: Developmental Foundations of Music Therapy A Working Definition of Music Therapy Types of Music Experiences: the Four Main Methods of Music Therapy Dynamic Forces in Music Therapy Defining Areas and Levels of Practice in Music Therapy	Bruscia (1998)
Culture-Centered Music Therapy	
Culture-Centered Music Therapy (an overview) Why culture? The Power of Musicking Redefining Music Therapy A Model of the Music Therapy Process	Bruscia (2002) Stige (2002) Stige (2002) Stige (2002) Stige (2002)
GIM	
Theoretical Notes on the Practice of GIM A Psychodynamic Orientation to the Bonny Method Helen Bonny's Foundational Theories of GIM A Holographic Field Theory of the Bonny Method of GIM	Bruscia (2012) Bruscia (2002) Bruscia (2012) Goldberg (2002)
Perspectives in Neurolological Music Therapy Neuropsychological Processes in Music Perception and their Relevance in Music Therapy Toward a Cognition-Affect Model in Neuropsychiatric Music Therapy	Thaut (2010)
Resource-Oriented Music Therapy in Mental Health Care Music Therapy and the Politics of Mental Health Care Paths Toward a Conceptualization of Therapy Paths Toward a Concept of Music Toward a Concept of Resource-Oriented Music Therapy	Rolvsjord (2010)
Music as Therapy: a Dialogical Perspective Frame and Picture Music Therapy Triad Relational Knowing Relating to Music	Garred (2006)

Although Bruscia (2012a) summarized most of the theories available in music therapy, his publication does not include some relevant theories about the interpretation practices for music therapy assessment. Therefore, Table 33 shows some theories inspired by Aigen (2013) but also includes other theories.

Table 33. Relevant theories for the interpretation of assessment data in music therapy

Theory	**Author (year)**
Resistance in music therapy	Steele (1994)

Restitutional factors in Receptive Group Music Therapy inspired by GIM	Moe (2002)
Complex-based music therapy	Crowe (2004)
Physical metaphor in music therapy	Aigen (2005)
Metaphor in music therapy	Bonde (2005)
The development of aesthetic theory in music therapy	Aigen (2007, 2008)
Biomedical theory of music therapy	Taylor (2010)
Listening in the ambient mode: implications for music therapy practice and theory	Viega (2014)
Understanding music as a temporal-aesthetic way of being: implications for a general theory of music therapy	Abrams (2011)
Music therapy as a procedural support for invasive medical practices: toward the development of music therapy theory	Ghetti (2011)
Anatomy of a musical being: a music systems theory of music therapy	Lauzon (2011)
Reparative musicking: thinking on the usefulness of social capital theory within music therapy	Procter (2011)
Music, meaning, and music therapy under the light of the Molino/Nattiez Tripartite Model	Barcellos (2012)
Toward a queer music therapy: the implications of queer theory for radically inclusive music therapy	Bain, Grzanka & Crowe (2016)
Developing theory for using music technologies in music therapy	Magee (2018)
Musicking as a cultural immunogen	Ruud (2020)

Relating different types of interpretation

The different types of interpretation presented can be used in different situations and contexts of music therapy assessment. It is important to note that different types of interpretation also have relationships between them, given that music therapists can use more than one type of interpretation during the assessment process. The combination of different types of interpretation should be done in a coherent way and considering the characteristics and goals of each of them. Nonetheless, music therapists do not have to apply different

types of interpretation just because they know them. Thus, the choice of the type of interpretation should be centered on the questions that need to be answered through the assessment.

Music therapists usually look for reasons, causes, or explanations for their data. A more detailed analysis of the different types of interpretation allows stating that the "suspicious" interpretation is used especially in assessments that deal with quantitative data. Empathic interpretation is used specially to study qualitative data, since music therapists usually attribute a meaning by creating themes and relationships between them and expand the meaning by studying information according to some specific theory (interpretive assessment). Although there is a certain linear logic to understand these two types of interpretation ("suspicious" for quantitative data and empathic for qualitative data), this not always happens. Music therapists can perform a "suspicious" interpretation if they want to determine the essence of the phenomenon analyzed in the qualitative data, for example. Alternatively, if they compare the correlation level between different scores or measurements, they create or expand the meaning of these different scores (in a psychometric interpretation situation).

For interpretations of mixed data, both the "suspicious" interpretation and the empathic interpretation can be applied, depending on the music therapists' goal for the assessment and how they want to integrate the information through a pragmatic logic. Additionally, the interpretation of mixed data can combine the use of actuarial or psychometric interpretation (especially related to quantitative data) with phenomenological or hermeneutic interpretation, or with an interpretive assessment (especially related to qualitative data), and perform

triangulations between different types of interpretation to search for similarities, differences, as well as new meanings for the integration of these interpretations.

Based on the different ontological and epistemological understandings and different types of assessment data interpretation in music therapy, a decision tree, term inspired by Medeiros et al. (2016), was created. Figure 19 depicts the decision tree that represents a theoretical model to help music therapists decide how to interpret the collected data. This model encompasses essentially subjective interpretations, mixed interpretations, and essentially objective interpretations. It is important to note that the model also shows the main goals of each type of data interpretation in music therapy.

Different factors influence music therapists' decision regarding the choice of one or more types of interpretation. These factors refer to the assessment methods used: reviewing records, interviews, observations, and tests (described in Chapters 9, 10, 11, and 12 respectively). Moreover, the interpretation is influenced by the contexts/situations in which music therapists perform assessments (described in Chapter 3): individual/group care, music therapy process/service assessment, service environment or area, internal/external assessment, music therapist assessment/client assessment, and assessment connected to or disconnected from the treatment process.

Furthermore, the interpretation is influenced by the stage of the music therapy process in which the assessment is being applied (referral and acceptance, initial assessment, definition of treatment plan, implementation of treatment, and discharge or termination process), by clients' level of development concerning their age (topic studied in Chapter 5), as well as the

cultural and ethical aspects that need to be considered in this process (described in Chapter 7). In summary, decision making does not depend on a single factor but on a combination of factors. Figure 20 shows a model with the factors that influence the choice of interpretation.

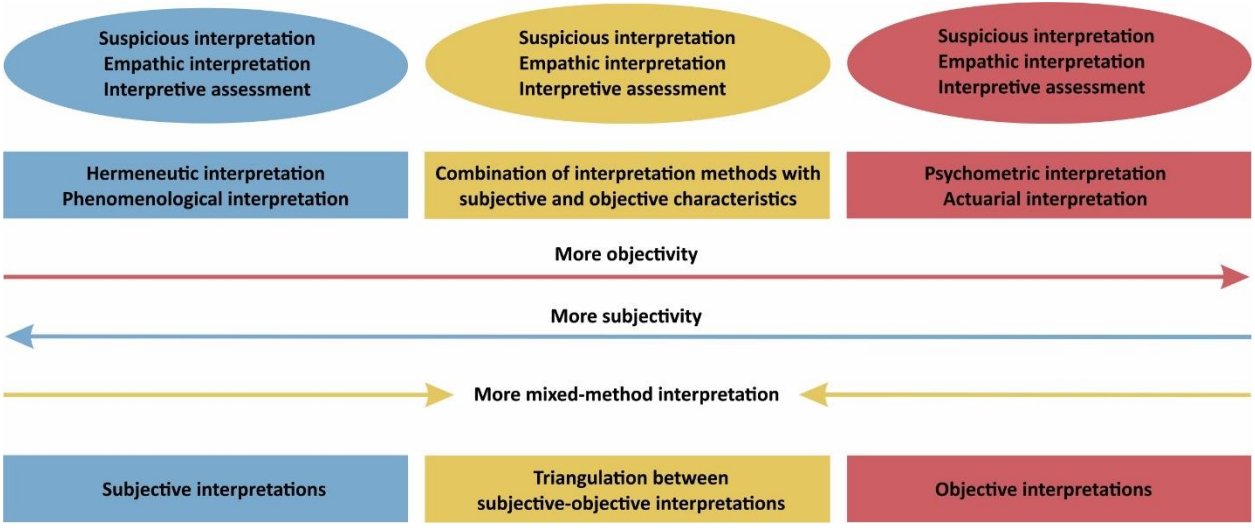


Figure 19. Decision tree for choosing the type of interpretation

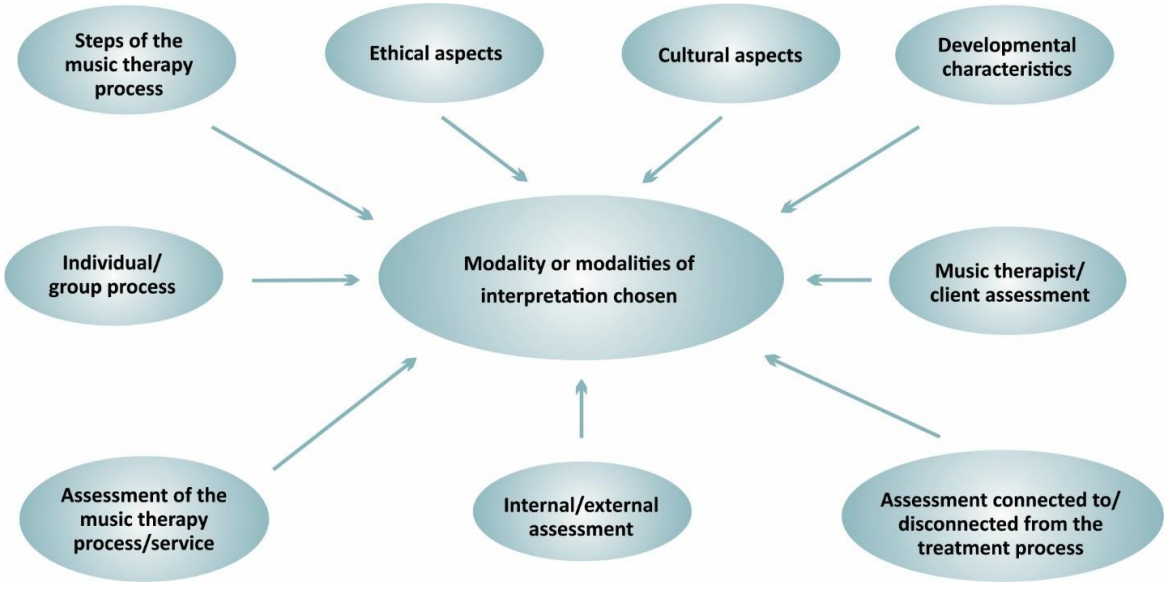


Figure 20. Factors that influence the choice regarding one or more interpretation modalities

DRAWING CONCLUSIONS BASED ON THE DATA COLLECTED

As with interpretation, the process of reaching conclusions refers to an in-depth study of the collected data, but with a different goal: complete the assessment process (Goldfinger & Pomerantz, 2014). The conclusions about the assessment process should summarize everything that was carried out in the four different stages and answer the questions created during the preparation for the assessment. These questions refer to the assessment needs that led music therapists to conduct the assessment process and usually seek the following answer categories: accept or reject hypotheses, make decisions about the music therapy process (choose the type of intervention, decide about a referral or continuation of the music therapy process for a specific client, etc.), explain certain contents during the process (compare clients' evolution during the process regarding a specific content or understand certain phenomena, for example).

Music therapists should draw conclusions based on the information derived from the analysis and interpretation of the data and also on their judgment (Groth-Marnat & Wright, 2016). Thus, it is worth pointing that the conclusions specially derive from the analysis and interpretation of the data and the ways music therapists judge the results. This judgment is highly influenced by music therapists' practical experience, their theoretical understanding of the different models, orientations, and approaches that structure this practice, and the context of the assessment (especially related to the specific situation of the assessment). Any time music therapists need to decide on a

client's referral to the music therapy treatment (based on the data collected in the referral stage, for example), the analysis and interpretation of the collected data may or may not show enough information to make a decision. In cases the information is not clear, music therapists should use their judgment to reach the best conclusion, which requires a decision process. In summary, reaching conclusions involves not only a data-based analysis, but also a judgment-based analysis. The use of assessment tools or certain variations of different assessment methods requires that music therapists draw conclusions according to the recommendations of the creators of the tools or the variation of a specific method. In these cases, even if music therapists come to their own conclusions, the guidelines of the tool or method used in the assessment process should be followed.

INTERPRETATION AND CONCLUSIONS BASED ON A MUSIC THERAPY EXAMPLE

A practical example of choosing interpretation and reaching conclusions is provided here. A 10-year-old boy, presenting with speech difficulties due to cerebral palsy, chose to sing a song called “Paraíso”, composed by the Portuguese composer and singer Diogo Piçarra, during the session. After categorizing the text of the lyrics, the music therapist focused his attention on phrases containing words that could be associated with death, in this case, “disappear” and “die”, which are present precisely in the song's chorus that is repeated several times throughout the song. Figure 21 shows these words highlighted in the lyrics.

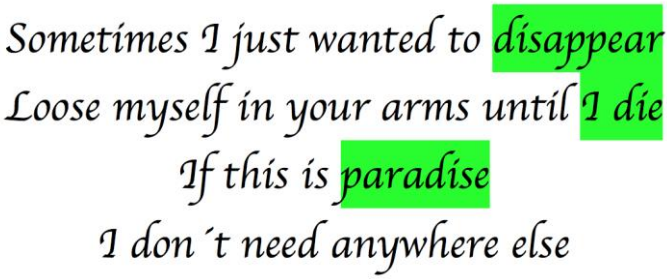


Figure 21. Chorus of the song “Paraíso” by Diogo Piçarra

The music therapist decided to perform an interpretation exclusively based on the chorus, as this was the part that attracted his attention for the assessment. To interpret this excerpt (as this was an assessment record), the music therapist chose “suspicious” interpretation, to discover why this song appeared in the process, associated with existential-phenomenological interpretation, to understand the individual's action and existence in this context, hermeneutic interpretation, to interpret what is implied by the lyrics, and also the interpretive assessment, to understand what happened according to a specific theory. For this case, he chose the theory of music and meaning in music therapy according to the Molino/Nattiez Tripartite Model described by Barcellos (2012).

Therefore, the following question should be answered: why did the client choose to sing this song in the session? The words highlighted in green in the chorus show an association with a desire to no longer be present in the world in different ways, either by being in paradise, disappearing, or dying. The therapist came up with the following reflection: why does this

client no longer wish to be present in his world? Is there any reason for him not to be satisfied with what he has? Why does he need to “run away” from his own world? Barcellos (2016) assured that clients leave traces in the session about their own story by means of musical narratives. In this case, the traces indicated the client's desire that was not expressed in words.

From previous sessions, the music therapist recalled that the client is beginning to demonstrate feelings for girls his age, even though he has not expressed this orally during the sessions. Thus, one of the interpretations for this chorus is not an isolated analysis of the lyrics, but rather an analysis of the general idea of the chorus. In this case, the music therapist interpreted that the chorus conveyed an idea of being in love with someone or having extreme consequences (like disappearing, being in paradise, or dying for that person). According to the perspective suggested by Barcellos (2016), the client communicated his desire to be able to experience the feeling of love or passion for someone in his narrative. Thus, answering the assessment question (related to understanding something in the process), the music therapist reached the following conclusion: the client sang this song because he is in a phase he desires to express the feelings of love and passion he is beginning to discover. As shown in this interpretation, the interpretive process occurs by analyzing the information collected, but it can also involve an important judgment process by music therapists.

FINAL CONSIDERATIONS

Interpreting and concluding are essential stages to complete the assessment process. They involve music therapists in a great immersion and reflection about the data found. The suggestions presented here are intended to inspire music therapists to search for ways to interpret and draw conclusions based on specific information for this purpose.

CHAPTER SUMMARY

How are the processes for interpretation and reaching conclusions carried out during the assessment process?

Music therapists perform their interpretations considering the type of data assessed (quantitative, qualitative, or mixed), the objective and subjective understanding (from an ontological and epistemological perspective), and also the possibility of generalizing these interpretations (in an idiographic or nomothetic way). Based on these understandings, music therapists can choose one or more of the following types of interpretation: "suspicious" interpretation, empathic interpretation, phenomenological interpretation (transcendental or existential), hermeneutic interpretation, actuarial interpretation, psychometric interpretation, and interpretive assessment. Regarding conclusions, music therapists need to summarize the assessment process and answer the question that generated the need for the assessment. This question is usually related to accepting or rejecting hypotheses, making decisions, or better understanding the process. The conclusions involve the analysis and interpretation of the data and music therapists' judgment processes.

PART 5: DOCUMENTATION AND COMMUNICATION

CHAPTER SEVENTEEN

Music therapy documentation: producing and organizing assessment records

Chapter question: How do music therapists produce and organize records during the music therapy documentation process?

INTRODUCTION

The documentation is a comprehensive, factual, and sequential record of the clients' condition, as well as the treatment and support (Australian Government Department of Health, 1997). It should include any form of information used to describe the care in the records about the client that help in the music

therapy process and during the communication between professionals (adapted from Waldon, 2016).

The documentation should not be confused with reviewing records related to a case (one of the assessment methods in music therapy). Documentation is a part of the assessment process that concerns collecting, analyzing, and interpreting data to register or create records using an assessment method, while reviewing records is simply re-examining a set of information that already exists. The major goals of documentation in music therapy are to register (Goldfienger & Pomerantz, 2014), organize (CBMT, 2020; Ferrari, 2013), and communicate (Waldon, 2016b) information about a case. Usually, the documentation focuses on clients' records, but it can also include records about music therapists, family members, participation of other professionals, and the music therapy service (Pool et al., 2020, Schumacher & Calvet-Kruppa, 1999; Tsiris et al., 2020).

One specificity of the music therapy documentation process is the concern with producing records that comply with the rules and regulations established by continental, federal, state, local, and organizational institutions (CBMT, 2020; Waldon, 2016b). The records drawn up should comply with the codes of ethics in music therapy produced by each regional and national association, for example. Another example is the production of documents that comply with the data protection guidelines developed in each region of the world or country. Waldon (2016b) stated that the term compliance also refers to preparing documents that follow the expected standards for best practices in music therapy.

The main guidelines for documenting the music therapy process were created by AMTA (2013) and the Certification

Board for Music Therapists (CBMT, 2020). The documents produced by both entities specify the knowledge and practices that should be included in the music therapy documentation process. Waldon (2016b) summarized the preliminary information described in AMTA (2013) and CBMT (2015 version) documents, provided important definitions of documentation in music therapy, and also explained the essential characteristics of this process. Waldon (2016b) cited examples of documents related to different stages of the music therapy process (referral and acceptance, initial assessment, definition of treatment plan, implementation of treatment, and discharge or termination process) published by other music therapists in different areas of practice. To have a comprehensive view of documentation, music therapists should verify the three documents mentioned.

Considering the different topics of documentation in music therapy, this chapter focuses on the documents produced by music therapists throughout the music therapy process for assessment purposes and their organization. The preparation and organization of records inherent in this process are connected to the specific goals that music therapists have to document during their practice (Ferrari, 2013; Waldon, 2016b; Wood & Crow, 2018). The preparation and organization of assessment documents in music therapy are here described, considering the different goals of these practices.

PRODUCING DOCUMENTS FOR ASSESSMENT PURPOSES IN MUSIC THERAPY

The process of producing documents depends on several factors. The main ones are: stage of the music therapy process that needs to be documented, purpose of the internal or external documentation, format of the document, and situation or context of practice (AMTA, 2013; CBMT, 2020; Letule, 2013). Each of these factors should guide the process of documentation according to certain peculiarities.

Assessment documents produced based on the stage of the music therapy process

The documents produced based on the stage of the music therapy process take into account the main goals in each stage. In the referral and acceptance stage, the documents aim to record general information about clients, obtain the necessary permissions to collect data, and describe the musical and family context of clients so that the information in these documents can be used to confirm whether the clients will participate in the music therapy process (Ferrari, 2013). In the initial assessment, the documents need to describe clients' strengths and difficulties in specific areas and their inter and intramusical relationships to generate sufficient information to define the goals of the treatment plan (Bruscia, 2001; Thompson, 2020). In the definition of treatment plan, the documents should show the goals music therapists plan to work on and the time to reassess them to verify if they have been achieved or not (Gattino, 2019). In the implementation of treatment, the

documents should show what was done, the clients' manifestations in each session, and the changes along the process according to the treatment goals (CBMT, 2020; AMTA, 2013).

As soon as the process is terminated, music therapists need to prepare documents that summarize the music therapy process as a whole, indicating possible future referrals for other interventions or professionals (Gattino, 2019). To accomplish these tasks, it is essential to provide details about the documents created in each of these stages.

Documents produced in the referral and acceptance stage

This stage includes different documents, since it refers to the initial contact with the clients and/or guardians, depending on the therapy context. The initial stage usually includes an admission form or anamnesis and different terms of consent related to using and sharing clients' information. Figure 22 shows a sample of a model of the admission form, a document that includes basic information about clients such as their general data (name, address, age, etc.), information about their family, as well as medical and musical history. Moreover, the admission form may contain specific details on the clients' capacities in different domains such as cognitive, emotional, communication, and sensory (Baxter et al., 2007; Carpente, 2013). The intake form is usually filled out during an interview with the clients or their guardians.

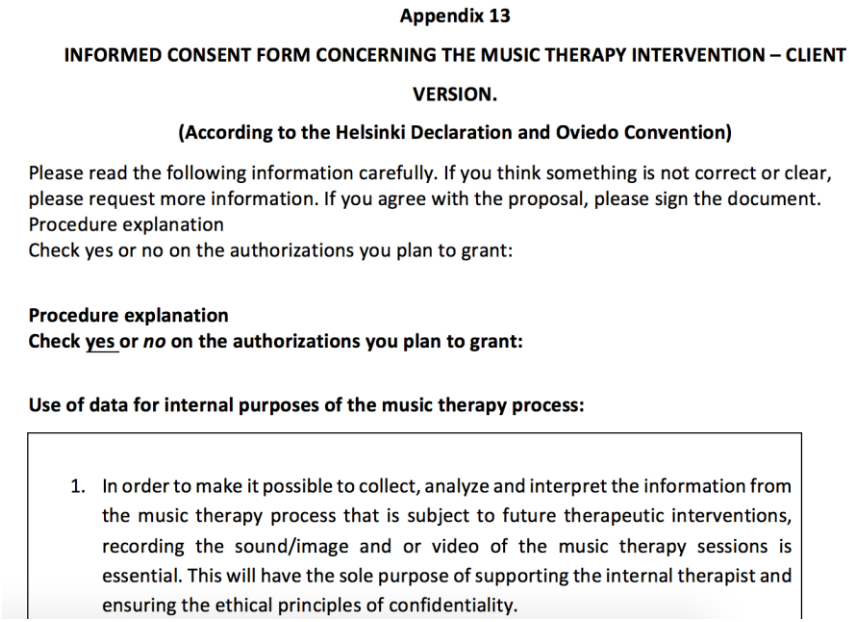
Appendix 12
MUSIC THERAPY INTAKE FORM[1]

Music therapist information	
Date of Intake:	
Music therapist's name:	
Institution:	
Music therapist's telephone contact:	
Music therapist's email contact:	
Music therapist's signature	

Figure 22. Intake form template

Figure 23 shows a model of a consent form. During the referral and acceptance stage, music therapists can use different consent form models to collect and assess clients' information. The consent can be provided by the clients or their guardians. The consent is necessary because music therapists generally use clients' information registered in audio, video, and/or documents to study clients throughout the music therapy process. They may also need to share this information with other professionals or present them at conferences or on social media. Using and sharing data is a sensitive topic. Therefore, music therapists should follow all the necessary ethical principles, as explained in Chapter 7, and check the general regulations in each region of the world related to data protection. In Europe, for example, specific legislation was created solely to explain people's data processing and protection in that territory (European Parliament and the Council of European Union, 2016). Music therapists can develop either a single consent form that includes all conditions

regarding the use and diffusion of clients' information or different documents specifying the uses or types of sharing established in the music therapy process.



Appendix 13

INFORMED CONSENT FORM CONCERNING THE MUSIC THERAPY INTERVENTION – CLIENT VERSION.

(According to the Helsinki Declaration and Oviedo Convention)

Please read the following information carefully. If you think something is not correct or clear, please request more information. If you agree with the proposal, please sign the document.
Procedure explanation
Check yes or no on the authorizations you plan to grant:

Procedure explanation
Check yes or *no* on the authorizations you plan to grant:

Use of data for internal purposes of the music therapy process:

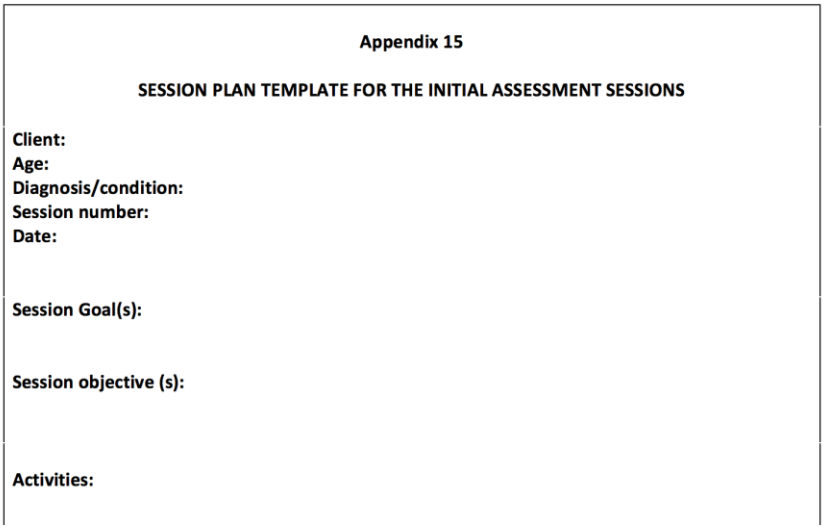
1. In order to make it possible to collect, analyze and interpret the information from the music therapy process that is subject to future therapeutic interventions, recording the sound/image and or video of the music therapy sessions is essential. This will have the sole purpose of supporting the internal therapist and ensuring the ethical principles of confidentiality.

Figure 23. Consent form model (client version)

Documents produced in the initial assessment stage

During the initial assessment stage, music therapists usually register in reports the information required by the assessment tools used to assess clients. The different assessment tools generally have specific forms to fill in with clients' information

(Bruscia, 2012; Marsimian, 2019; Zanini, Munari, & Costa, 2007). Gattino (2019) created a specific model to register information about the initial assessment stage (Figure 24). The document usually describes a plan for the session and has spaces to report the development of the session, aspects to observe, and possible suggestions for the subsequent sessions.



Appendix 15

SESSION PLAN TEMPLATE FOR THE INITIAL ASSESSMENT SESSIONS

Client:
Age:
Diagnosis/condition:
Session number:
Date:

Session Goal(s):

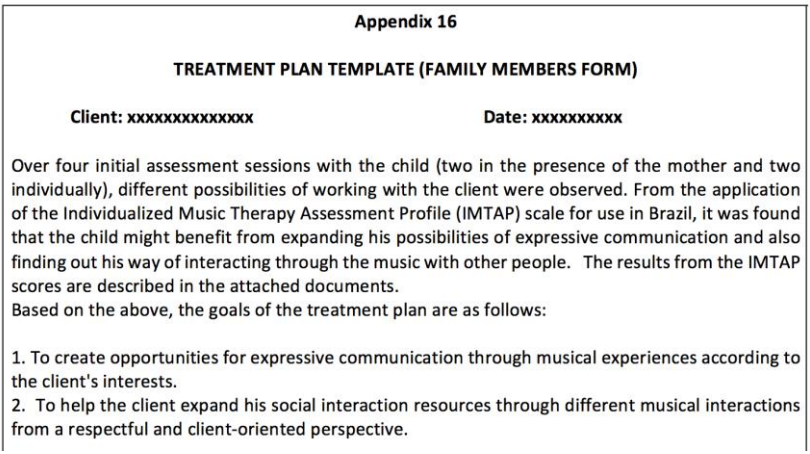
Session objective (s):

Activities:

Figure 24. Sample document for initial assessment sessions

Documents produced in the treatment planning stage

In this stage, music therapists usually use documents to present clients' treatment plan. This plan can be designed according to the people that will read it. If the document is intended to music therapists or other professionals, the version can contain technical terms specifically related to these areas. However, it should have terms related to methods, procedures, and techniques used in music therapy that are easy to understand. Furthermore, music therapists should develop a version of the treatment plan to show clients, family members, or guardians using practical and accessible language (Gattino, 2019). A suggestion for the treatment plan is to present the treatment goals, how they were identified (describing the procedures adopted in the initial assessment), and indicate possible ways to achieve these goals such as musical experiences that can be used. Figure 25 shows a sample of a treatment plan sent to the family members of an autistic client (Gattino, 2019).



Appendix 16

TREATMENT PLAN TEMPLATE (FAMILY MEMBERS FORM)

Client: xxxxxxxxxxxxx **Date: xxxxxxxxxx**

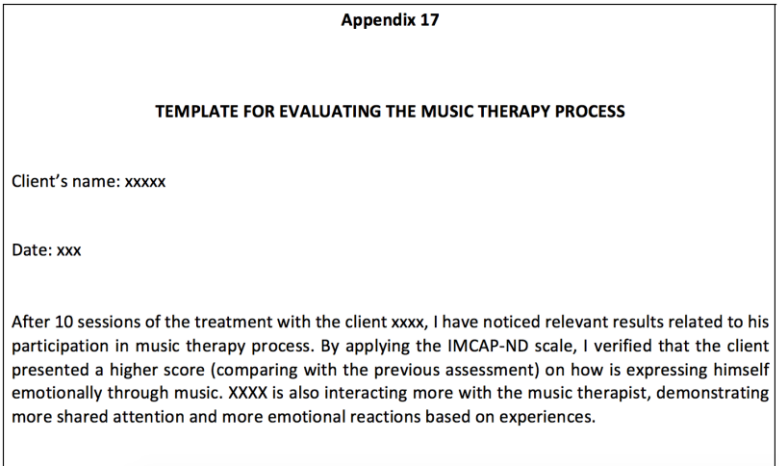
Over four initial assessment sessions with the child (two in the presence of the mother and two individually), different possibilities of working with the client were observed. From the application of the Individualized Music Therapy Assessment Profile (IMTAP) scale for use in Brazil, it was found that the child might benefit from expanding his possibilities of expressive communication and also finding out his way of interacting through the music with other people. The results from the IMTAP scores are described in the attached documents.
Based on the above, the goals of the treatment plan are as follows:

1. To create opportunities for expressive communication through musical experiences according to the client's interests.
2. To help the client expand his social interaction resources through different musical interactions from a respectful and client-oriented perspective.

Figure 25. Sample of a treatment plan (family member version).

Documents produced in the treatment implementation stage

Although all stages of the music therapy process include important assessment documents, the implementation documents are essential. A vital document is the evaluation report (Figure 26). It describes the results achieved by the clients during the treatment and points out whether they should continue working on the same goals or change to different ones.



Appendix 17

TEMPLATE FOR EVALUATING THE MUSIC THERAPY PROCESS

Client's name: xxxxx

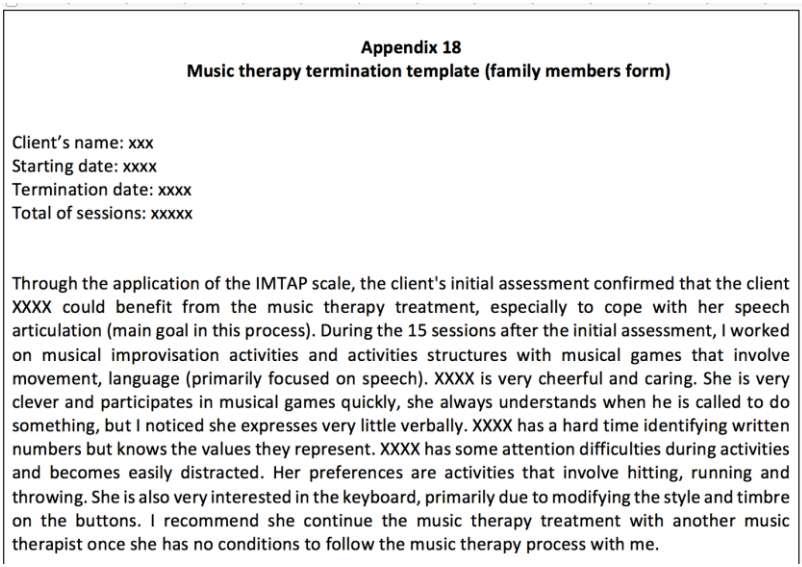
Date: xxx

After 10 sessions of the treatment with the client xxxx, I have noticed relevant results related to his participation in music therapy process. By applying the IMCAP-ND scale, I verified that the client presented a higher score (comparing with the previous assessment) on how is expressing himself emotionally through music. XXXX is also interacting more with the music therapist, demonstrating more shared attention and more emotional reactions based on experiences.

Figure 26. Results achieved by the client throughout the treatment (evaluation).

Documents produced in the discharge or termination process stage

The completion of the music therapy process usually includes all the documents that were developed in the previous stages of the process, as well as a document that summarizes the achievements during the process, gives suggestions, and proposes possible future interventions for the client (Figure 27).



Appendix 18
Music therapy termination template (family members form)

Client's name: xxx
Starting date: xxxx
Termination date: xxxx
Total of sessions: xxxxx

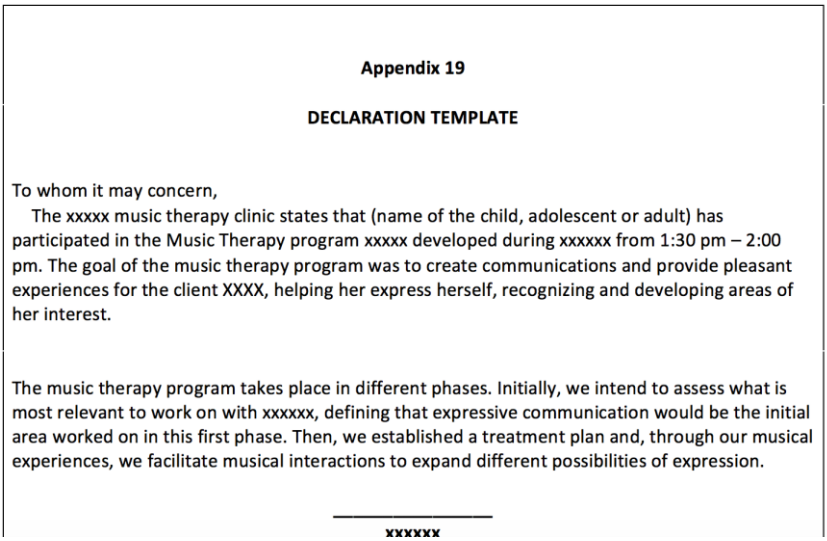
Through the application of the IMTAP scale, the client's initial assessment confirmed that the client XXXX could benefit from the music therapy treatment, especially to cope with her speech articulation (main goal in this process). During the 15 sessions after the initial assessment, I worked on musical improvisation activities and activities structures with musical games that involve movement, language (primarily focused on speech). XXXX is very cheerful and caring. She is very clever and participates in musical games quickly, she always understands when he is called to do something, but I noticed she expresses very little verbally. XXXX has a hard time identifying written numbers but knows the values they represent. XXXX has some attention difficulties during activities and becomes easily distracted. Her preferences are activities that involve hitting, running and throwing. She is also very interested in the keyboard, primarily due to modifying the style and timbre on the buttons. I recommend she continue the music therapy treatment with another music therapist once she has no conditions to follow the music therapy process with me.

Figure 27. Sample of the music therapy process termination document

ASSESSMENT DOCUMENTS PRODUCED FOR INTERNAL AND EXTERNAL CONTEXTS

Music therapists can prepare internal documents, related to the music therapy process itself, but in some situations, they need to create forms specific to some external cases (Erickson & McKnight, 2008; Osborne, 2015). For instance, they may need to create documents to certify that a client or family member is participating in the music therapy process at a particular time and place. In addition, they may need to provide

information on some characteristics of the client related to a diagnosis (Wigram, 1995) or to request client reimbursement of music therapy service expenses. Also, they may need to produce a document that lists music therapy benefits for a specific client so that s/he can continue participating in the sessions (Gattino, 2019). Other external documents are also possible. Figure 28 depicts part of a form used to justify the benefits of a music therapy intervention.



Appendix 19

DECLARATION TEMPLATE

To whom it may concern,

The xxxxx music therapy clinic states that (name of the child, adolescent or adult) has participated in the Music Therapy program xxxxx developed during xxxxxx from 1:30 pm – 2:00 pm. The goal of the music therapy program was to create communications and provide pleasant experiences for the client XXXX, helping her express herself, recognizing and developing areas of her interest.

The music therapy program takes place in different phases. Initially, we intend to assess what is most relevant to work on with xxxxxx, defining that expressive communication would be the initial area worked on in this first phase. Then, we established a treatment plan and, through our musical experiences, we facilitate musical interactions to expand different possibilities of expression.

_____

xxxxxx

Figure 28. Sample document to justify the benefits of music therapy

ASSESSMENT DOCUMENTS PRODUCED BASED ON THEIR FORMAT

Assessment documents can be structured in different formats depending on their presentation and software used to create them. Documents can be presented in written form, one of the most common formats in music therapy, but can also be produced using softwares or documentation formats that generate graphic results about clients' sound manifestations. Some programs, such as the Music Therapy Logbook (Streeter et al., 2012) and the Music Therapy Toolbox 4 (Erkkilä, 2007), can transform clients' audio and video information into graphic representations. In addition, music therapists can show a graphic representation of a score that provides a global understanding of the music therapy process. Gilboa and Bensimon (2007) created the Music Therapy Analyzing Score to show the score in an easy way, so that everybody can understand musical information. Although most assessment documents are produced using Microsoft Word, it is currently possible to create documents in some applications with a more practical and intuitive format, so that they can be produced and viewed directly using a tablet or cell phone. Since music therapists have limited time to prepare documents, the use of practical resources is increasingly necessary to generate documents throughout the process. Piedmont Music Therapy is a company that offers different forms to be used in music therapy (www.piedmontmusictherapy.com/pmt-forms.html).

Among the applications for producing assessment documents in music therapy, DocuMT (https://documt.com) is worth mentioning, because it allows music therapists to create an account on the platform, produce, and manage different

clients' documents using a computer, tablet, or cell phone. DocuMT (2018) allows music therapists to create graphs and comparative analyses for each case assessed. One of the main characteristics in this platform is the practicality to produce and store the documents of the music therapy process. The platform offers 14 days of free access to test it before paying a fee. Other applications similar to DocuMT (concerning assessment documents) are available, such as Super Duper Data Tracker (www.superduperinc.com/products/view.aspx?stid=631#.X6A65S2ZNQI)

and Teacher Notes

(www.inpocketsolutions.com/teacher-notes.html),but they are not specific for music therapy.

ASSESSMENT DOCUMENTS PRODUCED BASED ON THE SITUATION OR CONTEXT OF PRACTICE

Some contexts of practice direct the creation of documents according to specificities of the environment where music therapy sessions take place. Music therapists who work in a hospital context do not have much time to collect in-depth information due to limited contact with the clients. Therefore, the documents need to be short and objective. Ferrari (2013) developed a series of forms for use in the hospital context to facilitate the work produced by music therapists. She created specific forms for brief music therapy situations, i.e. music therapists see clients only once. Among the documents she made, the following forms should be highlighted: pain assessment before and after the music therapy session (Figure

29), assessment of the intervention for children and caregivers in pediatric interventions (Figure 30), and a questionnaire to be filled out by the caregiver after the music therapy intervention (Figure 31). Although these forms are intended for a hospital context, they can be adapted for use in brief music therapy situations to document information objectively.

PAIN ASSESSMENT BEFORE AND AFTER THE MUSIC THERAPY SESSION

Client: …… Session number :……..
Date: ……..

Initial moment: before the intervention.
1st applying the scale. How is your pain at this moment?

Second moment (music Therapy intervention)

Technique used	Effect achieved	Observations

Figure 29. Pain assessment before and after the music therapy session from Ferrari (2013)

Intervention protocol for the children and caregivers in pediatric interventions

Date……..

Client's name…….. Age……..

Diagnosis or intervention purpose ……

Overall state of the patient before the intervention

In relation to body elements

Seated Laying Sitting on the caregiver's lap.

Mood state

Depressed Crying Sleeping Playing Apathetic Irritated Feeling Pain

Welcome song	Instrumental Activity	Farewell song
The client The client changes mood Sits down Leans back Looks at others	Caregiver and child analysis Analysis of music therapist and child Analysis of music therapist, caregiver and child	**The client** The client changes mood Sits down Leans back Looks at others

Figure 30. Intervention assessment for children and caregivers in pediatric interventions from Ferrari (2013)

Questionnaire for the caregivers after the music therapy interventions

1. **1. Do you believe that with this activity the child is …?**

Better ☐ Same as before ☐ Worse ☐

2. **Why do you believe the child changed something after the activity?**

Happier	☐
Can play and before he didn´t	☐
Got distracted and forget he/she was at the hospital	☐
Got irritated and worse	☐
Could do something fun with his/her Family	☐
Changed mood	☐
Changed general state positively	☐
Could sit	☐
Connected with surroundings	☐

Figure 31. Questionnaire to be filled out by the caregiver after the music therapy intervention from Ferrari (2013)

Group music therapy requires specific forms to register information. In this context, one possibility is to produce documents with a graphical presentation of the manifestations each client has in specific domains or skills. Zanini et al. (2007) created a form to register different clients' behaviors. Music therapists should mark the behavior patterns of each client during the session under the client's number (Figure 32).

OBSERVATION PROTOCOL FOR GROUP MUSIC THERAPY SESSIONS

Date: Session number: Music therapist (s):

A. COMMUNICATION	1	2	3	4	5	6	7	8	9	10	11	11	12	13
A.1 Form of expression														
a) Verbal predominance														
b) Non-verbal predominance														
c) No verbal communication														
d) 4 No verbal communication														
A.2 Type of communication through verbal expression														
Spontaneous														
Generically stimulated														
Individually stimulated														
not manifested														
a) Verbal communication effect														
The group considers														
The group considers, but rejects														
The group ignores this														

Figure 32. Sample of an observation form for Group music therapy from Zanini et al. (2007)

ORGANIZING THE RECORDS OF THE MUSIC THERAPY PROCESS

One of the significant concerns that music therapists and music therapy students have is organizing many documents produced throughout the music therapy process. According to Ferrari (2013), document organization concerns the systematization of music therapists' assessment practices. The term systematization used by the author refers specifically to ways to standardize assessment practices. One of these

practices is precisely the organization of the documents produced during the music therapy process.

Currently, different online platforms enable the storage and organization of these documents. As previously mentioned, the DocuMT application platform is one of the options for organizing documents in the music therapy field in a specific cloud for the discipline. Another way is to organize documents using available encrypted virtual cloud systems such as Sync.com, pCloud, Tresorit, and OneDrive. Music therapists should organize the documents clearly so that each client has a specific file folder. In these folders, the documents should be organized not only per session, but also according to the stage of the music therapy process (referral and acceptance, initial assessment, definition of treatment plan, implementation of treatment, discharge or termination process).

In the folders organized per session, music therapists should include the report of each session, some video and/or audio recording of the session, and some significant registers of the facts that happened during the session such as clients' speech, score, design, or lyrics. In the subdivisions organized per stage, music therapists should use different categories such as: registers prepared by other professionals, documents of assessment tools, general forms for each stage, lyrics, scores, audio and video links with essential songs used in the process, assessments completed by clients, graphs and musical records produced by clients, and content of interviews or clients' narratives throughout the process. Some music therapists prefer to organize the documents of the music therapy process in printed files or physical audio and video recordings (CDs, DVDs, in external memories). In these situations, they should

keep the physical documents in a safe place with restricted access.

One of the concerns while organizing documents, both physical and digital, is the possibility of having copies of these documents in more than one safe location. Music therapists should always keep a copy of the physical documents stored in a safe place, considering possible catastrophic situations such as earthquakes, storms, or fires. For digital documents, they can store a copy in different clouds or even use external memories stored in a safe and exclusive location. To find information easily, music therapists should create a list to summarize all the documents available about each client.

FINAL CONSIDERATIONS

Documentation is a central process in music therapy assessment. Music therapists should focus on the documents produced by music therapists throughout the music therapy process for assessment purposes and their organization. Although this chapter has detailed documentation, little has been done about the communication of the content inherent in these records.

CHAPTER SUMMARY

How do music therapists produce and organize records during the music therapy documentation process?

Music therapists produce documents for each stage of the music therapy process according to the purpose of the internal or external documentation, format of the document, and situation or context of the practice. They use different virtual or physical systems to organize the records of each client according to the session and the stage of the process. Music therapists can have copies of these documents and keep both the originals and the copies in a safe place with restricted access

CHAPTER EIGHTEEN

Communicating the results of an assessment in music therapy

Chapter question: How do music therapists communicate assessment results in music therapy?

INTRODUCTION

The communication of the results of an assessment in music therapy is done after music therapists have already collected, analyzed, and interpreted data of the assessment process and produce specific ways to present the information found. Music therapists can give this information by means of written documents (Groth-Marnat & Wright, 2016; Schneider et al., 2018) and/or oral communication in conversations with other professionals, face-to-face meetings, video calls, or telephone calls (Osborne, 2015), as well as papers presented at

conferences (Dombrowski, 2020b). Whether in written or oral form, the communication of the results needs to be structured according to some basic principles to ensure that the results are communicated appropriately. Although it is a critical topic, to the best of our knowledge, no specific references about communication of the results in the assessment process are available in the literature. In disciplines such as psychology, physiotherapy, neuropsychology, and education, specific texts address this subject. Some of them focus mainly on sharing information using written reports (Dombrowski, 2020a; Groth-Marnat & Wright, 2016; Schneider et al., 2018), while others focus on the ways to give feedback on the assessment to clients, family members, or other professionals (Postal & Armstrong, 2013; Weiner & Greene, 2009; Wright, 2020). In this chapter, general considerations on the communication of the results of an assessment in music therapy are presented, together with specificities about this communication in written and oral forms.

BEST PRACTICES WHILE COMMUNICATING ASSESSMENT RESULTS IN MUSIC THERAPY

According to the Cambridge dictionary (2021), communication is the act of communicating with people or a message, letter, or announcement. In music therapy, both definitions are used, since music therapists want to communicate a message (results of an assessment) directly to a recipient. Some of the possible recipients of music therapists' messages are: clients, family members, or guardians, other

music therapists (internal or external to the music therapy process), professionals in other areas (internal or external to the music therapy process), administrators or other people responsible for the payment of the music therapy service, professionals in the public sector (legal, social, educational, administrative, or health authorities), among others (Quinn & Gordon, 2015). Regardless of the recipient, some crucial points should be considered to carry out a good communication process. Among them, the structure for communicating the results and possible strategies to achieve good communication are worth mentioning.

COMMUNICATION STRUCTURE

Schneider et al. (2018) made several suggestions to create reports in psychology and some crucial points can be transformed into an essential structure for communicating music therapy results. Thus, some of their suggestions are here organized in a structure with three basic stages to manage the process of communicating results, whether in written or oral forms: 1) organizing the communication; 2) choosing a basic scheme to present the communication; 3) presenting the information.

1) Organizing the communication: music therapists need to plan the way they prefer to communicate the results. They should review all the possible document templates or oral presentations (communication in meetings, conversations, or presentations at academic events, for example) and check the one that best suits the major purpose of the communication and the target audience.

2) Choosing a basic scheme to present the communication: before transmitting information about an assessment, music therapists need to structure their presentation taking into account the start, development, and completion of the communication, and think about the best style to present the information. Music therapists can choose a type of presentation favoring tables, with quantitative data and visual information, or narrative descriptions of different results, or a more general description of the results.

Alternatively, they can focus on a skill, diagnosis, behavior, or behavior pattern and describe that in detail. It is also essential to think about the amount of information communicated to other people in this stage. Presenting a lot of information does not always mean good communication. Thus, the amount of information presented should be connected to the relevance of the points that need to be conveyed. To choose the information that needs to be given as they communicate the results, music therapists should carry out an extensive study on the data found. Schneider et al. (2018) affirmed that the more work the professionals put into the assessment results, the less work the recipients will have to understand them.

3) Presenting the information: to communicate the results, music therapists need to be aware of the flow of information they want to present. Schneider et al. (2018) proposed that the therapists should organize the communication first according to global topics of interest to the recipients and then according to specific ones. Usually, the initial part of the communication refers to essential clarifications about the case or the particular situation of the assessment. The central part of the communication is precisely to communicate the results found.

To provide a detailed presentation of the results, it is crucial to compare aspects of the past and present and highlight the main findings in the assessment, showing scores on a scale before and after the music therapy sessions, for example. Furthermore, music therapists should present from standardized results to informal ones. They can use contrasting terms to emphasize the results found (saying that the client has changed from a "no interest in communicating" category to a "communicating with interest" category, for instance). The last part of the communication refers to the conclusions about the assessment, usually disclosing the following information: the decision that can be made based on the assessment, accepting or rejecting a particular hypothesis established initially, the suggestions or recommendations generated from the data found, and the main findings of the assessment.

STRATEGIES FOR COMMUNICATING THE RESULTS OF AN ASSESSMENT IN MUSIC THERAPY

Music therapists need to consider some basic strategies to communicate assessment results in music therapy satisfactorily. The strategies presented here were especially inspired by Groth-Marnat & Wright (2016), Schneider et al. (2018), and Postal & Armstrong (2013). The strategies covered in this chapter are mainly related to form and content: communicate content directly and simply; focus the communication of results on the person/service and not on the assessment methods or tools; characterize the presentation of results according to the assessment method used; describe the

technical terms in an understandable way; adapt the format for communicating results to different audiences and purposes.

Communicate content directly and simply

Communicating assessment results in music therapy is a complex process. It involves the memories, judgments, and thoughts of a person who was directly involved in the assessment process (in this case, music therapists) and the participation of people who did not participate in this process, but that need to understand the results (Schneider et al., 2018; Postal & Armstrong, 2013). Based on an initial perspective, music therapists could communicate the information in a complex way since the data is complex. However, for effective communication, they should focus on conveying information in a simple and accessible way to the recipient. Music therapists need to be clear in the descriptions so that the information can be accessible. Moreover, it is crucial to avoid colloquialisms and expressions that may generate doubts about the data described. Music therapists should also use words that the receiver knows and create clear transitions between the different parts of the communicated results.

Focus the communication of results on the person/service and not on the assessment methods or tools

Despite the tendency to explain the findings of an assessment in detail, the professionals cannot lose sight of who

or what is being assessed (Schneider et al., 2018). In cases of client-directed assessments, it should always be clear that the assessment is about the person and the ways it can contribute to their case. In a family context, music therapists may consider a global assessment directed to all members or centered on one member (Jacobsen & Thompson, 2016). It is worth noting that the focus of the results should also be directed to the music therapy service for institutional assessments (Tsiris et al., 2020).

Characterize the presentation of results according to the assessment method used

Each assessment method has specific terminologies and specific formats to explain and present the information inherent in the results of an assessment (Groth-Marnat & Wright, 2016; Postal & Armstrong, 2013). The assessments carried out using tests, for example, should specify aspects related to the scores, interpretation of the scores, and aspects of validity and reliability if necessary. For interviews, the results should show the questions asked, how they were made, and the clients' most critical issues throughout the conversation. For observations, it is necessary to highlight whether it was a direct or a video observation, and whether it was focused on subjective phenomena, behaviors, patterns of behavior, or reactions of the individual. The description of the observations should always be clear about the possible biases of music therapists. For record reviews, music therapists should mention the type of record reviewed (and may even present a sample or the record itself if applicable) and the method used to review it.

Describe the technical terms in an understandable way

The assessment process in music therapy requires different terms related to the music therapy practice itself (Kirkland, 2013), words that are specific for the assessment field (Killick & Taylor, 2020; Mangal, Mangal & Shubhra, 2019 Waldon & Gattino, 2018; Wright, 2020), and terms of the music field that are used in music therapy (Bruscia, 1987). Thus, it is necessary to make different terms accessible to the recipients of the results of the assessment process.

Among the main initiatives to explain the technical terms, it is imperative to describe the acronyms used in communicating the results and present the technical terms before they are understood in an assessment context (Schneider et al., 2018). It is also possible to provide an example of the technical term using an analogy or metaphor the receiver can understand. One of the significant challenges for music therapists is to explain musical terms to recipients who do not know them or the musical language itself. One possibility for explaining musical terms is to use words that analogically represent communication forms that are understandable to other people (Smeijsters, 2012).

A person who does not master musical terms can understand expressions such as playing stronger/weaker (intensity), playing for a short or long time (duration), playing faster or slower (tempo), several voices singing the same theme (texture), playing something high/low (pitch), or singing with a hoarse/velvety voice (timbre). Parameters such as harmony, melody, and phrasing are more difficult to explain, but they can be represented by comparisons to songs that the receiver is

likely to know. For example, “the receiver played a melodic line similar to the melody of Michael Jackson's Beat it” or “the receiver played a piano accompaniment reminiscent of the beginning of the Beatles' song Yesterday” (to represent harmony). Additionally, music therapists can even play or sing to better illustrate the context if necessary. Depending on the context of practice, some technical terms need to be adapted to the needs. The person participating in the process, for example, is commonly described as “citizen” or “client” in contexts connected to public health (Krøier & Jefsen, 2017; Pimentel, Barbosa, Chagas, 2011), or “client” in clinical contexts (Helander, 2018), or “student” in educational environments (Suzuki & Vitalle, 2020).

Adapt the format for communicating results to different audiences and purposes

Music therapists can communicate their assessment results to a broad spectrum of recipients, as mentioned above. Moreover, it can be related to the stages of the music therapy process (from referral to termination) and/or to the assessment proposals (prescriptive/diagnostic, formative, summative, or interpretive) (AMTA, 2013; Bruscia, 1988; Waldon & Gattino, 2018).

It is necessary to adapt the message to the target audience, considering the academic background, as well as the cultural and psychosocial aspects of the recipients. Depending on the recipient, music therapists need to provide more details in their communication, while for others, a brief explanation is sufficient.

For example, administrators do not require many technical explanations about how a scale in music therapy is applied and quantified based on its scores. However, they need precise information about the results of the assessment and therapy sessions and the results of the treatment. By the same token, music therapists should not include several musical or music therapy vocabulary terms that make the information presented incomprehensible in a family member report, but rather use vocabulary they can understand based on their previous knowledge (Schneider et al., 2018).

The assessment purposes also influence the form and content of the communication of results. The communication should focus on the stages of the music therapy process to respond to the main demands of each stage. For instance, in the initial assessment stage, the communication should allow music therapists to specify the domains or skills the clients need more support with and those that have a more significant potential (one of the main requirements of the initial assessment). In the case of communication of results based on different assessment proposals, the idea is that the results can generate information that contributes to the characterization of each proposal. For example, in a diagnostic assessment, music therapists communicate the relationships of behaviors and patterns of behavior during musical experiences with a specific condition. In this context, music therapists need to detail whether the clients present behaviors or patterns of behavior that may raise the suspicion of a possible diagnosis, which can be confirmed by another qualified professional.

ADAPT SPECIFIC CONSIDERATIONS FOR COMMUNICATING RESULTS IN WRITTEN FORMS

To write a document for a recipient, music therapists need to be aware that communication in written and oral forms are different processes. Presenting information in written form requires more attention to aspects of grammar, style, and especially about the self-explanatory element of the document, due to the impossibility to explain the findings verbally. For written documents, music therapists should avoid long sentences and paragraphs, not use terms or words that can confuse the understanding of the phrase or content presented, avoid repetition of words or terms, and write in a way that makes the document interesting for the reader (Schneider et al., 2018). Table 34 shows several practical examples of written communication.

In a hypothetical case, the IMTAP scale (Baxter et al., 2007) was applied to a 4-year-old child with typical development. The use of two short sentences is more easily understood than the use of one long sentence to communicate the same information during an assessment process. Based on the same hypothetical example, the music therapist can use words that may be confusing to the reader or a simple objective sentence to communicate a result. In some situations, music therapists may use many words and repeat them in the same sentence to provide an example of the assessment, whereas a more objective sentence can be more effective for this. In some circumstances, in order to attract the reader's attention, instead of using an unemotional style, music therapists may use terms

that impact or figures of speech that express the content of the results in a more emotional way (Postal & Armstrong, 2013).

Table 34. Example of written communication

One long sentence	**Two short sentences**
The client had a higher score for the "fundamentals" subdomain compared to the "participation" subdomain based on the data collected for the social interaction domain of the IMTAP scale.	The client was assessed using the social domain of the IMTAP scale. He had a higher score for the "fundamentals" subdomain compared to "participation".
Sentence with confusing terms	**Objective sentence**
The client effectively demonstrated how to play the rattle during the session.	The client touched the rattle during the session.
Sentence with many repetitions	**Objective sentence**
The client demonstrated that he liked the instrument very much, but did not know the name of the instrument and did not know how to play the instrument.	The client demonstrated that he liked the instrument very much, but did not know its name or how to play it.
Sentence without engagement	**Engaging sentence**
The client played the instrument for the first time.	Incredibly, this was the first time that the client played the instrument, something that we were expecting within the process.

SPECIFIC CONSIDERATIONS FOR COMMUNICATING RESULTS IN ORAL FORM

The oral communication of the results provides music therapists with the opportunity to speak directly to the recipients of those results. This oral communication can take place in different situations, and in each of them it is necessary to think about the form and content presented.

One of the first factors to be considered is the time available to present the results. Unlike a written document, music therapists generally have a limited time allotment for the oral presentation and they should manage it. In situations music therapists need to report the results over the phone, they should be very objective and go directly to the essential findings of the assessment (Osborne, 2015).

On the contrary, in situations music therapists have more time to provide feedback to family members or clients, it is possible to give more details about the information. Music therapists generally give clients feedback about the results in a hybrid session, i.e. a therapy session, with interaction between therapists and clients as usual, together with an assessment situation to show the results obtained during the assessment process (Groth-Marnat & Wright, 2016; Wright, 2020). To present assessment results at conferences or meetings with other professionals, music therapists usually show the content first and then answer questions asked by the participants.

In the case of feedback for family members, music therapists should show the results in a conversation or dialogue that makes the situation inviting. Many family members consider the feedback of an assessment invasive and

judgmental. Therefore, it is vital to create a constructive environment for this moment (Quinn & Postal, 2013).

The communication of assessment results in music therapy tends to be less tense than that in the fields of psychology, psychiatry, and neurology, which is frequently related to the confirmation of possible diagnoses. Dombrowski (2020a) created guidelines to structure the oral communication of assessment results for different therapeutic and academic situations. These guidelines can be applied to the music therapy context and are organized in six stages: 1) starting the conference (communication); 2) providing a brief description of the assessment process; 3) discussing the conclusion in advance; 4) solving any questions or concerns; 5) discussing the main domains assessed, integrating the findings, and reiterating the justification for the conclusion; 6) discussing possible recommendations. In each stage, professionals perform different actions to facilitate the process of communicating the results.

1) Starting the conference (communication): in this stage, music therapists initiate the contact with their audience. In this case, it is possible to greet people and thank them for the opportunity. Depending on the context, it may be necessary to explain the meaning of music therapy and the work of music therapists in the case presented.

2) Providing a brief description of the assessment process: music therapists should review the assessment results, emphasizing the preparation, collection, analysis, and interpretation of the information. Whenever possible, they can use examples of video, audio, or visual records (scores, graphs, photos) that make it easier to explain the results presented. If they decide to use any audiovisual resources, it is essential to

explain them, so that the audience does not come to hasty interpretations.

3) Discussing the conclusion in advance: music therapists should specify their conclusion about the assessment. It is essential to explain that the conclusion was based on music therapists' technical knowledge, but that they may be subject to possible criticism, different interpretations, and/or assessment bias.

4) Solving any questions or concerns: during the presentation of the conclusions, the recipients usually have problems related mainly to the conclusions themselves, but they can also be related to the assessment process. Music therapists should be flexible and accessible to explain the different results found in the assessment process.

5) Discussing the main domains assessed, integrating the findings, and reiterating the justification for the conclusion: after solving the possible questions asked by the audience, music therapists should provide more specific details about the domain/area of interest approached in the assessment process (cognitive, social, sensory, etc.), integrating this information about the domain with the results found and the assessment conclusions. For instance, in a case of a specific student assessed using music therapy due to difficulties with verbal expression (although the verbal language is preserved), the music therapist who communicates the results to a team of teachers in that school can provide details on the assessment, showing the verbal communication aspects that were assessed using music, such as verbal communication by means of musical narratives and musical games, and also that the student could express himself/herself by means of music in these activities. Finally, the music therapist can conclude that the

student's difficulties may be related to everyday situations, when s/he needs to interact verbally and not his/her verbal communication skills, since s/he expressed himself/herself verbally while participating in musical experiences mediated by the music therapist.

6) Discussing possible recommendations: in this stage, music therapists discuss possible recommendations for the case, which can be met or not. They can indicate whether the clients need to remain in music therapy or not, change the frequency of music therapy sessions, suggesting more or less sessions per week, refer clients to some other intervention or assessment, or recommend a change in the goals of the music therapy treatment.

FINAL CONSIDERATIONS

The communication of the results of an assessment in music therapy depends on the ways music therapists choose to transmit their findings during the assessment process. The process of transforming technical and specific data into understandable information to an audience and presenting it in written or oral forms needs to be studied. Due to the scarcity of publications on this topic in music therapy, it was impossible to provide details about different ways professionals can carry out assessment processes in a variety of contexts of practice. Therefore, more publications on this subject are necessary in the near future.

CHAPTER SUMMARY

How do music therapists communicate assessment results in music therapy?

Music therapists communicate assessment results in written or oral forms. The possible recipients of this communication are: clients, family members, or guardians, other music therapists (internal or external to the music therapy process), professionals in other areas (internal or external to the music therapy process), administrators or other people responsible for the payment of the music therapy service, professionals in the public sector (legal, social, educational, administrative, or health authorities), among others. Regardless of the recipient, music therapists should communicate the results found clearly and objectively, summarizing them and the assessment conclusions and recommendations.

PART 6:
OTHER TOPICS

CHAPTER NINETEEN

Training, teaching and supervision in the music therapy assessment context[2]

Chapter question: What are the main characteristics of training, teaching, and supervision in the music therapy assessment context?

INTRODUCTION

This chapter aims to discuss the development of skills and the body of knowledge of music therapy assessment based on training, teaching, and supervision. Music therapists should create a body of knowledge and specific music therapy assessment skills to offer clients or groups of clients a quality-based practice (AMTA, 2013b; AMTA, 2014; CBMT, 2020).

[2] My special thanks to music therapists Andeline dos Santos and Dikla Kerem for their help in obtaining information related to the music therapy programs assessed.

The basic training has the general goal of providing a basic foundation in the field, while the continuous training and supervision seek to improve the assessment skills and competences that have already been developed (AMTA, 2013a; AMTA, 2018). Teaching practice has a fundamental role, since the form and teaching methods in music therapy assessment influence music therapists learning process of this topic (Goodman, 2011). Although supervision does not involve a process between the student and the teacher, it has clear teaching and learning elements. Therefore, supervisors should consider their role as educators in this process (Forinash, 2019).

The materials developed for training, teaching, and supervision in the field of music therapy assessment are limited, and the existing ones peripherally address these topics. Some documents clearly describe the skills and knowledge music therapists should have of music therapy assessment. Nonetheless, they do not clearly explain the ways these contents are taught or worked on. The guidelines on music therapists' professional competences developed by AMTA (2013b) have specific sections about assessment, as well as competency-based standards to ensure the quality of training and clinical experience in music therapy. The assessment skills are included in the sections as follows: 10. Fundamentals and principles, 11. Clinical assessments, 12. Treatment planning, 13. Therapy implementation, 14. Treatment assessment, 15. Documentation, and 16. Termination/discharge planning. The certification domains created by CBMT (2020) are even more explicit about the different skills music therapists should develop for music therapy assessment. The document details the appropriate assessment skills to each of the different contexts music therapists should assess. Section II “referral,

assessment, interpretation of the assessment, and treatment plan" focuses on the prescriptive aspects of music therapy assessments. Some topics in this section include implementing an appropriate referral system for the population, obtaining information about clients regarding available resources, interpreting assessment information, communicating results, and assessing the role of music therapy in the general therapeutic program. Section III "treatment implementation and documentation" addresses knowledge of the formative assessment dynamics, mainly concerning music therapists' documentation of the different stages of treatment. The section describes items such as monitoring clients' development using the selected data collection system and recording responses, progress, and results securely. Section V "assessment and treatment termination" presents considerations on formative and summative aspects of the assessment process. Among the main items, it is worth highlighting the review of data and information relevant to clients' treatment process and providing data-based reasoning for the discharge process. Among the materials about skills and knowledge, two editions of the Clinical training guide for the student music therapist (Wheeler, Shultis & Polen 2005; Polen, Shultis & Wheeler, 2017) are worth mentioning, because they explain the skills and knowledge music therapists should develop for music therapy assessment, geared towards music therapy students. The publications cited above point out the skills and knowledge on music therapy assessment that music therapists should develop. However, they do not explain when, how, and where they should be developed. These publications are not intended to clarify these points and no general guidelines are available to provide clear answers to these three questions. Thus, a

discussion about training, teaching, and supervision in the music therapy assessment field can help answer them. Training mainly discusses when and where skills and knowledge of music therapy assessment are developed. It defines when music therapists learn about different assessment topics in training and the context (where) in basic training and continuing education. Teaching and supervision are mainly related to how music therapists develop skills and knowledge of assessment. Music therapists can learn through teachers' teaching practices (in the classroom or in a practice context) or through the teaching-learning processes carried out between the supervisor and the professional receiving the supervision based on specific practice needs. Training, teaching, and supervision in music therapy assessment are discussed separately in this chapter, even though they are interconnected. The foundations of the themes presented here are based on three axes: analysis of academic bachelor's and master's degrees in music therapy, analysis of the literature on training, teaching, and supervision, and the author's experience with these themes. The curriculum or general description of the bachelor's and master's degrees in music therapy in 116 educational institutions in 17 different countries were analyzed.

The choice of programs followed two criteria: 1) the curriculum analysis or the general description of courses from institutions belonging to countries where music therapy is already a consolidated profession; 2) the analysis of curriculum or the general description of programs of institutions in different continents and regions. Anytime it was not possible to access curriculum of training courses, specialists were contacted to obtain detailed information. The search for the names of institutions was based on the analysis of information

available on websites of music therapy associations and websites specialized in education and training. Since convenience sampling was applied to select the institutions, this analysis may not represent all the perspectives of training in music therapy assessment.

However, given the number of courses analyzed and the representativeness of different regions globally, this analysis may play a central role in understanding the manners the programs address the theme of music therapy assessment in their curricula. Among the 116 institutions analyzed, the distribution per country was as follows: Argentina (n = 5), Australia (n = 2), Austria (n = 2), Brazil (n = 6), Canada (n = 4), Denmark (n = 1), Germany (n = 5), Israel (n = 3), Japan (n = 1), the Netherlands (n = 2), New Zealand (n = 1), Norway (n = 2), South Africa (n = 1), South Korea (n = 1), Spain (n = 4), the United Kingdom (n = 6), and the United States (n = 70). Among these courses, 49 offer only the bachelor's degree in music therapy, 31 offer only the master's degree, and 36 offer both the bachelor's and master's degrees. Altogether, 85 bachelor's degree and 67 master's degree curricula were analyzed, totaling 152. In the appendices of this book, there is a table with the complete list of institutions, including a description of the training modality in each institution (bachelor's and/or master's) and the names of the subjects of the assessment. It is important to note that only the institutions that enabled access to the topics covered in each course or the general course structure were included. The links of the websites and the analyzed documents in each course are in the references of this book.

This chapter is based on Goodman (2011), the only material found that discuss music therapy assessment teaching and

training. Also, the experience of the author of this book, mainly with music therapy assessment teaching and supervision, is also shared here. Therefore, the author included some notes of his own experience as an educator in different teaching programs, a researcher in the field of music therapy assessment, a member of the IMTAC, and a supervisor in the field of music therapy assessment in different clinical contexts.

MUSIC THERAPY ASSESSMENT TRAINING

Among the 152 different bachelor's and master's degrees in music therapy, most courses do not have a specific course on music therapy assessment. Only 29 of them describe a specific course related to assessment (inside or outside the music therapy context). Among these courses, 9 were present in bachelor's degrees and 20 in master courses (Table 35).

Table 35. Music Therapy assessment in different curricula

Name of the course	Academic degree	Institution (country)
Applied audio perception II	Bachelor's	Universidad de Buenos Aires (Argentina)
Vocal and instrumental analysis I	Bachelor's	Universidad Maimónides (Argentina)
Vocal and instrumental analysis II	Bachelor's	Universidad Maimónides (Argentina)
Music therapy diagnosis	Master's	Universität für Musik und darstellende Kunst Wien (Austria)
Psychological diagnosis and assessment	Master's	Universität für Musik und darstellende Kunst Wien (Austria)
Music therapy listening and analysis in special education and mental health	Bachelor's	Universidade Federal de Goiás (Brazil)
Music therapy listening and analysis: social and educational areas	Bachelor's	Universidade Federal de Goiás (Brazil)
Music therapy listening and analysis: hospitals and public health	Bachelor's	Universidade Federal de Goiás (Brazil)
Music therapy listening and analysis: organizational area	Bachelor's	Universidade Federal de Goiás (Brazil)
Music Therapy Assessment (optional)	Master's	Aalborg Universitet (Denmark)
Introduction to videography and video analysis	Bachelor's	IMC Fachhochschule Krems (Germany)
Applied videography and video analysis in music therapy	Bachelor's	IMC Fachhochschule Krems (Germany)
Assessment and clinical practice with children and adolescents	Master's	SRH Hochschule Heidelberg (Germany)
Therapeutic interview theory	Master's	Bar-Ilan University (Israel)
Music therapy assessment	Master's	David Yalin College of Education (Israel)
Music-based assessment (seminar)	Master's	University of Haifa (Israel)
Documentation and assessment	Master's	University of Pretoria (South Africa)
Seminars and presentations ll - Initial and general assessment in music therapy	Master's	Universitat de Barcelona (Spain)
Observational studies	Master's	University of Roehampton (United Kingdom)

Music therapy assessment, treatment, and clinical processes	Bachelor's	Augsburg University (United States)
Clinical analysis and assessment	Master's	Drexel University (United States)
Assessment and evaluation techniques in music therapy	Bachelor's	Indiana Wesleyan University (United States)
Applied music assessment in music therapy/education	Master's	Florida State University (United States)
Clinical music therapy assessment	Master's	Immaculata University (United States)
Assessment and planning for students with learning challenges I (optional)	Master's	Montclair State University (United States)
Assessment and testing in mental health counseling	Master's	Lesley University (United States)
Clinical interview (optional)	Master's	Montclair State University (United States)
Music therapy assessment in clinical practice	Master's	Montclair State University (United States)
Observation and assessment of young children with disabilities: from birth to 8 years old (optional)	Master's	Montclair State University (United States)
Psychometry (optional)	Master's	Montclair State University (United States)
Therapy and observation skills for music therapy	Master's	Montclair State University (United States)
Human development and assessment in creative art therapies	Master's	Nazareth College (United States)
Initial assessment and process assessment (evaluation) in music therapy practice	Master's	Shenandoah University (United States)
Assessment, measurement, and assessment in music therapy	Bachelor's	Slippery Rock University (United States)
Medical music therapy assessment and treatment	Master's	State University of New York New Paltz (United States)
Assessment in music therapy and counseling	Master's	St. Mary-of-the-Woods College (United States)
Music therapy assessment	Bachelor's	University of Georgia (United States)
Practicum I - assessment and results	Bachelor's	University of Louisville (United States)
Practicum II - assessment and results	Bachelor's	University of Louisville (United States)
Observation and assessment in music therapy	Master's	University of the Pacific (United States)

Music therapy doc: assessment, treatment plan, progress notes	Bachelor's	William Carey University (United States)

The fact that more assessment subjects are offered in master's courses than in undergraduate courses does not necessarily mean that the assessment subject refers to a more advanced body of knowledge. Some of the master's courses with assessment subjects are training courses with no previous bachelor's level training. Among the courses that offer bachelor's and master's degrees, more assessment subjects are found in the latter. Even if the number of subjects related to assessment is higher in master's courses, the difference in absolute numbers is not considerable, therefore, no clear patterns were identified for possible conclusions or statements.

The analysis of the curricula clarifies that music therapy assessment does not have a prominent place or a specific program in most training courses. This finding can be analyzed from different points of view. On the one hand, it shows that music therapy assessment can be included in training in various disciplines and is considered an essential part of the programs. On the other hand, it shows that assessment is secondary, and methods, theories, and techniques are the priorities. Thus, an important question is: why is there restricted interest in having specific subjects on assessment in music therapy training courses? The historical development of music therapy publications can provide answers to this question.

Throughout the history of music therapy, two aspects have been prioritized: systematizing intervention practices and creating theoretical foundations that justify these practices. Since music therapy is a recent profession, developed in the mid-1950s, prioritizing aspects related to interventions is

understandable. The publications on music therapy assessment have always existed, but mostly in a fragmented manner. Most publications dedicated to music therapy assessment are associated with models, approaches, or interventions, a specific assessment tool, or general descriptions of the topic summarized in articles, book chapters, and documents produced by music therapy associations. This perspective has been changing since the publication of Microanalysis in music therapy: methods, techniques and applications for clinicians, researchers, educators, and students (Wosch & Wigram, 2007). This is one of the first books exclusively on music therapy assessment internationally recognized. Although the book prioritizes a specific assessment aspect, namely microanalysis, the whole contents are related to assessment methods. In 2018, the second main specific book on music therapy assessment was published, Music therapy assessment: theory, research, and application (Jacobsen, Waldon & Gattino, 2018). It brings a compilation of the main existing tests in music therapy and describes the foundations of music therapy assessment, psychometric aspects, and music therapy assessment without using assessment tools.

In conclusion, there is a historical explanation for not prioritizing music therapy assessment in the curricula. However, this tends to change as this theme becomes more recurrent in music therapy publications, giving more space to promote it. This is one of the goals of the IMTAC, a collaboration network organized by different music therapists worldwide to promote and study themes related to music therapy assessment. Another important aspect about training is the process of learning each of the different skills related to assessing clients in music therapy.

To the best of our knowledge, the only publication about it is Goodman (2011). The author believes that the development of assessment skills should occur progressively. At first, students should learn to assess by observing other professionals, learning to use prescriptive, interpretive, and diagnostic forms of assessment, in this order. Moreover, initially, students should only assess part of an assessment, and gradually assess a more significant amount of material about clients or groups. Throughout these observation practices, students should be allowed to assess individuals who are not receiving music therapy, who are receiving group music therapy, or who are receiving individual music therapy. Goodman (2011) affirmed that students should learn to assess by observing different scenarios, starting with one client and progressively increasing this number, and should apply a full assessment using an assessment tool only during their internship.

The themes discussed by Goodman (2011) are fundamental, inasmuch as they show the path towards different contents in the music therapy assessment field based on the skills students demonstrate and the tasks they perform. In addition to the points exposed by the author, music therapy training should first introduce the assessment topic theoretically and then put it into practice. Music therapy assessment can be introduced in the first disciplines of music therapy training, since it is one of the main axes of the music therapy process and present in all the stages of this process. Furthermore, training can develop assessment associated with disciplines on development throughout life, because the observation during different periods of development is essential.

The assessment topic can also be approached in the subjects about methods, theories, and techniques as an essential component to analyze different interventions and the music therapy process. In addition, having an exclusive course on music therapy assessment is vital to cover details of its specific theoretical and practical aspects. In agreement with Goodman (2011), students should start the assessment practices by observing other professionals, so that they can have a progressive development of these skills. Then, during the internship, they can practice more complex assessment skills, which should be improved during the supervision process. During this process, students learn to organize and develop assessment documents about the music therapy process, as well as communicate the results of their assessments.

For Maranto and Bruscia (1988), most educators believe that observation/pre-internship and internship practices are the best moments to assess music therapy clients. During training, it is of paramount importance to dedicate time primarily to analyze and interpret materials of music therapy assessments, because these skills are usually learned by extensively practicing them. Learning to use music therapy tests or highly complex assessment tools is not necessarily a priority in basic music therapy training. Complex tests and assessments require specific training, which is usually carried out during music therapists' continuing education. Some examples of tests that require particular training due to their complex application and analysis are MATADOC (Magee et al., 2012) and APCI (Jacobsen, 2016).

TEACHING MUSIC THERAPY ASSESSMENT

Music Teaching music therapy assessment involves practical and theoretical activities. Goodman (2011) proposed that an assessment course should start by teaching how to apply assessments to different populations, conduct simulations of assessment experiences with students, and perform assessments in real situations. The author suggested that students present a final project showing a global assessment at the end of the course to demonstrate skills to plan, conduct, assess, and write a global assessment. Goodman (2011) emphasized that this teaching process should occur progressively, because this helps learn different contents. In fact, students should gradually learn by practical experiences using music therapy assessment practices.

To continue the discussion on teaching, the author shares here some of his experiences as a professor of music therapy assessment in the master's program in music therapy at the Aalborg University (Denmark). This subject is organized in seven different classes, with the following themes: fundamentals of music therapy assessment, theoretical aspects of music therapy assessment, selecting assessment methods in music therapy, applying various assessment tools in music therapy, analysis and interpretation of assessments in music therapy, development and adaptation of assessment tools in music therapy, and presentation of different assessment tools by students.

Briefly, students understand the basic principles and concepts of assessment in music therapy during the first classes. This is achieved principally by understanding that

music therapy assessment takes place in different stages of the music therapy process. Music therapy assessment practice has its own process organized in the following stages: preparation, data gathering, analysis and interpretation of data, documentation and communication of data/results. After understanding these processes, students can learn the other assessment purposes (diagnostic/prescriptive, formative, summative, interpretive), the variables assessed (quantitative and qualitative), and the types of assessments in music therapy.

Based on this initial understanding, they learn by practicing music therapy simulations (role playing) and analyzing videos, audios, and texts. In the music therapy assessment discipline at the Aalborg University, offered to students in the seventh semester of training, the final assignment is the presentation of an assessment tool. This subject also provides an opportunity to learn more about the assessment tools students are interested in. The discipline is structured following a progressive analysis of the topic, as described by Goodman (2011), and one of its main characteristics is the focus on problem-based learning (PBL) a teaching model applied at the Aalborg University (Kolmos, Fink & Krogh, 2006). In 2020, due to the pandemic, this discipline focused on the flipped classroom format, which especially resonates with the PBL model (Valente, 2014). In this class format, students have a great deal of preparation time to attend different lectures recorded by the teachers concerning different contents of the discipline. In face-to-face classes, teachers are facilitators and help clarify students' questions about the contents and develop practical experiences to work on the different contents learned.

The most significant difficulties for students in this course include understanding complex concepts such as a construct,

interpreting different items of assessment tools, and interpreting the results of an assessment based on a music therapy theory or concept. Among them, the second one is worth highlighting. Students are surprised by the subjectivity of these items, even when they are present in tests. The discussions in class make it clear that most music therapists that have already completed their studies also face these challenges, and perhaps some tools should be reviewed. Therefore, the teaching practice can lead to important questions for future research on music therapy assessment.

The goal of the assessment course in music therapy at the Aalborg University is to provide a detailed model of the teaching process of this theme, which has shown satisfactory results. Different methods and styles of teaching are available, and they should all be valued. Due to the lack of publications on teaching music therapy, more educators should be encouraged to share their experiences in this area, considering different theoretical and cultural perspectives.

Supervision in the field of music therapy assessment

Music therapy supervision is an interactive process between a practitioner (student or trained professional) and a more experienced music therapist, focused on musical, practical, and dynamic aspects (adapted from Bunt & Hoskyns, 2013, p. 262). The concept of supervision can also be understood as a formal process to discuss the therapeutic content, the processes, and the work of the supervisee (BAMT, 2012). The focus during supervision is to address the complexities of helping

supervisees in their continuous (and endless) development as competent and ethical professionals.

The literature on supervision in music therapy is restricted to three books that systematically organize the main contents and discussions on the topic: two editions of Music therapy supervision organized by Forinash (2001 and 2019) and Supervision of music therapy: a theoretical and practical handbook, organized by Odell-Miller and Richards (2009). The three of them have a similar focus regarding music therapy training: most of the content peripherally addresses assessment and only a small part provides more in-depth discussions on developing assessment skills among supervisees or analyzing supervision cases focusing on music therapy assessment.

Although this chapter concentrates on the ways music therapy assessment is worked on in the supervision process, it is essential to observe that the three books cited bring discussions on the following topics: how music therapists should assess the supervision process, the aspects that should be considered in the assessment of the supervision process (including the self-assessment of supervisees), and the elements that should be observed in the supervisee (Hahna & Forinash, 2019; Oswanski et al., 2019).

Among the different discussions on how to assess clients or groups in the supervision context, there should be special concern for the cultural aspects and the supervision work carried out for and with the LGBTQIA+ community (Estrella, 2001; Oswanski et al., 2019). It is necessary to make the supervisee aware of the potential biases in the assessment processes related to cultural aspects, because the use of assessment tools, activities, procedures, and interpretations of music therapists may not always consider the clients' cultural

and linguistic characteristics (Estrella, 2001). Supervisees should be extra cautious while assessing and diagnosing, setting treatment goals and interventions, and trying to overcome language barriers if clients belong to minority groups. Supervisors working with and for the LGBTQIA+ community should consider the ethical requirements to increase self-awareness, education, training, and direct assessment practices in this context (adapted from Oswanski et al., 2019). An assessment tool was especially developed for supervision in the LGBTQIA+ context, the Sexual Orientation Matrix for Supervision (Long & Lindsey, 2004). This tool was developed to assist supervisors in the preparation of supervisees to work same-sex couples and it is based on two central issues: the level of heterosexual bias and the acceptance of LGBTQIA+ orientations and behaviors. Although it is not a specific tool for the music therapy practice, it has been included in music therapy at the intersection of the topics supervision and LGBTQIA+.

Bruscia (2001c) stated that the client-oriented assessment process in music therapy represents the focus of supervision. In this type of supervision, supervisors are less focused on what supervisees need to do or learn and more focused on who the clients are and on the nature of their health conditions and needs. In this modality, there is a shift from a treatment orientation, which emphasizes inducing changes in clients, to an assessment orientation, which emphasizes a better understanding of clients. One of the supervision models with a clear proposal for including assessment practices in music therapy in a music-centered perspective is the aesthetic music therapy (Lee & Khare, 2001; Lee & Khare, 2019), which considers the musical dialogue the core of the music therapy

process. In both editions of Music therapy supervision (Lee& Khare, 2001; Lee & Khare 2019), aesthetic music therapy is based on four stages: clinical listening, clinical assessment, clinical interpretation, and clinical judgment. Considering that the listening process is the center of the supervision in aesthetic music therapy, all the stages of supervision should be focused on assessment aspects.

Unlike other supervision proposals, this model uses the analysis of the audio recordings of music therapy sessions. The supervisor has the role of facilitating and challenging the supervisee based on different musical content understandings. In the supervision process, it is assumed that it is necessary to analyze the complexities of musical content so that a clinical judgment can be made at its end (the last of the four stages of supervision). In the clinical listening stage, the supervisees should analyze the structure of the musical dialogue related to the musical parameters. They should bring the transcripts of the music with the scores to the supervision sessions for discussion. During the clinical assessment stage, the supervisees should assess the clinical dialogue carried out during the music therapy sessions. In this stage, two central areas should be addressed: the quality of the musical resources used and the musical assessment skills. In the clinical interpretation stage, the supervisees should perform a more in-depth analysis of the dialogues and interactions, seeking possible explanations for what occurred in the analysis and listing musical and non-musical aspects. The last stage, clinical judgment, refers to achievable goals and objectives developed with the clients based on the work carried out in the previous stages. In a behavior-centered perspective, two supervision models also value assessment practices during the process: the systems

analysis approach to music therapy practica (Hanser, 2001) and the competency-based approach to internship supervision (Farnan, 2001).

Hanser (2001) proposed a model that should be developed with students during their observation practices and includes the following stages: 1) tour through the facilities (collect information about clients); 2) observation form for group activities (observe a client in a group); 3) guidelines for the initial assessment (collect information about clients from musical records and interviews with the professional team); 4) definition of goals and objectives; 5) definition of responses (define the target behaviors that should be developed and the desired responses to them); 6) outline of the treatment plan (define the treatment plan for the clients) and summary of the music therapy treatment (students prepare a summary of the treatment process). This supervision model has assessment documents for all the stages performed by students.

Farnan (2001) proposed a model that should also be carried out with students during their music therapy practices. Nonetheless, it is more focused on the various skills that students need to develop in three different internship segments. The first segment is the dependency stage, in which students need more support from the supervisor. The second stage is the autonomy stage, in which students have greater independence in their activities. The third segment is the independence stage, in which students already manage to be independent of the supervisor to plan their work. In this model, assessment skills should be principally worked on in the second (more autonomous) segment, because the music therapy process needs to be deeper. The skills in this segment are related to the initial assessment process and also to the assessment process

itself. In the third segment, the assessment skills are related to the documentation of the music therapy process.

The abovementioned models provide important considerations about music therapy supervision in the assessment context from different perspectives. After this overview of the topics within the supervision context, some professional experiences as a supervisor are here shared to reflect on very particular aspects of the supervision practice in a music therapy assessment.

Many professionals seek supervision in music therapy to solve specific problems in their clinical practice. The themes they most often want to discuss with supervisors relate to assessment aspects. Supervisees usually do not have a clear understanding of the goals and objectives of the process or the ways to assess them. Additionally, supervisees often look for activities to solve difficulties with interaction or search to modify clients' behaviors. However, there is no clear assessment of clients' potentials and difficulties and the ways they manifest during the music therapy process. Therefore, the supervision is often used to review basic assessment questions that should be addressed during the basic training.

One of the main difficulties is interpreting the manifestations of clients or groups during the sessions. Usually, in only a few supervision sessions, the supervisees can already understand their practice and work without a constant need for supervision. It is also possible to observe that music therapists who wish to learn more about different topics related to music therapy assessment have an increase in the need for supervision. Most music therapists are interested in learning how to use and interpret music therapy assessment tools, assess

clients during the first meetings to establish treatment goals, and analyze and interpret music therapy videos.

FINAL CONSIDERATIONS

This chapter is probably one of the first to relate the topics of training, teaching, and supervision in the field of music therapy assessment. It is clear that more publications and reflections are needed for each of the three topics. This chapter is intended to help music therapy educators and supervisors understand the relevance of this topic for different discussions in the discipline.

CHAPTER SUMMARY

What are the main characteristics of training, teaching and supervision in the music therapy assessment context?

Training, teaching, and supervision are related to developing skills and knowledge on assessment in music therapy. Training mainly shows when and where music therapists should develop skills and knowledge. Teaching addresses how they learn about assessment. Finally, supervision is the formal process to discuss the therapeutic content, the processes, and the work of the supervisee related to music therapy assessment (learning from practice).

CHAPTER TWENTY

Music therapy assessment in the COVID-19 pandemic: challenges and solutions

Chapter question: How has the COVID-19 pandemic impacted on music therapy assessment?

INTRODUCTION

In 2019, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a new variation of the coronavirus, appeared in China (Adhikari et al., 2020). In 2020, this virus spread around the world, causing the COVID-19 pandemic. In turn, the pandemic led to the interruption of many activities and people had to modify their habits to contain the transmission of the virus, adopting social distance, thorough cleaning, constant hand hygiene, as well as the use of a face mask covering the nose and mouth (Ho, Chee & Ho, 2020; Rodríguez et al., 2020). On June 9, 2021, 173,609,772 cases had been confirmed and 3,742,653 deaths had been reported globally since the

pandemic began (WHO, 2021). Precisely because of its high morbidity, between January and March 2020, several countries decreed a quarantine system, suspending several external activities and allowing people to leave home only to perform specific and controlled activities (Khan et al. 2020).

Some countries have adopted stricter systems of isolation and social distancing, specifically establishing the lockdown system, a restriction policy in which almost all facilities are closed, all activities are paralyzed, only groceries, hospitals, and pharmacies are allowed to open, and people circulation is restricted (Rossi et al., 2020). The shutdowns and closures caused by quarantine and lockdown in different countries have caused significant economic damage and impact on people's mental health around the world. The pandemic has been affecting most professions, including music therapists (Gaddy et al., 2020). These professionals have spent long periods without attending clients or had to adapt to remote work (working from home), classified as telework or virtual music therapy (Glover, 2020). For music therapists who continued to work with their clients or who returned to the face-to-face modality, major adaptations were necessary to adopt social distancing measures in some cases, the use of masks, as well as constantly cleaning hands and instruments (Alves, 2020). It is possible to state that music therapy has undergone several modifications to adapt to this new reality as a professional practice. These changes have impacted on the use of methods, theories, and techniques, as well as on the understanding of the music therapy process (Gattino, 2020a). This chapter aims to discuss the ways the COVID-19 pandemic has impacted on the study and assessment practice in music therapy. The topics covered are related to the difficulties, challenges, and

adaptations required in the assessment field and the consequences of the pandemic for the future of music therapy assessment.

DIFFICULTIES, CHALLENGES AND ADAPTATIONS IN THE MUSIC THERAPY ASSESSMENT PRACTICE

The difficulties, challenges, and adaptations related to assessment practices in telemusictherapy and face-to-face sessions during the COVID-19 pandemic are here discussed. It is worth noting that due to the scarcity of publications on music therapy assessment during the COVID-19 pandemic, for each of the two modalities, some points are approached based on the scientific literature on the practices of music therapy during the pandemic, whereas many of the themes and reflections are based on the experience of the author as an educator, supervisor, and clinician throughout 2020.

Difficulties, challenges, and adaptations related to telemusictherapy

Adapting sessions to the telemusictherapy modality during the pandemic (Brandalise, 2019; Carvajal, 2020; Negrete, 2020) caused apprehension, discomfort, and concern among many music therapists, especially regarding the ways to perform the assessments. According to the perceptions of the author as a professor and supervisor of music therapists in

Argentina, Brazil, Spain, Paraguay, and Portugal, and his experience participating in different scientific events, the main difficulties and challenges music therapists have been facing can be contextualized in the following questions:

1) How will music therapists and clients adapt to the use of video call platforms to conduct music therapy sessions?

2) How will the perceptions and/or judgment of clients or groups of clients be limited or mistaken since the information available is restricted to that supplied in video calls?

3) What resources are needed to make the audio quality good?

4) Will it be possible to work on the same goals with clients or groups, or will it be necessary to carry out a new assessment to structure a new treatment plan for the virtual setting?

5) Will the music therapy assessment tools available maintain their same properties in the virtual setting?

6) Will it be possible to start a new music therapy process having the entire initial assessment process exclusively in the virtual setting?

7) What are the musical experiences, software, and musical applications that can be used in the virtual setting that can really meet music therapists' assessment needs?

Music therapy sessions using video call platforms

At the beginning of the pandemic, one of the main difficulties of clients and music therapists was to become familiar with the video call platforms for the music therapy sessions. The first point was choosing the best platform for the

sessions. Music therapists performed several tests until they found the platform that best suited their professional needs to conduct the sessions. Most music therapists currently use platforms such as Google Meet, Zoom, and Microsoft Teams (Carvajal, 2020). The guidelines for remote music therapy sessions in some countries (such as the United Kingdom and Brazil) recommended the use of a video platform that enables data encryption (a process that aims to make it impossible to read the connection data except for those that have specific identification), increasing the security and confidentiality of the session data (BAMT, 2020; UBAM, 2020).

Based on the experience of some music therapists who were the author's students and supervisees during the pandemic, one of the challenges was instructing clients or their family members to use the abovementioned platforms. Some of the main difficulties clients and family members faced were downloading and starting the program, entering the video call link, activating the audio, and activating the video. A solution found by some music therapists to help clients and family members was to send videos explaining how video call platforms work or conducting short meetings to test the use of the platform before the sessions. Music therapists also faced many challenges to become familiar with the platforms, especially related to sharing computer audio and video and checking the audio quality of the session while playing or singing a song. Platforms such as Zoom offer an option to share the original sound of the computer (Strohl et al., 2020), improving audio capture.

Collection, analysis, and interpretation of information on video calls

Video calls offer great resources to assess clients or groups, because it is possible to see and hear them (AMTA, 2020). However, clients' visual perception and listening do not happen in real-time, due to the delays between image and sound that depend on the quality of the connection established (Alchamdani et al., 2020). Also, video calls do not provide a global view of clients in the setting, sometimes showing only one angle of clients and, in many cases, only the person's face. Due to the low quality of the connection, many music therapists have reported difficulties in observing or interviewing clients and, in some cases, the call would end, a frequent complaint of professionals that offered health services in the virtual setting (Slavin-Stewaart, Phillips & Horton, 2020), or there were interruptions, or the video froze, or the audio disappeared for a few moments, or even failed completely. These failures and difficulties related to the Internet signal caused a decrease in the quality of assessment practices in music therapy, because not always it was possible to assess clients exactly at the moment something specific happened. For example, if a failure occurs while a client is saying something crucial for the process, the therapist may miss it.

Another important point to consider in different assessments is the correct position of clients in the camera frame (Vaudreuil et al., 2020). If music therapists do not see the clients' entire body in the video, it is difficult to notice changes in posture and/or movements. Clients often react in certain ways with their bodies when touching or verbally expressing emotions

and feelings. However, the wrong camera frame can make it difficult to observe these expressions.

Audio quality of virtual sessions and assessment practices

One of the main difficulties for music therapists to observe, test, or interview clients in video call is the audio quality of the music therapy sessions (Knott & Block, 2020). Music therapists can neither listen to all the sound frequencies produced by the clients while playing or singing nor perceive small variations in the intensity of their musical expression (Simacek et al., 2020). Consequently, the analyses and interpretations of timbre are impaired, because music therapists cannot perceive small nuances of the variations in sound frequencies. This also happens with aspects related to intensity.

Although large variations in volume level are noticeable, some variations have limited perception. In addition, in video calls, it is difficult to understand the musical phrasing, which combines intensity, timbre, tempo, and articulation to express a musical idea. Therefore, if music therapists use assessment tools such as IAPs (Bruscia, 1987), it is necessary to pay close attention to what is being played to have an accurate perception of the musical parameters, the main source of analysis in this assessment tool. An adaptation that many music therapists have been applying is to record the sessions, after obtaining the clients' or group's consent, to perform a careful analysis of what was played in the sessions afterwards. Another solution many professionals have been adopting is to improve the audio settings for both therapists and clients.

Assessing the Goals of the process in virtual sessions during the pandemic

Currently, the most important issue is not the type of session (in this case, virtual), but the difficulties and needs experienced by the clients or groups. Many music therapists realized that in a formative assessment of the music therapy treatment it would be necessary to work on other clients' goals, because their needs have changed in many cases (Gattino, 2020a). Thus, music therapists should perform a new general assessment of their clients to establish new therapeutic goals. They should reflect whether the new goals are solely related to the current moment experienced by the clients during the pandemic or the goals previously established should be abandoned.

As previously described, it is difficult to perceive the needs and problems that should be addressed with the clients in video calls, because this modality does not provide a global perception of them. A possible adaptation to this new scenario is to carry out music therapy activities that offer different musical products (records), so that music therapists can carefully analyze them posteriorly. These products consist of texts of songs brought to the sessions or written by the clients, recordings of songs played or composed by or in partnership with the clients, and the analysis of musical stories created during the music therapy sessions. The analysis of these materials enables musical therapists to perceive clients' musical traces (Barcellos, 2012). A new problem that emerged during the pandemic regarding assessing the goals in music therapy is the assessment of clients with COVID-19 (Sierra, 2020).

Considering the unprecedented nature of the services provided for this population, the first music therapists who

worked in this area had many questions about the assessment of these clients, mainly about the definition of clear goals to be worked on and the ways to assess the progress of the therapy, due to the lack of knowledge of the evolution of the disease and its comorbidities at the beginning of the pandemic (Alves, 2020; Sierra, 2020;). Based on the first cases music therapy was used to help COVID-19 patients, the goals were centered on providing emotional support for the clients and their family members and helping them deal with fatigue and respiratory comorbidities (Ferrari, 2020). During the pandemic, a hybrid service (virtual/face-to-face) took place. Music therapists collected data about the clients (musical preferences, clinical history, among other information) with the help of family members during the preparation stage using the virtual modality. After that, they used the information collected to assist in the assessment of the goals established during the session and held face-to-face sessions with the clients (Sierra, 2020).

For some situations, the goals were assessed in a focal manner, since music therapists had only one session with the clients, whereas in other cases, they were assessed in a procedural manner, because music therapists had the opportunity to meet the clients in many sessions, and even after they recovered from COVID-19 but remained hospitalized (Alves, Ferrari & Sierra, 2020). In some circumstances, the sessions were only online, with the participation of clients and family members. One of the difficulties pointed out by music therapists to assist and assess clients with COVID-19 was establishing direct interactions with them due to the high risk

of contagion and the limited use of musical instruments to perform the sessions because of biosafety issues.

The pandemic provided yet another modality: music therapy for health professionals who work in clinics and hospitals directly assisting COVID-19 patients (Giordano et al., 2020). In these cases, the goals assessed were mainly focused on managing stress, anxiety, concerns, and the physical and mental exhaustion of these professionals. Music therapy practice for health professionals was implemented in many hospitals worldwide mainly using a focal process, i.e. music therapists assess the progress of therapy focusing on more general goals common to professionals who care for people with COVID-19.

THE USE OF ASSESSMENT TOOLS IN MUSIC THERAPY IN THE VIRTUAL SETTING

Music therapists usually use assessment tools they created to meet the specific needs in their professional practice (Gattino, 2020b), as well as observation tools widely applied by different music therapists around the world. Assessment tools in music therapy are created for use in face-to-face modality. For this reason, using this type of tool in the virtual modality does not guarantee the maintenance of the same characteristics to assess a content, construct, or domain, since its application has been modified by using it in an unplanned format. Based on the scoping review carried out in Chapter 8, to date no publications have been found about adapting assessment tools in music therapy to the virtual modality.

Nevertheless, it is noticeable in training and supervision that music therapists had to adapt the use of different music therapy tools to the virtual setting. A possible adaptation to help maintain the properties of a music therapy assessment tool is to create an application protocol for the virtual modality. It is recommended to use the ITC (2017), described in Chapter 13, for this type of adaptation. Some of the possible suggestions for adaptations, according to the present author's experience, are to increase the number of sessions to apply the tool, increase the time of certain musical activities performed, or even suggest new activities for the application of the tool used.

According to the author's experience, an assessment tool that was already used in some music therapy processes in the virtual setting was the MEL scale (Gottfried et al., 2018). This tool was developed especially for family music therapy counseling and allows family members to describe the ways the family develops musical activities at home, their musical preferences, and the ways music is used in the family context. Because it is easy to complete and interpret, MEL can be used both to assess the family context at the initial moment of data collection (even during the referral) and assess clients' progress.

This book aims to offer an essential and practical overview of music therapy assessment so that music therapists, music therapy students, clients, as well as students and professionals in other fields can have access to basic knowledge of this topic. This is the precise reason why the title of this book is Essentials on music therapy assessment. This publication seeks to provide foundations to help readers understand the essential elements of music therapy assessment. It is organized based on the four

stages of the assessment process: preparation, data gathering, analysis and interpretation of data, and documentation and communication of data/results of an assessment. Each part addresses themes related to each of these four stages. It also has a part that helps introduce music therapy assessment, starting from its foundations, and a part with complementary subjects that offer relevant themes related to music therapy assessment, focusing on the four stages of the assessment process. Given that this publication is an overview of the music therapy assessment topic worldwide, it does not bring in-depth discussions about the context or situation of a specific country.

This publication has differences and similarities compared to other books that also cover music therapy assessment. Chase (2002, as quoted in Boyle, 2004) published a practical music therapy assessment guide, mainly dedicated to music therapy students, to help organize their practice and provide general knowledge on the subject. According to Boyle (2004), that is an introductory book that brings a brief overview of the different aspects of the music therapy process. Compared to that publication, this book has a similar proposal of providing a basic view on music therapy assessment, but it also offers an updated perspective on the subject, mainly considering the publications on music therapy assessment in the past 20 years. Furthermore, this book focuses not only on materials published in English, but also considers publications in languages such as German, Spanish, Korean, Danish, Hebrew, Japanese, French, and Portuguese, which also provide essential contributions to this matter. This book also differs from music therapy assessment publications that are centered on an assessment tool or method (Baxter et al., 2007, Carpente, 2013; Wosch & Wigram, 2007a), because although it also addresses these

topics, it does not approach them as deeply as the specific publications.

The most recent book on music therapy assessment was published by Waldon, Jacobsen and Gattino (2018). The authors provided an overview of music therapy assessment in the first three chapters, including historical aspects, characteristics of music therapy assessment, different types of assessment, a psychometric definition and explanation, and general assessment considerations when a specific assessment tool is not used. The remaining chapters offer a detailed description of 16 assessment tools, which are mostly tests. The present publication has some similarities with the book organized by Waldon, Jacobsen and Gattino (2018) regarding some theoretical understandings, especially about music therapy process, music therapy assessment methods, and psychometric aspects.

Nonetheless, unlike the abovementioned book, the present one does not focus on the detailed description of assessment tools. Another essential difference between them is that the theoretical foundation of the other book is mostly based on psychology and education studies related to tests. In this book, the use of formal assessment tools such as tests is considered, but has limited space, since the author aims to present informal assessment methods such as the use of performance tasks and rubrics, detailed throughout the book. One more difference between them lies in the fact that the book published by Jacobsen, Waldon and Gattino (2018) approaches assessment methods in a very summarized manner, only in the first chapter of the book, whereas in the present publication each method has

a specific chapter dedicated to explain its characteristics and explore various ways to use them.

Additionally, this book mostly presents unpublished themes that other publications have not addressed yet. Topics such as training, teaching, and supervision in the music therapy assessment field, research in the music therapy assessment field, assessment practices during the coronavirus disease (COVID-19) pandemic are among the themes here approached. Another important feature of this book is that, in the appendix, it offers music therapists different assessment tools to apply in their music therapy practice. These documents have been originally created by the author and used both in teaching and clinical practices. An essential feature of this publication is the way the chapters were designed. To facilitate the learning processes on the topics covered in the book, each chapter begins with a question that is answered in the text. To make it even easier, at the end of each chapter, it gives a summary of the subject with a brief answer to the question asked.

The assessment needs to start a music therapy process in the virtual setting

Based on the author's experience as an educator and supervisor of different music therapists, many of these professionals mentioned they were afraid to start a process in the virtual setting. Among the main reasons, some claimed that this modality of work is not as good as the face-to-face one, and virtual assistance should be considered an emergency solution until face-to-face sessions can occur once again (UBAM, 2020). Another reason is the difficulty in creating a bond with

someone that had never been in a face-to-face session. Others pointed the difficulty in dealing with possible adverse reactions from clients during musical experiences or with situations in which clients exhibit aggressive behaviors, becoming a danger to themselves and others around them. All these reasons are extremely relevant and understandable. However, due to the unpredictability of this pandemic or the conditions established by it, many music therapists had to start using this modality.

The assessment process in virtual music therapy has remained the same, as described in Chapter 3: preparation, data gathering, analysis and interpretation of data, documentation and communication of data/results of an assessment (Goldfinger & Pomerantz, 2014). Nonetheless, it was necessary to modify the application format of some assessment procedures to carry out the process (Knot & Block, 2020). The first major change is collecting information before starting the first referral session with the clients or family members.

Due to the impossibility of meeting the clients in person to understand more about the case, music therapists need to carry out a complex and careful analysis of them. It is of paramount importance to have a clear perception of clients' musical preferences and restrictions. Moreover, it is interesting to contact other therapists or professionals who work with these clients to have a complete understanding of the case. During the initial assessment, even if virtually, music therapists should analyze the clients' reactions before, during, and after the activities performed to understand whether they are interested in them and the experiences that better describe the main difficulties and needs to be worked on., it can be used for music therapy practice and educational and research contexts.

Musical experiences, software and applications to perform virtual assessments

The author noticed that music therapists needed to adapt musical experiences to make all the stages of the assessment process possible. The use of softwares and applications is an adaptation that enabled music therapists' and clients' engagement in the session (Federico, Figueroa, Matalia & Arroyo, 2020). Some examples of softwares and applications that can be used in the virtual setting are: Yume, Sampulator, GarageBand, BlokDust, and Incredibox.

Yume (http://unseen-music.com/yume) is a free software with tracks recorded from different images, and the clients can modify the track by interacting with the image available on the screen. Sampulator (http://sampulator.com) is a free software that offers the possibility to compose tracks and play using tracks recorded by different percussion instruments, keyboard, guitar, and voice. It has a display with different colors that facilitates clients' interaction. GarageBand (https://www.apple.com/pt/mac/garageband) is an application available to clients of the IOS-Apple system that enables recording compositions, using music tracks, and using different virtual instruments.

BlokDust (https://blokdust.com) is a free software for musical composition using structuring blocks. Clients can create their own compositions in the computer by organizing different types of blocks. Each block has a specific frequency or sound that can be organized according to different rhythms and duration of the notes.

Incredibox (https://www.incredibox.com) is a free composition software that features a limited version for computers and a full version for tablets and cell phones. Clients can compose electronic music using a set of recorded bases and sounds. Due to the pandemic limitations, music therapists needed to adapt the use of musical experiences performed in person to a format that can be implemented in virtual sessions (UBAM, 2020). For example, to create an interaction, music therapists do not normally play/sing while the clients are playing during the session, but when they do, the microphone is turned off.

Software were already common in some music therapy areas, mainly related to the field of neurorehabilitation (Magee, 2018). However, in other situations, they could seem out of context. In summary, the adaptation of musical experiences and the use of software in music therapy enabled different possibilities to conduct all the stages of the assessment process (BAMT, 2020; UBAM, 2020).

DIFFICULTIES, CHALLENGES AND ADAPTATIONS RELATED TO FACE-TO-FACE SESSIONS

The pandemic brought a series of adaptations to face-to-face assistance. The interactions between music therapists and clients as well as the assessment practice have changed. The main one is that currently music therapists normally use a mask that covers their nose and mouth and, in many cases, a face shield to avoid contamination with the virus (Alves, Ferrari & Sierra, 2020). Many clients also use a mask, especially adults

and adolescents. Music therapists who work with children sometimes use masks, but in some situations, they do not. The instruments and the clients' hands need to be cleaned before, during, and after the appointments.

Other important aspects that should be considered for group work are the physical distance between clients and the use of masks. Nevertheless, all these measures can hamper the establishment of deeper expressions and interactions in the music therapy setting and, consequently, the analysis and interpretation of clients' internal states. In addition to the traditional assessment practice, because of the rules established during the pandemic, music therapists now have biosafety as a new element to be assessed in all the stages of the process.

During the pandemic, many music therapists and clients have reported difficulty in understanding each other's expressions if they used non-transparent masks. Although transparent masks are available on the market, and could facilitate the analysis and interpretation of facial expressions, they may not be accessible to all clients and music therapists. At the beginning of the pandemic, very few music therapists reported the use of this type of masks. In addition to the difficulty in understanding facial expressions, common masks also make it difficult to perform and understand each other's speech and singing, due to the greater difficulty in articulating sounds in both activities and the reduction in the spectrum of sound frequencies. In many situations, music therapists or clients need to ask the other person to repeat what they had just said. Another difficulty caused by the use of masks is carrying out assessment tasks that involve whistling, because it is very difficult to do such a task using a mask. Even with all the restrictions imposed by the pandemic for face-to-face sessions,

many music therapists prefer to carry out their assessment practices in this context than in the virtual setting.

DIFFICULTIES, CHALLENGES AND ADAPTATION FOR TRAINING, TEACHING, AND SUPERVISION

The music therapy assessment field was affected not only in music therapy practice during the pandemic, but also in training, teaching, and supervision (Gattino, 2020a). Most of the assessment content is taught during the pre-internship and internship stages carried out in face-to-face setting. Since it was impossible to perform these activities because several institutions were closed or due to quarantine restrictions, many of them had to be adapted to the virtual music therapy modality or simulation activities carried out among students (Watson, 2020).

Assessment subjects typically involve a series of hands-on activities among students to understand the ways they should handle different assessment contexts (Gattino, 2020a). These practices had to be adapted to the virtual setting. In some cases, such as in the practice of the author at the Aalborg University, the students reported difficulty in collecting, analyzing, and interpreting data, since musical interactions in real-time are impossible in virtual sessions (Gattino, 2020c). Using more videos or simulations guided by activities that do not involve a real-time musical interaction between clients and music therapists is a way to adapt simulation activities.

Problems related to training and teaching have affected many music therapists that are also educators around the planet. Due to the difficulties and challenges posed by the pandemic, a

group of music therapists created a community for music therapist educators to share experiences and suggestions for training and teaching their students. This initiative was initially organized by Tríona McCaffrey (University of Limerick, Ireland) and Katrina Skewes McFerran (University of Melbourne, Australia), and then expanded to include Gustavo Schulz Gattino (Aalborg Universitet, Denmark) and Sumathy Sundar (School of Music Therapy in Chennai, India) (McCaffrey et al., 2020). In addition to virtual meetings during the pandemic, this group created a virtual video library, where music therapist educators can record specific videos intended to be used by different music therapist educators with different backgrounds around the world. Music therapists usually record videos related to their clinical or research expertise and facilitate the learning process of different contents based on their experience with the subject. Among the recorded videos, there is a specific category for music therapy assessment. In addition to the virtual library, another initiative related to music therapy assessment is a project the author created to provide open virtual lectures on different topics related to the theme of music therapy assessment during the pandemic period. The lectures have already been attended by more than 100 music therapists from different parts of the world.

Supervision of music therapy assessment has also been deeply affected, since the format of supervision has shifted mostly to the virtual setting. Some of the topics discussed during supervision are more focused on the possibilities of assessing possible goals to be worked on with the clients or of reassessing the clients, due to the necessity to change the goals of the treatment plan used before the pandemic. In many countries, supervision sessions in the virtual setting were

already a reality before the pandemic. Therefore, this was not the main novelty in approaching topics related to supervision in music therapy. In turn, discussing different topics in the virtual modality is the main change observed. Considering a new service format due to the restrictions to face-to-face assistance, as well as the anguish and anxiety faced by supervisees to find solutions to the different challenges and difficulties encountered during the pandemic, there was an urgent need to rethink the music therapy process.

LESSONS LEARNED FROM THE COVID-19 PANDEMIC IN THE ASSESSMENT CONTEXT

The pandemic has required that music therapists have major capacity for adaptation and flexibility to understand their assessment practices in a completely new situation. The possibilities for adapting assessments, the new ways to assess the clients, and the lessons learned so far in the field of music therapy assessment can be put into practice after the pandemic.

The first lesson learned is that virtual sessions offer possibilities of assessment even when face-to-face sessions are not possible. Although virtual sessions do not replace face-to-face sessions, they allow the assessment of clients and/or their family members if it is not possible to be physically present. Music therapists have the opportunity to continue assessing clients in virtual meetings, whether in a prescriptive, formative, interpretive, or summative way, or even in another context. Some changes occur in clients' lives over time. Therefore, if music therapists can monitor the case, at least virtually, they

can be more confident to plan interventions considering clients' changes.

Another important lesson is the possibility of further exploring the use of music software and applications for assessment practices. Software will increasingly be part of music therapists' assessments, because in addition to the traditional resources such as musical instruments, they offer other possibilities to observe the clients interacting in different musical conditions, enabling different assessment nuances that the use of musical instruments might not offer.

An important lesson learned during the pandemic is that biosafety aspects should be considered in the music therapy process, not only for professionals working in hospitals. After the pandemic, many music therapists will probably continue including in the music therapy process assessment the respect for biosafety conditions in the setting.

One other lesson refers to using assessment tools that are not adapted to the virtual setting. Studies should be developed in the future to increase the technological quality of assessments, so that they can be more easily applied using computers, tablets, and cell phones.

Perhaps one of the greatest lessons in music therapy assessment learned during the pandemic is that music therapists should always be prepared for unexpected situations. It is often necessary to show the ability to adapt to new situations. According to Ferrari (2020), one of the challenges that music therapists will face in the future is to assist people affected by post-traumatic stress or other emotional disorders caused by situations experienced during the COVID-19 pandemic. Thus, music therapists need to improve assessment practices and tools to meet the needs of the new normal.

FINAL CONSIDERATIONS

The pandemic has changed the way human beings think about the world, which obviously impacted on the way music therapy assessment is understood. So far, we do not know what the world will look like after the pandemic. However, music therapy assessment practice has followed the changes that occurred and it has still been undergoing constant transformations based on the direct and indirect experience of music therapists in this area.

CHAPTER SUMMARY

How has the COVID-19 pandemic impacted on music therapy assessment?

The pandemic has impacted on the assessment practices (in the virtual modality mostly), brought important changes to biosafety regarding face-to-face sessions (social distancing, cleaning instruments, and using face masks), offered possibilities to assess a previously unknown disease (COVID-19), and taught lessons that will influence how we think about music therapy assessment in the post-pandemic world.

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APPENDICES

Appendix 1

Studies included in the scoping review (described in chapter 8)

Included studies
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Appendix 2

Studies included in the category "assessment tools" within the scoping review

Included studies
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Appendix 3

Studies included in the category " validity and reliability studies" within the scoping review

Included studies
André, A. M., Gomes, C. M. A., and Loureiro, C. M. V. (2016) Translation and validation of the Nordoff-Robbins Scale I: Child-Therapist(s) Relationship in Coactive Musical Experience and Nordoff-Robbins Scale II: Musical Communicativeness. Paper presented at the 17th ANPPOM Congress, Belo Horizonte, Brazil.
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Appendix 4

Application and evaluation of assessment tools

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Appendix 5

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Appendix 6

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Appendix 7

Studies included in the category "revisions of assessment tools " within the scoping review

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Appendix 8

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Appendix 9

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Appendix 10

Studies included in the category "assessment surveys" within the scoping review

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Appendix 11

Studies included in the category "music therapy service evaluation" within the scoping review

Included studies
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Heaney, C. J. (1992). Evaluation of music therapy and other treatment modalities by adult psychiatric inpatients. Journal of Music Therapy, 29(2), 70–86. https://doi.org/10.1093/jmt/29.2.70
Tsiris, G., Spiro, N., & Pavlicevic, M. (2018). Repositioning music therapy service evaluation: A case of five Nordoff-Robbins music therapy service evaluations in neuro-rehabilitation. *Nordic Journal of Music Therapy*, *27*(1), 3-27.
Wormit, A. F. & Hillecke, T. K. (2003). On the way to quality assurance in music therapy-implementation of an EDP-supported documentation. In Abstractband des 1. internationalen Kongress für Musiktherapie, Heidelberg, Germany.

Appendix 12

MUSIC THERAPY INTAKE FORM[3]

Music therapist information	
Date of Intake:	
Music therapist's name:	
Institution:	
Music therapist's telephone contact:	
Music therapist's email contact:	
Music therapist's signature	

Contact information			
Client's Name		Date of Birth	
School/workplace		Education level/grade	
Guardian/caregiver (when this is the case)		Profession	
Primary Language		Cell/Mobile	
E-mail		Referred by	

[3] Document created in partnership with music therapist Salomé Ferreira.

Medical information			
Did the client have any complication during pregnancy/ delivery?		Describe any relevant information on the pregnancy/delivery	
Diagnosis		Date of diagnosis	
Diagnosing doctor		Contact of diagnosis doctor	
Allergies		Medications (describe the drug dose and dosage)	
Any disability, comorbidity, or need for specific support?		Dietary restrictions	
Hospitalization admissions history		Primary Physician information (name, medical specialty and contact)	

Family history			
Adopted?		Age when adopted?	
Country of Birth			
Family interests and family cultural background			
Name and age of Siblings			
Any other relevant information on the family history			

Intervention history	
Intervention	**Frequency / Therapist's name / Therapist's contact**
Music Therapy	
DIR/Floortime	
Applied Behavior Analysis (ABA)	
Psychology	
Occupational Therapy	
Physiotherapy	
Equine-assisted therapy	
Speech therapy	
Psychomotor education	
Others	

Language and speech
Does the client display any difficulty in understanding/perceiving sounds? If yes, describe.
Does the client display any difficulty in understanding or reacting to what is being said to the client? If yes, describe.
Does the client display any speech or language difficulty? If so, please describe.
Does the client communicate verbally? If not, describe how the client communicates and whether family/colleagues/acquaintances understand.
Does the client display any difficulty in articulating speech? If so, please describe.
Does the client display an idiosyncratic language? If so, please describe.

Sensory characteristics
Does the client display any degree of deafness? If so, please describe.
Does the client have previous episodes of an ear infection? If so, please describe.
Does the client display any sensitivity to sounds? If so, please describe.
Does the client display any visual disability? If so, please describe. If so, please describe.
Does the client display any sensitivity to touch/textures/fabrics/temperature? If so, please describe.
Is the client comfortable to fit in places with crowds, lights or sounds? If so, please describe.
Does the client display repetitive behaviors? If so, please describe.
Does the client spin objects? If so, please describe.
Does the client display a need/search for movement?

Motor characteristics
Does the client display any gross motor difficulty? If so, please describe.
Does the client display any fine motor difficulty? If so, please describe.
Does the client display any gait difficulty? If so, please describe.
Does the client display any difficulty moving or using a part of the body? If so, please describe.
Does the client perform fine motor tasks with both hands (i.e., eating with utensils, buttoning a button, holding a pencil)? If so, please describe.
Does the client drop items frequently or have difficulty holding objects? If so, please describe.
Does the client display any difficulty related to praxis in motor development? If so, please describe.
Has the client been diagnosed with high or low muscle tone? If so, please describe.

Cognitive characteristics
Does the client display any attention difficulty? If so, please describe.
Does the client display any difficulty remembering recent and/or past events? If so, please describe.
Is there any difficulty related to semantic memory? If so, please describe.
Does the client display an expected level of intelligence according to his/her/their age? If so, please describe.
Does the client need individual educational assistance? If so, please describe.

Emotional characteristics
Does the client find it easy/difficult to express emotions? Please, describe.
Does the client find it easy/difficult to understand emotions? Please, describe.
Does the client find it easy/difficult to regulate emotions? Please, describe.
Does the client display any emotion associated with a particular music content? If so, please describe.
Does the client display any emotional difficulty? If so, please describe.
Does the client get easily angry? If so, please describe.
Does the client display any emotional trauma or recent change in life circumstances? If so, please describe.
Does the client find it easy/difficult to express emotions? Please, describe.

Social characteristics
Does the client display any social difficulty? If so, please describe.
Does the client display any difficulty interacting with his family? If so, please describe.
Does the client display any difficulty interacting in their social environments? If so, please describe.
Does the client display any difficulty interacting outside his/her/their social environments? If so, please describe.

Musical characteristics
Does the client like music? If so, please describe.
Does the client have musical instruments at home? Which are?
Does the client play or is interested in the instruments? If so, please explain.
Which instruments does the client like best?
What instruments does the client not like?
Does the client display any hearing sensitivity?
Does the client sing songs at home, make sounds? Which are?
Does the client listen to music at home? Which are?
Do the client's parents listen to music? What styles? Which singers does the client like the most?
Does the client usually listen to music together with his/her/their family? At what times?
Is there anyone in the client's family who plays a musical instrument? What instrument?
Does the client have display musical strengths? If so, please describe.
Where and when does the client usually listen to music?

Musical characteristics
Does the client initiate any musical activity?
Does the client like to dance? If so, please describe.
Does the client like to sing? If so, please describe.
Does the client respond when asked to dance or play?
How can music therapy help the client?

Additional comments:

Appendix 13

INFORMED CONSENT FORM CONCERNING THE MUSIC THERAPY INTERVENTION – CLIENT VERSION.

(According to the Helsinki Declaration and Oviedo Convention)

Please read the following information carefully. If you think something is not correct or clear, please request more information. If you agree with the proposal, please sign the document.

Procedure explanation

Check yes or no on the authorizations you plan to grant:

Procedure explanation

Check yes or *no* on the authorizations you plan to grant:

Use of data for internal purposes of the music therapy process:

1. In order to make it possible to collect, analyze and interpret the information from the music therapy process that is subject to future therapeutic interventions, recording the sound/image and or video of the music therapy sessions is essential. This will have the sole purpose of supporting the internal therapist and ensuring the ethical principles of confidentiality.

_____ I hereby authorize sound recording to internal assessment purposes.

_____ I hereby authorize video recording to internal assessment purposes**.**

Use of data for sharing with other professionals who work directly or indirectly with the client:

2. The dissemination of therapeutic information (written and audiovisual recordings) among professionals contributes to improving the services provided by sharing acquired knowledge.

_____ I hereby authorize the sharing of my written and audiovisual recordings among health and education professionals who accompany the client.

_____ I hereby authorize the sharing of my written and audiovisual recordings among professionals who may benefit from having more in-depth knowledge of this intervention or who may collaborate supervising the music therapist regarding his/her/their services.

Use of data for the following additional public dissemination purposes:

3. Demonstrating the impact of Music Therapy interventions might be relevant in some circumstances. The music therapist can select some written and/or audiovisual recordings from the sessions to discuss specific themes regarding the case in conferences, social media and professional websites, and/or scientific publications.

_____ I hereby authorize the public sharing of my writing and/or audiovisual recordings for conferences.

_____ I hereby authorize the public sharing of my writing and/or audiovisual recordings on social networks and professional websites

_____ I hereby authorize the public sharing of my writing and/or audiovisual recordings for scientific publications.

Music therapist's name:

Phone number: E-mail:

Music therapist's signature

_____

I hereby declare that I have read and understood this document and the verbal information provided to me by the person/s signing above. I was guaranteed the possibility, at any time, to refuse to participate in Music Therapy sessions without any consequences. Therefore, I voluntarily accept to participate in the intervention and data collection, trusting that the data will only be used for the purposes duly authorized above and in the guarantees of respect for ethical principles of data use in professional contexts.

Client's name: _____ **Client's signature:** _____

Date: _____

Appendix 14

INFORMED CONSENT FORM CONCERNING THE MUSIC THERAPY INTERVENTION – GUARDIAN/CAREGIVER VERSION

(According to the Helsinki Declaration and Oviedo Convention)

Please read the following information carefully. If you think something is not correct or clear, please request more information. If you agree with the proposal, please sign the document.

Procedure explanation

Check yes or no on the authorizations you plan to grant:

Procedure explanation

Check yes or *no* on the authorizations you plan to grant:

Use of data for internal purposes of the music therapy process:

1. In order to make it possible to collect, analyze and interpret the information from the music therapy process that is subject to future therapeutic interventions, recording the sound/image and or video of the music therapy sessions is essential. This will have the sole purpose of supporting the internal therapist and ensuring the ethical principles of confidentiality.

_____ I hereby authorize client's sound recording to internal assessment purposes.

_____ I hereby authorize client's video recording to internal assessment purposes**.**

Use of data for sharing with other professionals who work directly or indirectly with the client:

2. The dissemination of therapeutic information (written and audiovisual recordings) among professionals contributes to improving the services provided by sharing acquired knowledge.

_____ I hereby authorize the sharing of the client's written and audiovisual recordings among health and education professionals who accompany the client.

_____ I hereby authorize the sharing of the client's written and audiovisual recordings among professionals who may benefit from having more in-depth knowledge of this intervention or who may collaborate supervising the music therapist regarding his/her/their services.

Use of data for the following additional public dissemination purposes:

3. Demonstrating the impact of Music Therapy interventions might be relevant in some circumstances. The music therapist can select some written and/or audiovisual recordings from the sessions to discuss specific themes regarding the case in conferences, social media and professional websites, and/or scientific publications.

_____ I hereby authorize the public sharing of the client's writing and/or audiovisual recordings for conferences.

_____ I hereby authorize the public sharing of the client's writing and/or audiovisual recordings on social networks and professional websites

_____ I hereby authorize the public sharing of the client's writing and/or audiovisual recordings for scientific publications.

Music therapist's name:

Phone number: E-mail:

Music therapist's signature

_____

I hereby declare that I have read and understood this document and the verbal information provided to me by the person/s signing above. I was guaranteed the possibility, at any time, that the client can refuse to participate in Music Therapy sessions without any consequences. Therefore, as the client's guardian/caregiver, I voluntarily authorized the client's participation in the intervention and data collection, trusting that the data will only be used for the purposes duly authorized above and in the guarantees of respect for ethical principles of data use in professional contexts.

Client's name: _____

Guardian's/Caregiver's name: _____

Guardian's/Caregiver's signature: _____

Date: _____

Appendix 15

SESSION PLAN TEMPLATE FOR THE INITIAL ASSESSMENT SESSIONS

Client:

Age:

Diagnosis/condition:

Session number:

Date:

Session Goal(s):

Session objective (s):

Activities:

Report:

Comments:

Suggestions for the following sessions (when applicable):

Appendix 16

TREATMENT PLAN TEMPLATE
(FAMILY MEMBERS FORM)

Client: B **Date: xxxxxxxxxx**

Over four initial assessment sessions with the child (two in the presence of the mother and two individually), different possibilities of working with the client were observed. From the application of the Individualized Music Therapy Assessment Profile (IMTAP) scale for use in Brazil, it was found that the child might benefit from expanding his possibilities of expressive communication and also finding out his way of interacting through the music with other people. The results from the IMTAP scores are described in the attached documents.

Based on the above, the goals of the treatment plan are as follows:

1. To create opportunities for expressive communication because the client shows difficulties expressing and understanding gestures, facial expressions and verbalizations.

2. To explore the social interaction because the client demonstrates social interaction behaviours, but rarely.

3. To expand musical skills such as rhythms and melody to help the client develop social and communication aspects.

The goals will be targeted, especially by working through improvisation experiences and using songs (considering the client's musical background and interests).

Mt. Gustavo Schulz Gattino

Appendix 17

TEMPLATE FOR EVALUATING THE MUSIC THERAPY PROCESS

Client: xxxxxxxxxxxxxx **Date: xxxxxxxxxx**

After 10 sessions of the treatment with the client xxxx, I have noticed relevant results related to his participation in music therapy process. By applying the IMCAP-ND scale, I verified that the client presented a higher score (comparing with the previous assessment) on how is expressing himself emotionally through music. XXXX is also interacting more with the music therapist, demonstrating more shared attention and more emotional reactions based on experiences.

I recommend that xxx needs to continue the music therapy treatment, since the client might benefit from expanding more his social and emotional responses from the music therapy process.

XXXXXXXXX

Music Therapist

Appendix 18

MUSIC THERAPY TERMINATION TEMPLATE (FAMILY MEMBERS FORM)

Client's name: xxx
Starting date: xxxx
Termination date: xxxx
Total of sessions: xxxxx

Through the application of the IMTAP scale, the client's initial assessment confirmed that the client XXXX could benefit from the music therapy treatment, especially to cope with her speech articulation (main goal in this process). During the 15 sessions after the initial assessment, I worked on musical improvisation activities and activities structures with musical games that involve movement, language (primarily focused on speech). XXXX is very cheerful and caring. She is very clever and participates in musical games quickly, she always understands when he is called to do something, but I noticed she expresses very little verbally. XXXX has a hard time identifying written numbers but knows the values they represent. XXXX has some attention difficulties during activities and becomes easily distracted. Her preferences are activities that involve hitting, running and throwing. She is also very interested in the keyboard, primarily due to modifying the style and timbre on the buttons. I recommend she continue the music therapy treatment with another music therapist once she has no conditions to follow the music therapy process with me.

_____

(Name)
Music Therapist

Appendix 19

DECLARATION TEMPLATE

To whom it may concern,

The xxxxx music therapy clinic states that (name of the child, adolescent or adult) has participated in the Music Therapy program xxxxx developed during xxxxxx from 1:30 pm – 2:00 pm. The goal of the music therapy program was to create communications and provide pleasant experiences for the client XXXX, helping her express herself, recognizing and developing areas of her interest.

The music therapy program takes place in different phases. Initially, we intend to assess what is most relevant to work on with xxxxxx, defining that expressive communication would be the initial area worked on in this first phase. Then, we established a treatment plan and, through our musical experiences, we facilitate musical interactions to expand different possibilities of expression.

_____

xxxxxx
Music therapist
Music Therapy Clinic xxxx

Appendix 20

Courses/seminars on assessment offered by different institutions in bachelor's and master's degrees in music therapy

Institution	Does the institution have a bachelor's degree in music therapy?	Does the institution have a master's degree in music therapy?	Assessment course/seminar offered by the institution
United States of America (70 institutions included)			
University of Alabama	Yes	No	Not specified
Arizona State University	Yes	Yes	Not specified
Cal State Northridge	Yes	No	Not specified
University of the Pacific	Yes	Yes	Observation and Assessment in Music Therapy (master's degree)
Colorado State University	Yes	Yes	Not specified
Howard University	Yes	No	Not specified
Florida State University	Yes	Yes	Applied Music Assessment in Music Therapy/

			Education (master's degree)
University of Miami	Yes	Yes	Not specified
Georgia College & State University	Yes	Yes	Not specified
University of Georgia	Yes	No	Music Therapy Assessment (bachelor's degree)
Illinois State University	Yes	Yes	Not specified
Western Illinois University	Yes	No	Not specified
Indiana University-Purdue U-Indianapolis	Yes	Yes	Not specified
Indiana-Purdue University Fort Wayne	Yes	No	Not specified
St. Mary of the Woods College	Yes	Yes	Assessment in Music Therapy and Counseling (bachelor's degree)
University of Evansville	Yes	No	Not specified
Indiana Wesleyan University	Yes	No	Assessment and Evaluation Techniques for Music Therapy (bachelor's degree)
University of Iowa	Yes	Yes	Not specified
Wartburg College	Yes	Yes	Not specified
University of Kansas	Yes	Yes	Not specified

University of Kentucky	No	Yes	Not specified
University of Louisville	Yes	No	Practicum II-Assessment and Outcomes (bachelor's degree)
Loyola University-New Orleans	Yes	Yes	Not specified
Anna Maria College	Yes	No	Not specified
Berklee College of Music	Yes	No	Not specified
Lesley University	No	Yes	Assessment and Testing in Mental Health Counseling Master (master's degree)
Eastern Michigan University	Yes	No	Not specified
Augsburg College	Yes	Yes	Music Therapy Assessment, Treatment and Clinical Processes (bachelor's degree)
University of Minnesota	Yes	Yes	Not specified
Mississippi University for Women	Yes	No	Not specified
William Carey University	Yes	No	Music therapy doc: assessment, treatment plan, prog notes

			(bachelor's degree)
Drury University	Yes	No	Not specified
Maryville University	Yes	Yes	Not specified
University of Missouri-KC	Yes	Yes	Not specified
Montclair State University	Yes	Yes	Therapy and Observation Skills for Music Therapy (master's degree), Music Therapy Assessment in Clinical Practice, (master's degree), Observation and Assessment of Young Children with Disabilities: Birth to Age 8 (master's degree, elective), Psychometrics, Clinical Interviewing (master's degree, elective), Evaluation and Planning for Students with Learning Problems I

			(master's degree, elective)
Molloy College	Yes	Yes	Not specified
Nazareth College	Yes	Yes	Human Development and Assessment Across the Creative Arts Therapies (master's degree)
New York University	No	Yes	Not specified
SUNY – Fredonia	Yes	Yes	Not specified
SUNY – New Paltz	No	Yes	Medical Music Therapy Assessment and Treatment (master's degree)
Appalachian State University	Yes	Yes	Not specified
Queens University of Charlotte	Yes	No	Not specified
University of North Dakota	Yes	No	Not specified
Baldwin Wallace College	Yes	No	Not specified
The College of Wooster	Yes	No	Not specified
University of Dayton	Yes	Yes	Not specified
SW Oklahoma State University	Yes	Yes	Not specified

Pacific University	Yes	No	Not specified
Duquesne University	Yes	No	Not specified
Elizabethtown College	Yes	No	Not specified
Immaculata University	Yes	Yes	Clinical Assessment in Music Therapy (master's degree)
Marywood University	Yes	No	Not specified
Mercyhurst University	Yes	No	Not specified
Seton Hill University	Yes	No	Not specified
Slippery Rock University	Yes	No	Music Therapy Assessment, Measurement & Evaluation (master's degree)
Temple University	Yes	Yes	Not specified
Charleston Southern University	Yes	No	Not specified
Converse College	Yes	No	Not specified
Belmont University	Yes	No	Not specified
Sam Houston State University	Yes	Yes	Not specified
Southern Methodist University	Yes	No	Not specified
Texas Woman's University	Yes	Yes	Not specified
University of the Incarnate Word	Yes	No	Not specified

West Texas A&M University	Yes	No	Not specified
Utah State University	Yes	No	Not specified
Shenandoah University	Yes	Yes	Assessment and Evaluation in Music Therapy Practice (master's degree)
Seattle Pacific University	Yes	No	Not specified
Alverno College	Yes	Yes	Not specified
Canada (4 institutions included)			
Capilano University	Yes	No	Not specified
Concordia University	No	Yes	Not specified
Univeristy of Windsor	Yes	No	Not specified
Wilfrid Laurier University	Yes	Yes	Not specified
Austria (2 institutions included)			
IMC University of Applied Sciences Krems	Yes	Yes	Introduction to videography and video analysis (master's degree), Applied videography and video analysis in music therapy

			(master's degree)
University of Music and Performing Arts Vienna	Yes	Yes	Music therapy diagnosis (master's degree), Psychological diagnosis and Assessment (master's degree)
Australia (2 institutions included)			
University of Melbourne	No	Yes	Not specified
Western Sydney University	No	Yes	Not specified
Germany (5 institutions included)			
Ausburg University	No	Yes	Not specified
Hamburg University	No	Yes	Not specified
SRH University Heidelberg	No	Yes	Assessment & clinical practice with children and adolescents (master's degree)
Berlin University	No	Yes	Not specified

University of Applied Sciences Würzburg-Schweinfurt	No	Yes	Not specified
Norway (2 institutions included)			
Norwegian Academy of Music	No	Yes	Not specified
University of Bergen	No	Yes	Not specified
United Kingdom (6 institutions included)			
University of Roehampton	No	Yes	Observational Studies (master's degree)
Guildhall School of Music and Drama	No	Yes	Not specified
University of the West of England Bristol	No	Yes	Not specified
Queen Margaret University	No	Yes	Not specified
University of South Wales	No	Yes	Not specified
Anglia Ruskin University	No	Yes	Not specified

Denmark (1 institution included)			
Aalborg University	Yes	Yes	Music Therapy Assessment (master's degree, elective)
Brazil (6 institutions included)			
Rio de Janeiro Federal University (UFRJ)	Yes	No	Music therapy Assessment (bachelor's degree)
Paraná State University (UNESPAR)	Yes	No	Not specified
United Metropolitan Colleges (FMU)	Yes	No	Not specified
EST College	Yes	No	Not specified
Minas Gerais Federal University (UFMG)	Yes	No	Not specified
Goiás Federal University (UFG)	Yes	No	Music Therapy Listening and Analysis in Special Education and Mental Health (bachelor's degree), Music Therapy Listening and Analysis: Social and

			Educational Areas (bachelor's degree), Music Therapy Listening and Analysis: Hospital and Public Health Area (bachelor's degree), Music Therapy Listening and Analysis: Organizational Area (bachelor's degree)
Argentina (5 institutions included)			
University of Buenos Aires (UBA)	Yes	No	Applied audioperceptual II (bachelor's Degree)
University of Business and Social Sciences (UCES)	Yes	No	Not specified
Salvador University (USAL)	Yes	No	Not specified
Inter-American Open University (UAI)	Yes	No	Not specified
Maimonides University	Yes	No	Vocal and Instrumental Analysis I, II (Bachelor's Degree)

South Korea (1 institution included)			
Cyber University	Yes	No	Not specified
Japan (1 institution included)			
Seitoku University	Yes	No	Not specified
Israel (3 institutions included)			
Bar-Ilan University	No	Yes	Therapeutic interview theory (master's degree)
David Yalin College	No	Yes	Assessment in music therapy (master's degree)
University of Haifa	No	Yes	Music based assessment (master's degree)
New Zealand (1 institutions included)			
Victoria University of Wellington, New Zealand,	No	No	Not specified

South Africa (1 institution included)			
University of Pretoria	No	Yes	Documentation and Assessment (master's degree)
Spain (4 institutions included)			
University of Barcelona	No	Yes	Assessment and evaluation (master's degree)
Autonomous University of Madrid	No	Yes	Not specified
School of Music of Catalonia	No	Yes	Not specified
Higher Institute of Psychological Studies	No	Yes	Not specified
Netherlands (2 institutions included)			
ArtEZ University of the Arts	Yes	Yes	Not specified
University of the Arts Codarts Rotterdam	No	Yes	Not specified

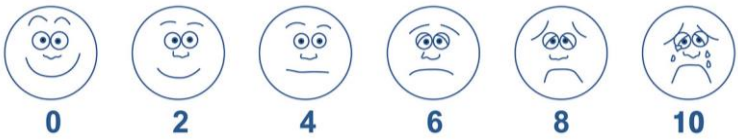
Appendix 21

PAIN ASSESSMENT BEFORE AND AFTER THE MUSIC THERAPY SESSION

Client: …… Session number :……
Date: ……

Initial moment: before the intervention.

1st applying the scale. How is your pain at this moment?

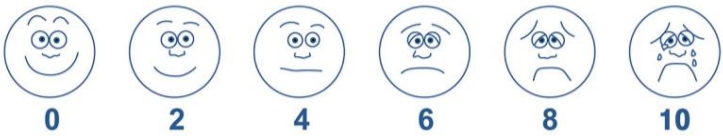


Second moment (music Therapy intervention)

Technique used	Effect achieved	Observations

Third moment: after the intervention.

2nd applying the scale. How is your pain at this moment?



Fourth moment. Ask the child's caregiver. Do you believe that musical experiences have changed your state of health? How are you feeling?

Better than before	Same as before	Worse than before

Original source: Ferrai, K.D. (2013). Karina Daniela. Musicoterapia: Aspectos de la sistematización y la evaluación de la práctica clínica. MTD Ediciones, p 125.

Appendix 22

INTERVENTION PROTOCOL FOR THE CHILDREN AND CAREGIVERS IN PEDIATRIC INTERVENTIONS

Date…… Client's name……..

Age……

Diagnosis or intervention purpose

…….

Overall state of the patient before the intervention

In relation to body elements

Seated Laying Sitting on the caregiver's lap

Mood state

Depressed Crying Sleeping Playing

Apathetic Irritated Feeling Pain

Welcome song	Instrumental Activity	Farewell song
The client The client changes mood Sits down Leans back Looks at others Sings Does not sing Claps Claps and sings **The caregiver** Knows the song and sings Knows the song and does not sing Invites the client to sing Interacts with the patient while singing Does not react Leaves	Caregiver and child analysis Analysis of music therapist and child Analysis of music therapist, caregiver and child **Profile.** Mark the type of analysis with an X Autonomous Dependent Follower Partner Leader Independent **Integration** Undifferentiated Fused Integrated Differentiated Super differentiated	**The client** The client changes mood Sits down Leans back Looks at others Sings Does not sing Claps Claps and sings **The caregiver** Knows the song and sings Knows the song and does not sing Invites the client to sing Interacts with the patient while singing Does not react Leaves

General status of the patient after the intervention

In relation to body elements

Seated Laying Sitting on the caregivers´s lap

Mood state

Depressed Crying Sleeping Playing

Apathetic Irritated Feeling Pain

Observations:

Appendix 23

QUESTIONNAIRE FOR THE CAREGIVERS AFTER THE MUSIC THERAPY INTERVENTIONS

1. Do you believe that with this activity the child is …?

Better ☐ Same as before ☐ Worse ☐

2. Why do you believe the child changed something after the activity?

Happier ☐

Can play and before he didn´t ☐

Got distracted and forget he/she was at the hospital ☐

Got irritated and worse ☐

Could do something fun with his/her Family ☐

Changed mood ☐

Changed general state positively ☐

Could sit ☐

Connected with surroundings ☐

Original source: Protocolo de análisis de relación niño cuidador en internación pediátrica, segunda parte. Ferrai, K.D. (2013).

Karina Daniela. Musicoterapia: Aspectos de la sistematización y la evaluación de la práctica clínica. MTD Ediciones, 2013, p 97.

ABOUT THE AUTHOR

Gustavo Schulz Gattino, PhD, is music therapist and Associate Professor in the Department of Communication and Psychology at the Aalborg University (Denmark).

He is a teacher of the Bachelor, Master and PhD music therapy programs at the same university. He is accredited as a music Therapist by the Portuguese Association of Music Therapy (APMT) and the country representative of Denmark in the European Music Therapy Confederation (EMTC).

Dr. Gattino is the editor of publications Brazilian Journal of Music Therapy and Portuguese Journal of Music Therapy (RPM). He is a member of the International Music Therapy Assessment Consortium (IMTAC) and also member of the Publications commission of the World Federation of Music Therapy (WFMT).