Let Me Play a Song for You!

**Can Improvisational Music Therapy
With a Boy with Autism Spectrum Condition
Make a Difference in Opening
New Windows of Opportunities?"**

A Qualitative Single Case Study

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Aalborg University, 2021

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Can improvisational music therapy with a boy with autism spectrum conditions make a difference in opening new windows of opportunities?
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English Abstract

Aim: This qualitative single-case study seeks to investigate possible patterns and behaviors in improvisational music therapy (IMT) with a seven-year old boy with moderate autism, which could be described as autism-atypical, and to detect possible variables in the improvisational music therapy and in the therapist's actions that support the client's new behaviors, as well as discussing if those are signs of new skills creating new choices of action and coping mechanisms. In addition, this study aims to find answers to how those patterns and new communicative skills, displayed in the music and the client's behavior, can be interpreted in the light of the chosen theories, and to what extent they are signs for the music therapy's (MT) ability to create new choices and coping mechanisms for the client.

Background: This master thesis is based on my 9th semester's internship, which took place at a primary school in North Jutland, Denmark with special classes for children with neurodevelopmental conditions within the autism spectrum. My client was a highly verbal seven-year-old boy diagnosed with autism, with advanced motor skills, but lacking other age-appropriate competencies, in terms of contact, arousal regulation, and social play.

Method: To answer the research questions, a qualitative single case study, based on the hermeneutic and phenomenological approach of the interpretative method has been conducted. The clinical material including video recordings from eleven MT sessions has been analyzed with an ethnographic, descriptive, microanalysis approach.

Results: The results of the research show 'atypical' behavior of the client during MT, leading to new options of action. The identified patterns and new communicative skills detected in the music and in the client's behavior are a result of effective intervention with musical stimuli. Certain patterns in the client's behavior have been altered and influenced in forming new patterns and behaviors as a result of resonance and synchronicity. The client acquired and displayed strong musical and emotional self-awareness and creative expression, he narrated the emotional qualities in music and in feelings, reflected on the impact of the musical emotions on others, and often initiated musical contact and play. This would suggest that IMT can mitigate impairments and draw from strengths. In addition, establishing a shared musical history with returning subjects, thus building a trusted relationship, enabled the client to explore new musical and emotional expressions and to engage in social interactions and play.

Keywords: Improvisational music therapy; autism spectrum; highly verbal; primary school child; neurodiversity.

Dansk Abstrakt

Formål: Dette kvalitative single-casestudie undersøger mønstre og adfærd, som viser sig i improvisatorisk musikterapi med en syvårig dreng med moderat autisme, der normalt vis ville beskrives som autisme-atypiske. Derfra søger studiet at identificere mulige fænomener i den improvisatoriske musikterapi og i terapeutens handlinger, som understøtter klientens nye adfærd, samt at diskutere, om disse er tegn på nye færdigheder, der skaber nye handlemuligheder og copingstrategier. Ydermere har dette studie til formål at undersøge hvordan disse mønstre og nye kommunikative færdigheder, der udmønter sig i musikken og klientens adfærd, kan fortolkes i lyset af de valgte teorier, og i hvilket omfang musikterapien er et effektivt redskab til at hjælpe klienten med at skabe nye valg og til at oparbejde nye copingstrategier.

Baggrund: Dette speciale er baseret et musikterapi forløb fra mit 9. semesters praktikforløb. Praktikken foregik på en folkeskole i Nordjylland, Danmark, med specialklasser til børn med gennemgribende udviklingsforstyrrelser indenfor autismespektret. Klienten var en syvårig dreng diagnosticeret med autisme med veludviklede motoriske færdigheder og med et udviklet verbalt sprog, men som manglede aldersmæssige kompetencer vedrørende kontakt, arousalregulering og social leg.

Metode: For at besvare forskningsspørgsmålene, blev der gennemført et kvalitativ single-casestudie med udgangspunkt i den hermeneutiske og fænomenologiske tilgang til den kvalitative metode. Det kliniske materiale, notater og videooptagelser fra elleve musikterapi-sessioner, er blevet analyseret ud fra en etnografisk deskriptiv mikroanalyse.

Resultater: Resultaterne fra studiet viser 'atypisk' adfærd i en musikterapeutisk ramme for en syvårig dreng diagnosticeret med autisme, og at adfærden åbner op for nye handlemuligheder. De identificerede mønstre og nye kommunikative færdigheder, der opdages i musikken og i klientens opførsel, er et resultat af effektiv indgriben opstået på baggrund af musikalske stimuli. Visse mønstre i klientens adfærd er blevet ændret og påvirket, og nye mønstre og adfærd er opstået, som et resultat af resonans og synkronicitet. Klienten viste stærk musikalsk og følelsesmæssig selvbevidsthed og kreativt udtryk, han var i stand til at identificere de følelsesmæssige udtryk i musikken, og at reflektere over deres indflydelse på andre mennesker, og han tog ofte initiativ til musikalsk kontakt og leg. Studiet peger derved på, at musikterapien kan mindske udfordringer og fremhæve styrker for en syvårig dreng diagnosticeret med autisme. Gennem det, at etablere en fælles musikhistorie med tilbagevendende motiver og derigennem at opbygge et tillidsfuldt klient-terapeut forhold, blev klienten derudover i stand til at udforske nye musikalske og følelsesmæssige udtryk, og at engagere sig i sociale interaktioner og leg.

Keywords: Improvisational music therapy; autism spectrum; highly verbal; primary school child; neurodiversity.

Acknowledgments

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Abbreviations

ABA = Applied Behavior Analysis

ARM = autism rights movement

AS = autism spectrum

ASD = autism spectrum disorder

ASC = autism spectrum condition

APA = American Psychological Association

Bpm = beats per minute

CL = client led actions

C = client

DSM-5 = Diagnostic and Statistical Manual of Mental Disorders 5th edition

EBP = Evidence-Based Practices for Children, Youth, and Young Adults with ASD

ICD-10 = International Classification of Diseases and Related Health Problems 10th revision

IMT = Improvisational Music Therapy

MT = music therapy

MTh = music therapist

MThL = music therapist lead actions

PECS = Picture Exchange Communication System

TEACCH = Treatment and Education of Autistic and related Communication-handicapped Children

TIME-A = Trial of Improvisational Music therapy's Effectiveness for children with Autism

WHO = World Health Organization

Chapter 1- Introduction

This master thesis is based on my 9th semester's internship, which took place at a primary school in North Jutland, Denmark with special classes for children with neuro-developmental conditions within the autism spectrum, where I worked with the youngest group of children (0th-2nd grade).

1.1 Motivation and Wonderment

Working with highly verbal young children with autism was what I had wished for. When applying for my internship I had hoped for a more inclusive setting, but because of COVID-19, everything became very secluded. However, being able to become a part of the team, and get to know both the children and the staff with their daily routine and pedagogic approach, was very rewarding. It was especially during my sessions with a seven-year-old boy, whom I will refer to as Mads, that some unexpected and atypical situations and behaviors occurred. My aim was to work with the client's challenges within social contact, communication, and social play through music therapy (MT). Whenever the client was caught up in his ideas of being a creepy or dangerous figure, it could take up to a day, to switch his focus to something new, or to get him to interact *out of character;* this was different during MT. His teacher and pedagogues told me that in the beginning, he was only using one verbal expression ("I am mad!") for all the feelings he got overwhelmed by and reacted with rage. It was after the summer break, when we started our sessions, that the client started using different terms. When playing a particular character, he was more inclined to participate in some daily social interactions and play with his peers, especially when there was no staff member around to actively guide them. During MT sessions he suddenly displayed a fasci-nation for *sad* music, being moved to tears during an improvisation with the music therapist (MTh), wondering about how his peers might react to the same music. In addition to the expected reactions, such as affective regulation, joint attention, and the exploration of new ideas through music, another very special event took place, when Mads towards, the end of the course of our sessions, played a couple of songs for me. This raised my wonderment with the correlation there is to be found, in explaining how a boy, who in his daily routines exhibits difficulties in expressing emotions and seeks role-playing in order to engage in social communication, suddenly chooses to play a song for me? He later told me that he now also plays music on his new keyboard, that he recently received, at home when he wants to relax, is tired, angry, or simply in a good mood.

There is not much literature on MT with highly verbal children with autism. Two areas, in particular, sparked my interest: How can I explain these new abilities the client shows, in the light of the neuroaffective developmental psychology (Hart, 2008), cognitive

neuroscience (Baron-Cohen, 2004; Damasio, 2000), as well as from a relationship based perspective like in Kenny's (2006) *field of play*, or with respect to communicative musicality and intersubjectivity (Stern, 1985; Trevarthen, 2002; Trondalen, 2019). I have been deeply inspired by the current discussion on autism as neurodivergence (Baron-Cohen, 2017; Esperson, 2006; Mottron, 2017; Rickson, 2020), especially because I often met prejudices regarding people with autism, whom I experienced as being as multifaceted as their neurotypical peers. There are still many behaviorally oriented expectations of what therapy should do in relation to changing children's behaviors. I would be very interested in researching opportunities to be more adaptive to the initial assessment process and evidencebased evaluation (Aigen, 2015; Greenhalgh, 2012; Laufer, 2004; Rickson 2020; Thompson & Elefant, 2019), including Pickard et al.'s (2020) critical reflection and discussion on the role, position and attitude of MThs when working with neurodivergent clients.

1.2 Problem Field

When starting my internship, no other MThs had ever been involved in the children's treatment or activity plan before. In addition, the children never had music classes, because of COVID-19. The music rooms and all the instruments were at that part of the school, where the neurotypical children had their classes since the special classes were all placed in their own wing of the building. This meant that, in addition, I wasn't allowed to use the musical facilities like rooms and instruments. However, since the staff was so positive, and the headmaster of the school was very supportive, I could borrow an e-piano for the duration of my internship and use one of the small conference rooms as an interim therapy room for the days of the sessions. The environment was still slightly challenging since there was no sound isolation, and some of the older children felt disturbed by our music. Luckily, we found solutions and could even create interest for the different instruments, with some of the older children wishing to be able to join. The MT sessions were anticipated with joy most of the time, accompanied by weekly meetings with the staff and sporadic feedback from the parents. A deeper understanding of the possible impact of MT has emerged, and both teachers and parents are now trying to find possibilities to implement MT in the children's weekly routine.

In my bachelor thesis (Popescu, 2019), I wrote about a preschool child with autism and atypical autism behavior during therapy sessions, displaying special resources through his musicality, which I interpreted as a sign that the client entered a *new zone of proximal development* (Vygotsky, 1978) during music therapy sessions and in relation to MT. In the present case, I was examining whether and how MT can offer a new and meaningful stimulus to the neural network, which I presume has helped to create new possibilities for action, based on a neuro-biological approach (Baron-Cohen, 2004; Caria, 2011; Damasio, 2000, 2013; Peretz, 2010).

The method I chose is a single-case study, based on the hermeneutic and phenomenological approach of the qualitative method (Hiller, 2016; Jackson, 2016; Loewy & Paulander, 2016; Wheeler, 2016). To answer my research questions, I made a horizontal and vertical analysis of the video recordings from the therapy sessions inspired by Holck's (2007) ethnographic descriptive microanalysis model and by Plahl's (2007) five essential steps to her method of video microanalysis. By using different parameters (such as turn-taking, duet, solo, instrument, client-led, therapist-led, significant moments, etc.), I conducted an analysis for each session, in relation to a timeline. In addition, I performed microanalyses of selected parts.

1.3 Research Questions

Based on a phenomenological and hermeneutic analysis of the video material from eleven MT sessions with a child with autism, I am seeking answers to the following questions:

1. Which patterns and behaviors can be detected and described that are 'atypical' for a child with autism, displaying new options for action, based on the video recordings of the eleven sessions?

2. How can the patterns and new communicative skills discovered in the music and in the client's behavior be interpreted in the light of the mentioned theories, and are those signs of the MT's ability to create new choices and coping mechanisms?

3. What are the musical parameters in improvisational music therapy (IMT) and in the therapist's actions that facilitate changes in the client's behavior?

1.3 Disposition

My thesis is structured in eight chapters. In my introductory chapter, I present my problem field with the emerging research questions, my motivation, and wonderment, the purpose of my thesis, as well as my personal belief system and ethics. Chapter two is my theory chapter, with a brief presentation of my client's population, perspectives from neuroscience, neuropsychology, and cognitive development theories to help identify possible agents of change for my intervention, and an overview on MT and autism with the adoption of IMT as my MT approach, thus focusing on the relational aspects as well as the role and position of the MTh. In chapter three I introduce my methodology (a qualitative single case study, based on the hermeneutic and phenomenological approach) as well as my method of data analysis based on Holck's (2007) ethnographic, descriptive approach and Plahl's (2007) five steps to microanalysis. Chapter four contains the presentation of my client, the objective

of my MT interventions, setting, and circumstances as well as an overview of the entire MT intervention with my client. In chapter five I showcase my data analysis, consisting of the vertical and horizontal analysis of the MT sessions, and the microanalysis of five selected video episodes. In chapter six I discuss the results from my personal point of view with reference to chosen literature, followed by a review of the results in comparison to other studies, as well as light of my method and methodology, finally discussing the strengths and weaknesses of my study. In chapter seven I answer my research questions and conclude with a perspective of my work and thesis in chapter eight.

1.4 The Purpose Of This Thesis

With this thesis, I would like to share my experience and the results of my research on IMT therapy, with regards to working with highly verbal children with autism. As MTs, we build on each other's expertise and draw from the neighboring disciplines and a cross-disciplinary team play. Therefore it is necessary to actively and assertively advocate for an early implementation of MT as a highly meaningful and evidence-based intervention for children with autism, as an additional support in building new and better coping mechanisms. Another aim of my thesis is to advocate for the neurodiversity movement, thus encouraging closer attention be paid to the client's wishes, as well as revisiting some of society's expectations on how children with autism should behave.

1.5 Personal Belief System

Being the child of a musician, music has always been an indispensable part of my life starting at a very young age, be it as my parent's child, a part of an audience, a pupil, a young musician, a member of a choir, a band, or a chamber orchestra. Through all the years and countries, I have always experienced music as being the agent to transcend all boundaries, having the unique power to unify and heal people. However, I consider my view of humanity as being the result of my multi-ethnic roots and education, the cultural influences of the many countries I have lived in, and of course of my personal history, thus being a committed humanist with a holistic approach to life and to people. My approach as an MT is certainly eclectic with strong roots in the psychodynamic approach. In addition, I strongly believe in a relational, client-centered MT approach, focusing on the client's strength, rather than on their impediments. I am committed to the belief that the people we work with are entitled to our support and guidance on their path to fulfilling their potential and experience personal wellbeing, and endorsement. Furthermore, they should be honored for their unique way of being.

1.6 Ethics

Following the current guidelines for ethical research as presented by Kathleen Murphy (2016a), the personal data concerning the identity and autonomy of my client have been anonymized. The same applies to the school he attended. An informed consent, including the option to withdraw the consent at any time, had been signed by the client's parents. The material is handled with regards to generating social value, benefitting the individual as well as society, searching for scientific validity in the research process, and in order to attain information otherwise not accessible. The digital material has been treated accordingly, files are shared encrypted via the Panopto tool, and they will be deleted post-research.

Chapter 2 - Theory

According to Amir et al. (2016) every observation is driven by theory, providing the researcher with points of view to support her/his investigations of problems or social issues. Thus reflexivity is key in qualitative research. It is necessary to be aware of how one's own pre-understanding controls the choice of theory as well as the research focus and problem formulation. For the deductive process in the phenomenological hermeneutic approach, the theory is the starting point, since it provides the basis for understanding one's findings. To include the right body of theory emphasizes the importance of evidence-based practice, thus laying the foundation for gaining an understanding of the significance, the mechanisms, and interrelations in MT effects.

I will start this chapter by presenting my literature search, followed by an overview of autism diagnosis for children. Afterward, I will present a glimpse into the neurobiological processing of music in the brain (Peretz, 2010), different studies and research results on how people with autism react to music, Damasio's (1998) *theory of consciousness*, Baron-Cohen's (2004) *triads of impairments and of strength*, and Susan Hart's (2008) view on *windows of opportunities* in the neurodevelopmental process. Then, I present an overview of MT and autism, as well as the implementation of IMT being my MT approach, followed by the relational aspects as well as the role and position of the MTh.

2.1 Literature Search

My literature search is primarily based on my previous research of MT with children with autism (Popescu, 2019), but particularly on my literature review from the 8th semester (Popescu, 2020). Even though the review was aimed at investigating MT for primary school children with autism, and its impact on fostering inclusion, I can draw on this as a starting point for my literature search.

Since there were still restrictions imposed due to COVID-19, I focused mainly on literature available online, including publications in English, German, Danish, Norwegian and Swedish, looking into case studies, experimental studies, theoretical studies, and reviews on MT with children with autism, with the exclusion criteria of non-verbal children, and those under six and above 12 years. My search covered the aspect of the intervention (music therapy, musical therapy, music intervention, community music therapy, music-based intervention), the aspect of the population (autism, autism spectrum disorder [ASD], autism spectrum condition [ASC], neurodevelopmental disorders, child development disorders, pervasive autistic disorder) as well as primary school children. Concerning the diagnostic classification, I was particularly focused on newer literature incorporating the understanding of autism from the point of the neurodiversity movement (including search terms like: neurodiversity, neurodivergent, autism awareness and via chain search). In addition, because

my focus included investigating the impact of my intervention also from a neurobiological and neurodevelopmental point of view, I refined my search accordingly (implementing search terms such as: neuroplasticity, neurodevelopmental, neurobiological). In relation to my research questions, I applied further search criteria such as: social outcome, communication skills, emotion in music, rhythm, pitch, or sad music (see tab. 1).

Table 1

Search terms for the aspects and the specific focus of the research question

Aspects	Aspect 1	Aspect 2	Aspect 3	Aspect 4
Search terms	Music therapy; Musical therapy; Music intervention; Improvisational music therapy; music-based intervention; therapeutic music	autism; autism spectrum disorder; ASD; autism spectrum condition; ASC; Neurodevelopmental Disorders; Child Development Disorders; Pervasive Autistic Disorder; neurodiversity, neurodivergent, autism awareness	Social communication; social outcome; communication skills; emotion in music; rhythm, pitch; 'sad music'; music preferences; beat perception; musical auditory processing; intersubjectivity	neuroplasticity; neurodevelopmental; neurobiological; neuroscience

I searched the relevant databases covering publications from the field of music therapy, music, psychology, pedagogy, education, and sociology. Those included were: Primo, Bibliotek.dk, Den danske forskningsdatabase, Cochrane Library, Google Scholar, Cinahl, EbscoHost, Embase, Medline, Proquest, PsycINFO, Scopus, and Springerlink. I subsequently performed chain search.Consulting other experts also yielded a good number of important results.

2.2 Children on the Autism Spectrum

The American Psychological Association (APA, 2013) describes ASD as a pervasive neurodevelopmental disorder, in the area of social communication, interaction and recipro-city, accompanied by impaired abilities in attaining, understanding, and maintaining relationships, diagnosed as F84 according to the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5). In accordance with the ICD-10 (International Classification of Diseases and Related Health Problems 10th revision) classification (World Health Organisation [WHO], 2019), ASD is characterized as an umbrella term covering a wider range of conditions, such as autism, Asperger syndrome, pervasive developmental disorders, childhood disinte-grative disorder, or Rett syndrome. Those conditions manifest in early childhood mostly

before the age of three. An essential part of a diagnosis is the presence of stereotyped, repetitive, and/ or restricted behavior or interests. The occurring impairments and delay in functions and development, such as intellectual or language impairment of different degrees, or any additional genetic or environmental factors, are further characteristics to specify the diagnosis. There are common comorbidities with additional disturbances, such as epilepsy, anxiety, depression, or sensory processing disorder. The standard in diagnosing mental and behavioral conditions is the DSM-5 criteria (APA, 2013), specifying the amount of support needed. Since the causes of ASD are still under investigation, a couple of risk factors such as genetics, neuroanatomical abnormalities, prenatal and perinatal factors, or environmental factors have been identified. It is estimated that one in 160 children worldwide is diagnosed with ASD (WHO, 2013). In Denmark 1.67 % of the children between 0 and 17 years have been diagnosed with autism (Socialstyrelsen, 2021). A diagnosis can be made as early as 24 months of age.

It is not unusual for children with ASD to avoid or reject physical contact, to show difficulties perceiving when they are addressed by others, and they might display what others conceive as flat or inappropriate facial expressions (Johnson & Myers, 2005). Some children repeat or echo words or phrases in a conversation. Temper tantrums or a short attention span are common, as is the display of obsessive interests, repetitive actions, or troubles with changing routine. Since children with autism tend to avoid eye contact and generally have difficulties in relating to others or reading other people's feelings or expressing their own, they are more vulnerable to social exclusion. There is growing evidence of the benefit of early intervention for children with autism (Estes et al., 2015; Reichow et al.; 2018, Towle et al., 2020; Warren et al., 2011). Therefore an early diagnosis is key to alleviating the impact of the lifelong effects of the impairments associated with autism. One of the reasons is seen in elevated neuroplasticity at an early age (Kolb & Robbin, 2011). According to Towle et al. (2020) the earlier the intervention occurs, the more likely the remediation of neural circuits will be, and thus more optimal behavioral patterns can be established. There is a wide range of treatments, from medication and complementary medicine to behavioral and communication approaches (Johnson & Myers, 2005). Within the behavioral and communication approaches, there are: (a) the visual support system Treatment and Education of Autistic and related Communication-handicapped CHildern (TEACCH), (b) Picture Exchange Communication System (PECS), (c) Applied Behavior Analysis (ABA), (d) sensory integration therapy, (e) speech therapy, (f) social story, (g) occupational therapy, and (h) music therapy.

In the past years the autism rights movement (ARM), as part of the neurodiversity movement, advocates for a greater acceptance of autistic behaviors, rather than complying with the expectation to imitate neurotypical behaviors (Autistic Self Advocacy Network, 2021). A British large-scale study (Kenny et al., 2016) investigating which terms should be adapted to address autism among people with autism, their families and the professionals working with them, showed a clear preference for the person-centered approach. Since words have a clear impact on the societal perception of autistic people, it is important to make sure to effectively listen to them, as well as to their families, in order to ensure a proper

understanding of their needs and preferences. The research of the cognitive neuroscientist Baron-Cohen (2017) has helped create more awareness and understanding of autism, he also advocates reconsidering the term *disorder* in relation to autism.

> People have made the case for including other neurodevelopmental conditions and 'phenotypes', such as ADHD, dyslexia, dyspraxia, dyscalculia or synaesthesia, within the framework of neurodiversity. This helps to nail down when the terms 'disorder', 'disability', 'difference' and 'disease' should be used. 'Disorder' should be used when there is nothing positive about the condition, or when despite trying different environmental modifications, the person is still unable to function. 'Disease' should be used when the biomedical mechanistic cause of a disorder becomes known, perhaps through medical testing or through scientific research. 'Disability' should be used when the person falls below an average level of functioning in one or more psychological or physical functions, and where the individual needs support or intervention. 'Difference' should be used when the person is simply atypical, for biological reasons, relative to a population norm, but where this difference does not necessarily affect functioning or well-being. Using these definitions, we should remain open-minded that some forms of autism are properly thought of a disorder, and others not, given the heterogeneity that exists within this diagnostic category. (Baron-Cohen, 2017, p. 745)

However, as a more recent study shows, there is still too little improvement in the daily life of people with autism (Griffiths et al., 2019).

2.3 Possible Agents of Change from a Neuroscience, Neuropsychology and Cognitive Development Perspective

In her chapter "Towards a Neurobiology of Musical Emotions" Peretz (2010) presents a general overview on how music is processed in the brain in general, but also in people with autism, as well as in people with acquired brain damage. She refers to Damasio (1994) stating that emotions are an essential part of decision making, being assigned to the frontal lobes of the brain. Since music can induce feelings and emotions, she describes mostly the reactions to basic emotions such as happiness, anger, and fear. Those emotions on the other hand can be recognized in music, also by people with autism (Caria et al., 2011; Molnar-Szakacs & Heaton, 2012). Referring to musical exchange between infant and caregiver, Peretz (2010) states that there is a clear preference for infant-directed singing to speech. Infants prefer singing with exaggerated rhythm, slower tempo, and higher pitch. Since musical emotions are perceived by the brain, there has to be a biological preparedness, which gives space for the expectation that musical emotions would "recruit" neural networks. The brain scans

conducted to find evidence of this hypothesis, support the assumption that there must be particular pathways in the brain processing music. In relation to the feeling of musical *chills*, an increased activation in the ventral striatum could be registered, which is involved in the brain's reward system. Further research has shown that the dissonances in *scary music* affect the amygdala, but further examinations, she states, are necessary in order to establish if there are subcortical *short-cuts* from music to emotion. Responding to emotion in music involves very complex processing of the brain, since there are no unitary pathways in this process.

Particular strengths in music processing have been reported from the early accounts of autism, including enhanced musical skills such as *absolute pitch*, *strong melodic memory*, and *contour processing* (Caria et al., 2011). There is a slowly growing body of research on music processing with people with autism, and I would like to mention some of those empirical studies. Hardy and LaGasse's (2013) study on rhythm, movement, and autism aim at rhythmic rehabilitation research as a model for autism to improve motor functions. The goal was to investigate if rhythmic input could help to increase sensorimotor functions, thus supporting people with autism to better access their cognitive, social, and behavioral potential. Rhythm as one of the organizing factors in music has been used in motor rehabilitation before. The findings indicate that when addressing motor deficits in people with autism via rhythmical cues, this would provide predictable structures to help stabilize movement patterns for the client. Stephenson et al. (2016) conducted a study on age-related differences in response to music-evoked emotion, with children and adolescents with autism and neurotypical control groups, with respect to the circumstance, that autism often includes symptoms of anxiety, increasing problematic behavior and causing a higher level of stress. They measured psychophysiological and behavioral responses as well as skin conductance responses prompted by listening to happy, sad, and scary music. Children with and without autism showed a greater response to scary music, but the children with autism were more accurate in recognizing scary music compared to the adolescents, whereas in the neurotypical group it was reversed. This is of importance since face processing research shows a lower accuracy in emotion recognition for this population. This might be due to a hyperactivity of the amygdala, in processing this musical cue as a threat (Schumann et al., 2004). Stephenson et al. (2015) nonetheless recommend music as an effective non-social emotional stimulus for children with autism, even though the findings concerning the relation of cognition, physiology, and behavior are mixed. Another review, this time on behavioral and neuroimaging research in autism regarding the nature of emotion processing, conducted by Molnar-Sakacz and Heaton (2012), concluded that the typical problems people with autism encounter with emotion recognition, do not apply to music. It seems that musical recognition and understanding are intact, which would explain the music effect on people with autism, thus turning music into a "powerful and accessible affective stimulus that captures and emotionally rewards individuals with ASD" (Molnar-Sakacz & Heaton, 2012, p. 322).

Damasio (1998) highlights the importance of emotions, by particularly emphasizing their role in building memories, reasoning and in making decisions - which are acts of consciousness. He clearly distinguishes between *emotions* and *feelings*. As emotions are "a

collection of responses triggered from parts of the brain to the body, and from parts of the brain to other parts of the brain, using both neural and humoral routes" (p. 84), they invariably lead to an *emotional state*. Whereas feeling is bound to characterize the complex *mental state*, as a reaction to the emotional state. He reasons that emotions by their nature are much more easily accessible, since the relevant triggers are more obvious, their response more visible and more measurable. However, as soon as those neural systems which support feelings are determined, they would also be traceable with modern neuroimaging tools. Concerning the neural systems underlying emotions, Damasio discloses that he believes that emotions and feelings are not happening in the limbic system alone, or are relevant within the limbic system alone, since they are observable throughout the organism, both in body and brain, in neurons and in the bloodstream. He describes emotions as being dual by nature, first as *behaviors*, showing joy or anger, and then as *experience* of emotional states, leading to reasoning about the experience, as well as to future planning and acting. He concludes that the most prominent role of emotions is to prompt spontaneous decisions, without reasoning beforehand. However, when emotions are memorized, they can be reactivated and thus lead to conscious or unconscious reasoning. As a further step, Damasio (2000) distinguishes between the different notions of consciousness, corresponding to different stages of the self: (a) the unconscious *proto-self*, indicating the absence of perception and knowledge, (b) The conscious *core-self*, serving as a kind of compass in the "here and now", but non-verbal by it's nature and still unrelated to cognition, (c) The conscious *autobiographical self*, equips the self with a sense of identity, thus involving cognitive functions such as attention, memory, or language, constantly evolving over lifetime. Consequently he argues that consciousness includes feelings: starting with the emotion itself, followed by the feeling of the emotion and leading up to *feeling the feeling*. In their study review on "Music, feeling, and brain" Habibi and Damasio (2014) relates to the neurobiological perspective on music effect. Doing so, they also introduce the term *aesthetic emotions*, as a phenomenon, where even the recalling of a piece of music can induce emotions, posing a cognitive step in itself. They summarize their findings by stating, that there is clear evidence that music-induced emotions and the subsequent feelings, have an effect on the homeostasis-related neural system of the brain, thus prompting physiological changes in different parts of the body. Another finding was, that when listening to pleasurable music, the ventral striatum and its nucleus accumbens, the anterior cingulate, and the insular cortices are activated, whereas with listening to music perceived as unpleasant the amygdala nuclei, hippocampal formation, and parahippocampal cortex are being activated.

Arousal regulation is one of the major challenges for children on the autism spectrum (AS), often present as hyperarousal in response to excessive sensory input and the lack of ability to select between the different sensory inputs (Baron-Cohen, 2004). Cognitive neuroscience often attributes a restricted *theory of mind* to people with autism, since they often display an impaired ability for empathy. This cognitive aspect led to Baron-Cohen's model of the *triad of deficits* (see fig. 1), whereby *empathizing* is defined as spanning a field of different terms like theory of mind, *empathy*, and taking an *intentional stance*. When referring to

empathy, this includes a person's ability to assign a mental state to oneself and to others, and as a result, being able to have a befitting emotional reaction towards the other person's feelings. A lack of a restricted sense of empathy inhibits proper social interactions and communicative development.

Figure 1

Triad of impairments (according to Baron-Cohen, 2004)
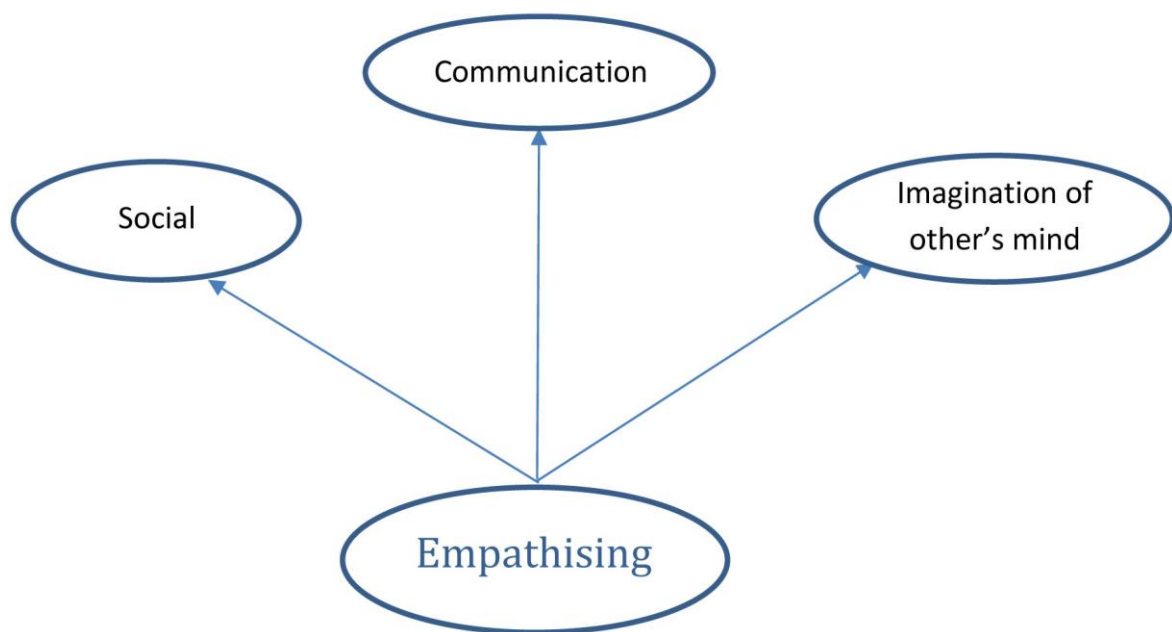
On the other hand, there is a strong affinity towards systems, rules and regularities, and a fascination with the relation of input-output operations. This systemizing ability and a strong need for routines and sameness are often superior in people with autism, thus forming a *triad of strength* (see fig. 2). Therefore, when looking at a child's *obsession*, Baron-Cohen suggests to rather consider them a superior interest that could support the child. MT can both enhance empathising and put systemizing to account through music.

Figure 2

Triade of strength (according to Baron-Cohen, 2004)
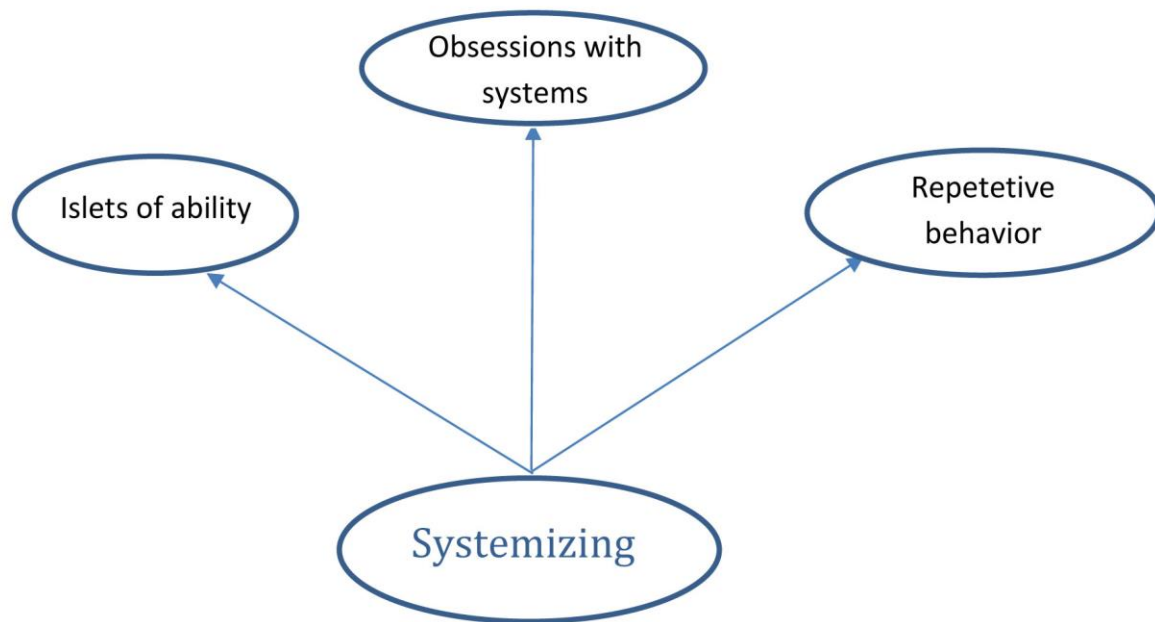
Susan Hart (2008) calls her chapter on brain growth during critical periods in infancy "Windows of opportunity: the programmable hardwired system". This project is, indeed, a very intriguing picture of the neurodevelopmental process. She refers to Stern (1998) when underscoring the vital importance of the environmental factors (such as stimulation) in brain development since the lack of such experience exercises a sustained influence on the cognitive, sensorimotor and perceptual process. The very concept of brain plasticity is predicated on proper stimuli and timing. This includes the fact that brain plasticity is highest during the developmental stages of infants. According to Hart, there is an ample range of influencing factors on brain plasticity: not all structures are equally plastic, they vary from person to person, they need the right stimuli at the proper time, a vast part of the neocortex is surprisingly plastic, and genetic predetermination can be surmounted with proper stimulation, thus permitting the individual development of personality. This also implies the potential for change, learning, and compensation in most cases, except for serious and traumatic neglect, is given throughout a lifetime, some requiring more effort than others. Hart (2008) refers to Damasio (1994) by pointing out that acquiring new response patterns and experiences depends on the continuous modification of basic response patterns, where the environment adopts a crucial role in regulating the basic affects. In conclusion Hart (2008) sets forth that emotion transferring brain systems are more accessible to environmental influences than the systems responsible for physical survival. However, it is a distinguished faculty of the human brain, and particularly so in children, that by actively searching for adjustments and development, every new experience leads to a reorganization of the nervous

system. When referring to critical and sensitive periods, Hart specifies the immanent importance of stimulation, since it serves as a trigger for the step into each new developmental stage, where each consolidation of new skills is preceded by a quantitative change. Neural circuits and brain plasticity can be stimulated by the occurrence and the impact of resonance and synchronicity. *Windows of opportunity* can thus be characterized as the optimal time for learning and development, correlating also with periods of enhanced brain plasticity. Stimulation and stimulus processing is vital for establishing new brain circuits, whereas structures can be influenced and even altered with the right intervention, particularly since emotional development is a lifelong process.

2.4 Music Therapy and Autism Spectrum Condition

The history of MT as a treatment for autism goes back to the 1940s, when children in the USA received MT in schools, psychiatric hospitals, and institutions (Reschke-Hernandez, 2011). There is very little literature to be found for those early years since both, the knowledge about autism and MT as a profession, was barely present. The literature in the 50s described a certain attraction and unusual display of musical abilities amongst children with autism (Hudson, 1973; Sherwin, 1953). But it was first in the 1960s with the MThs Nordoff and Robbins (1977), that improvisational MT for children with autism started. They assumed that the musical experience was perceived as a non-threatening medium, thus making it more likely for children to engage, especially during child-led interventions. Shortly after it was Juliette Alvin (1969), who emphasized that establishing communication, by implementing a variety of instruments, vocal sounds, and movements, should be the most significant goal in MT with children with autism. The creative MT established by Nordoff and Robbins (1977) included a theoretical foundation on IMT, as well as standards of intervention techniques.

It was first in the 1990s, in alignment with the *Education for All Handicapped Children Act*, that MT refocused in their work with children with autism (Reschke-Hernandez, 2011). MT aligned with psychology and special education, to find better treatment for children with autism, implementing improvisational techniques as well as structured MT. Since evidence-based interventions became the only ones to be implemented in public service, the necessity to prove MT's effectiveness with children with autism grew.

Today's treatment approaches in MT, according to Geretsegger and Bergmann (2017) can be grouped into: improvisational (Alvin, 1978; Oldfield, 2006; Wigram, 2004, 2009), receptive (Bérard, 1993; Tomatis & Keeping, 2005), behavioristic (Kern & Aldrige, 2006), developmental oriented (Carpente, 2011), family-based (Allgood, 2005; Jacobsen & Thompson, 2016; Kern et al., 2012), psychodynamically informed (Gattino et al., 2011), pedagogic/integrative oriented (Merkt, 2015) and community music informed (Eilat & Raichel, 2016; Elefant, 2010).

There is a clear gap in the perceived effectiveness of IMT with children with autism in relation to the available research (Bergmann, 2018; Oldfield et al., 2019). Methodological

limitations impede strong statements when cross-reviewing effect studies. While some studies (Geretsegger et al., 2014; Gold et al., 2006; Kim et al., 2009; LaGasse, 2014, 2017) indicate a clear beneficial outcome on MT for this population, especially with respect to social interaction and communication, Bieleninik et al.'s (2017) Trial of Improvisational Music therapy's Effectiveness for children with Autism (TIME-A) study was less promising. This was also due to not having taken into account some of the secondary outcomes, like better quality of life and the emotional aspects of interpersonal engagement (Crawford et al., 2017). Still, there is an urgent necessity for further and more adaptable research. However, the latest EBP (Evidence-Based Practices for Children, Youth, and Young Adults with ASD)-Report shows the effectiveness of music-mediated intervention for elementary school children in the area of school readiness, communication, social interaction, challenging and interfering behavior, and motor skills (Steinbrenner et al., 2020).

2.4.1 Improvisational Music Therapy with Children with Autism

IMT has been implemented by MThs from the very beginning of their work with children with autism (Reschke-Hernández, 2011). Since autism often implies impairments in social interactions and communication, these are the areas that MT can address best through interaction, affect sharing, imitation, and joint attention (Geretsegger et al., 2015). The term *improvisational music therapy* goes back to Bruscia (1987), and signifies spontaneously creating music together. He developed 64 clinical techniques for this important therapeutic tool. IMT is often child-led, following the client's behavior and interests, thus scaffolding the client's communicative skills and development.

Tony Wigram (2004) classifies the techniques for IMT as follows: (a) Matching, imitating, and copying - thus attempting to obtain synchronization with the client, where matching is seen as an empathic method to validate the client's emotional expression, while staying in the same style and quality of music. Thus the client experiences that the music is following his own expression; (b) Grounding, holding, and containing - where grounding is thought of as a help for the client to connect with the music through the stability and intentionality the MTh provides. Whereas holding and containing are meant for more chaotic musical expressions; (c) Dialoguing - is seen as a musical conversation through play, either as turn-taking or free dialogue, where the MTh provides different musical cues (harmonic, rhythmic, melodic, or dynamic) or through gestural cues; (d) Accompanying - which means providing rhythmic, harmonic, and melodic accompaniment to the client's music; (e) Extemporizing and frameworking - which is a more advanced technique, where extemporizing means continuing a musical idea in the same style, and frameworking - which means creating a musical structure that allows the client to develop his own musical ideas.

The outcome of the study of the characteristics of IMT for children with autism (Geretsegger et al., 2015) yielded amongst other a treatment guide, qualified to support and enhance compliance and expertise in applying IMT with this population, as well as providing a suitable tool for future assessment of treatment fidelity. The aim was to find consensus

incorporating both sufficient standardization and necessary flexibility to meet the individual needs of the clients. According to the study, the unique and essential principles within IMT are: to *facilitate musical and emotional attunement*, to *scaffold the flow of musical interaction*, and to *tap into shared history of musical interaction*. The first principle aligns with the early infancy interaction between mother and child, describing the provided frameworks as a means of sharing reciprocal perceptions. When the MTh closely attunes with the client's expression, thus establishing a musical attunement, this can transfer to achieve emotional attunement as well. Such a process supports the client's emotional expression and release and can increase his ability for self-regulation. The improvisational techniques implemented can be imitation, mirroring, matching, sustaining, thus facilitating moments of synchronicity. Implementing the technique of scaffolding the flow of interaction musically implies the MThs preparedness to perceive the client's behavior and expressions as meaningful and intentional, regardless of how weak, infrequent, or poorly timed they are. This approach supports and encourages the client to understand and engage in musical interactions. The MTh can match the client's expression using different musical parameters, making them recognizable for the client, as well as adding verbal and non-verbal cues, creating expectations, thus supporting the client's active engagement. IMT techniques would be frameworking or grounding (rhythmic and harmonic). Tapping into the shared history of musical interaction is meant to create a feeling of security and predictability for the client. The particular characteristics of the shared music build up over time. They can comprise a particular musical or thematic repertoire, snippets from previous improvisations, that can be playfully expanded, altered, or changed, thus surprising the client, incorporating humor or other emotions, in order to facilitate interaction. This back-and-forth of ideas and musical actions can foster intersubjectivity, supporting the client to actively participate and initiate interactions. As part of the treatment principles, *essential (but not unique) principles* have been included as well. Those are: to *build and maintain a positive therapeutic relationship*, to *provide a secure environment*, to *follow the child's lead*, to *set treatment goals and evaluate progress*, and to *facilitate enjoyment*. This, of course, includes that all those principles should be adjusted to the client's needs with respect to his everyday settings and other parts of his treatment and his daily routine.

2.5 The Relational Factors in Music Therapy

A positive therapeutic relationship is indispensable for MT to be successful, so when zooming into the relational factors in MT *affect attunemen*t is one pivotal term, as well as *vitality affects*, both part of Daniel Stern's (1985, 2000) theories of development of the child's interpersonal world. MT research has a long tradition of referring to Stern's theories (Dimitriadis & Smeijsters, 2011; Hannibal, 2019), especially since the musical terms he has introduced to describe affect attunement, are akin to those in MT. In his book Stern (1985) describes the developmental process of infants following his research and microanalysis of

early mother-child interaction. He distinguishes distinct patterns in the non-verbal interactions between caregivers and infants. Through vocalization, facial expressions, and eye contact with varying *modalities* they exchange and share emotions and inner states, thus achieving an empathic communication leading to what Stern calls affect attunement. The mother can match the infant's uttering by altering *intensity*, *time* and *shape* of the child's expression. According to Stern it is due to those interactions with others, that the infant develops a sense of self and thus achieves neurological maturation. This sense of self is, by its nature, interrelated and consists of five level of development: the *senses of an emergent self*, the *sense of core-self*, the *sense of core-self-with-other*, the *sense of intersubjective self*, and *the verbal self* (with a later addition of the narrative self). These different stages of the self determine different ways of interaction. Stern describes these pre-verbal interactions more precisely with musical terms: (a) Absolute intensity, (b) Intensity contour, (c) Temporal beat,(d) Rhythm, (e) Duration, and (f) Shape. He denotes the different traits of emotions and behaviors as being the vitality affects of our psyche, attributing them to further musical terms, such as crescendo, decrescendo, fading away. In his book "Forms of vitality: exploring dynamic experience in psychology, the arts, psychotherapy, and development" (Stern, 2010), he directly relates to IMT, by pointing out that it is through music that vitality affects are expressed and thus facilitate exchange of experience. Stern emphasizes the importance of the awareness of the *present moment* in the therapeutic relationship, as a vital agent for change and development in both the client and the therapist, since they establish inter-subjective emotional relatedness essential for a positive therapeutic outcome.

Trevarthen performed similar mother-child research at about the same time as Stern, also implementing frame-by-frame analysis, and referring to similar vitality contours and assigning them similar musical qualities. His understanding of interpersonal awareness or *intersubjectivity* led to the definition of intersubjectivity as an aptitude to possess and share emotions, interest and purpose and by interacting with others to exchange those ideas and feelings, in order to achieve new understanding and objectives (Trevarthen, 2002). Since being convinced that intersubjectivity in mother-child interaction is made possible through an innate musicality, the theory of *communicative musicality* took shape.

> We live, think, imagine and remember in movement. To capture the essence of movement and its values we use the metaphor *musicality*. To recognise that our experience in movement is shared by a compelling sympathy we call this activity *communicative*. We believe that our learning, anticipating and remembering, our infinite varieties of communication including spoken and written language, are all given life by our innate communicative musicality. (Malloch & Trevarthen, 2009, p. 9)

Trevarthen (2002) recommends IMT especially for non-verbal children with autism, since this approach is very suitable in meeting and enhancing feeble communicative skills, and thus helping to build and develop purposeful interaction. He underscores the importance

of meeting the child where it is, reacting to the child's interests, thus supporting regulation, emotions, and learning. The premise for intersubjectivity is the child's ability for *joint attention*. Kim et al. (2008) introduced their working definition of joint attention as a "joint engagement that involves the child, the therapist, and objects, or events in either musical form, or in play" (p. 1769).

Trondalen (2016) emphasizes the importance of intersubjectivity for relational MT. She calls the core message to be the "experience of 'I know that you know that I know' and 'I feel that you feel what I feel' " (p. 12-13). The ambition of MT should therefore be to enhance the client's experience and perception of self and the other by establishing new ways of relating to each other through music. Due to the MTh's response and emotional availability, a meaningful mutual, musical exchange can be established and grow, thus leading to emotional regulation as well as facilitating contact, joy, and new meaning. Intersubjectivity in music therapy practice can be divided into four different stages: a) primary intersubjectivity - meaning instant joint attention and emotional synchronization, b) secondary intersubjectivity - implementing a joint focus that lies outside oneself, including awareness of co-creating one another's world, c) tertiary intersubjectivity - including verbal and symbolic communication, narratives and integrated affects, and d) tertiary intersubjectivity of second order - including the ability of mentalization, by attributing meaning and intention to the shared experience (Trondalen, 2019).

Kenny's (2006) approach to MT builds on the strong belief that even though as MThs we have structures, theories, techniques, and methods in common, our personal psyche and soul is what makes our individual work unmistakably unique. When describing her work as MTh she addresses the innate energy and beauty present in both the client and the MTh, with primary elements or fields such as aesthetics - with the assumption of an innate impetus leading us towards wholeness and beauty - where the MTh invites the client into her field of aesthetics and creative force. Another field, the musical field, is seen as a contained place: safe and sacred, created by the relationship between MTh and client. It is determined by the MTh's and the client's aesthetics, thus when those two merge, a new field arises and can grow and expand into the field of play. This is the space in which to experiment and to communicate and share feelings, thoughts, and values, being playful by nature and full of surprises and confidence.

> The Field of Play is not a theory about how to do. Rather it is a theory about how to be and how to notice shifts in particular states of consciousness and fields of existence—shifts that carry us along the currents and tides of the great river. It challenges our perception to notice these shifts while simultaneously following our prescribed systems or techniques of practice in music therapy, our layers of abstract theories, our cultural mandates, and our personal and professional ethical codes. (Kenny, 2014, p. 5)

2.6 The Role and Position of the Music Therapist

Besides the roles of an MTh as presented in chapters 2.4 and 2.4.1 relating to her/ his work with the client using different MT techniques, there are also further fields of interest that should be taken into account. It is vital to constantly update our practice considerations, implementing current MT research, as well as those from neighboring fields, looking for strong interdisciplinary cooperation, and particularly listening to our clients and their families. There is a growing awareness that MThs working with people with autism can hold a vital role in helping to reshape the societal and diagnostic perception of autism, because of their unique insight into this population's strength and potential. Aligning with the neurodiversity movement's demand for a greater acceptance of autistic behaviors, rather than complying with the expectation to imitate neurotypical behaviors, would pose a social attunement with our clients empowering a different mechanism for change.

In their paper on perspectives on MT practice with highly verbal children Thompson and Elefant (2019) advocate for "exploring identity, and illuminating strengths rather than seeking to normalise behaviours and symptoms" (p. 349). They conclude their paper by stating that the MT experience, also when differing from a prevalent conception of active music-making between MTH and client, can still help enhancing a client's social and relational repertoire, and in addition, can support in meeting and appreciating their differences.

Rickson (2020) shares her six year research journey on children with ASC in New Zealand, which is emphatically targeted to help increase access to MT for children with autism. Her mixed-methods study was conducted over a period of one year, including 10 MTs each with one client, and evaluators with different backgrounds such as family members, autism experts, policymakers, and potential employers. The baseline was her belief that people who witness MT will develop a different understanding and appreciation for MT. On the other hand, Rickson queries the predominance of positivist research, stating, at the same time, that there is a growing opposition in the field of medicine, as well (Greenhalgh, 2012). She cites Aigen (2015), pointing out that being caught up in the high end of the EBP hierarchy, can pose impediments to the MTh's work. However, she fully acknowledges the continuous need for research, in order to also achieve stronger recognition and credit from public health policy, stating: "As qualitative researchers, we seek to be moved by the phenomena we are investigating, and we endeavor to produce reports that resonate with our readers, to clarify and deepen their understandings" (p. 75).

"It's Not What's Done, But Why It's Done": Music Therapists' Understanding of Normalisation, Maximisation and the Neurodiversity Movement" (Pickard et al., 2020) is a position paper by five MThs with respect to the theory, politics, and Implications of the Neurodiversity Movement, attempting to understand and to engage with their objectives and to open a dialogue. They point out that they are not taking the stance of activists, but from their role and intention as MThs, as well as from their experience with the population. The paper encompasses different points of view and critiques on some of the demands and positions of the neurodiversity movement, at the same time honoring all attempts for social

inclusion and dialogue. When MThs are considering following the Neurodiversity Paradigm, the aim and intention of the therapeutic approach are of significant relevance. This would mean that when following the Neurodiversity paradigm, the therapeutic aim would be to enhance a client's skills and capabilities, not despite the identity but in acceptance and respect of their identity. Whereas when adapting a medical interpretation of autism, this would imply the attempt to normalize, so the client would appear more like his neurotypical peers. Pickard et al.'s paper is meant to be a basis for discussion, thus asking MThs to reflect on: "How do we conceptualise differences in our practice and what do we consider to be the intention of music therapy?" (p.11)

Chapter 3 - Methodology And Method

In this chapter, I will present my methodological approach, the chosen research design, and the adapted method for my data analysis. To answer my research questions, I chose to conduct a qualitative single case study, based on the hermeneutic and phenomenological approach of the interpretative method, since it would be the adequate approach to answer my research question (Wheeler & Murphy, 2016).

My aim is to investigate possible patterns and behaviors in improvisational music therapy with a seven-year old boy with moderate autism, which could be described as autism-atypical, and to detect possible variables in the IMT and in the therapist's actions that support the client's new behaviors, as well as discussing if those are signs of new skills creating new choices of action and coping mechanisms. In addition to this, I am intending to find answers on how those patterns and new communicative skills, displayed in the music and the client's behavior, can be interpreted in the light of my chosen theories, and to what extent they are signs for the music therapy's ability to create new choices and coping mechanisms for the client. My clinical material includes video recordings from 11 MT sessions, to be analyzed based on Holck's (2007) ethnographic, descriptive approach and Plahl's (2007) five steps to microanalysis.

3.1 Methodology

When referring to the purpose of research in social science, Robson and McCartan (2017) name three possible reasons: "to explore, to describe and/ or to explain" (p. 39). It is a basic requirement that all research work must be conducted "systematically, skeptically and ethically" (ibid., p. 83). In addition to this, as Ridder and Bonde (2019) point out, music therapy research should also include theory, method, and analysis. In this chapter I will introduce the framework for my research consisting of the qualitative (interpretivist) research paradigm and the hermeneutic phenomenological approach.

3.1.1 A Framework For The Research Design

There are two main research paradigms a researcher can apply: (1) the quantitative (objectivist) or the qualitative (interpretivist), (2) as well as the mixed-method approach, which combines elements from both paradigms (Robson & McCartan, 2017). Since the material I am investigating consists of the video recorded MT sessions I had with a child with ASC, with fundamentally qualitative data to be gathered, I am implementing the qualitative (interpretivist) paradigm.

Regarding the means of how the researcher collects his knowledge, Ridder and Bonde (2019) mention three different fields of science: exploratory, descriptive, and causal. Since the purpose of my research is to find meaning, understanding, and interpretation, based on

the clinical work with one client, the fitting approach, according to Ridder and Bonde, is an exploratory single case study. Hence my epistemological understanding is derived from a phenomenological, hermeneutic, and ethnographic perspective. Single case studies are defined as implying the feature of a bounded system, wherein "case" can be described as a single entity (be it a client, a MT group, or an institution), which can be clearly distinguished as a confined category (Murphy, 2016b). Data collection for the exploratory single case study occurs prior to the development of a research question. The purpose of such a case study is to explore a social phenomenon, and through the detailed description develop questions or procedures for future research. The result is always built on the review of the researcher.

3.1.1.1 The Qualitative (Interpretivist) Research Paradigm

At the beginning of her chapter on "Principles on interpretivist research" Wheeler (2016) introduces her use of the term *interpretivist* versus the previous term of *qualitative* research. She motivates her preference for the interpretivist term, since it emphasizes interpretation as the main feature for the research method, stating that she is mainly employing the term qualitative when citing others or older sources on qualitative research. However, as Gattino (2020) rightfully points out, interpretation is not reserved for qualitative research only, it can be applied within quantitative or mixed-method research as well. Therefore I chose to use the double term: *qualitative (interpretivist)* research.

Wheeler (2016) specifies several definitions, starting with Bruscia's (Wheeler, from personal communication, 2014) version. He refers to qualitative research as a collection of research practices rooting in different disciplines, but sharing a common set of premises:

- Focus: A primary interest in the subjective world of human beings - as it unfolds naturally in the 'lived' world.
- Purpose: To gain an understanding of how human beings create, discover, and communicate meaning - as individually and collectively constructed through actions, interactions, experiences, language, and arts.
- Method: The use of data collection strategies that encourage the participants and phenomena under inquiry to reveal themselves in their own way, unencumbered by the researcher.
- Reflexivity: Continuous efforts of the researcher to bring into awareness, evaluate, and when necessary modify the research process so as to ensure the integrity of the data and its interpretation and to monitor the researcher's personal contributions to all aspects of the research.
- Interpretation: A belief that findings of one's research are constructed, value-laden, context-bound, and time-bound and a continual concern for the epistemology underlying the interpretation of data.
  (p. 294-295)

I have chosen to cite those premises in their integrity since they narrow down the main points I consider relevant for my approach in this thesis. Applying a qualitative (interpretivist) approach is a natural continuation of the music therapist's clinical work, since keeping case notes, monitoring treatment, observing and interpreting, are part of the regular work process. This ethnographic descriptive aspect relates to, and can therefore easily transfer into, qualitative research practice. Since implementing qualitative (interpretivist) research methods also implies the acceptance of working within a dynamic system, it is mandatory for the researcher to be aware of the "ever-changing" nature of the systems, thus being prepared to monitor those dynamics and adjust the protocol whenever necessary (Wheeler, 2016). Those qualities, however, are predestined to support the investigation of the process. As Wheeler concludes "Interpretivist researchers assume that there are multiple realities and that people construct reality as they interpret their experiences of and in the world so that our knowledge is grounded in our unique experiences." (p. 311). Hence it comes as no surprise that there are a considerable number of qualitative (interpretivist) oriented articles and other publications to be found within music therapy research. There is a continuous effort to better include qualitative research outcomes into evidence-based-practice.

3.1.1.2 The Hermeneutic Phenomenological Approach

A phenomenological approach (Hiller, 2016) often relates to lived and direct experience, attempting to find answers and meaning for behavior, response, significant moments, etc., without implementing theoretical a priori assumptions. According to Amir et al. (2016), good examples for music therapeutic research questions guided by phenomenological theory from other music therapists would be: (a) "What is the pure essence of the direct experience of music therapy?" (Kenny, 1996, p. 125) and (b) "What is the *lived world* of the music therapy experience with the terminally ill patient? (Forinash, 1990)" (p. 125).

Music therapy combines both human interactions and the use of music's relational nature, which makes a phenomenological inquiry into the means of choice (Jackson, 2016). According to Jackson, phenomenology provides a method to approach and analyze non-quantifiable experiences, thus allowing the researcher a deeper understanding of the self and the other. This means the aim of the phenomenological study is to find and set out the structure and interpretation of a phenomenon, and define its essence. The philosophy of phenomenology builds on the notion that all understanding of a phenomenon derives from the individual's own interpretation, construct, and judgment of the perceived reality. Hence, the phenomenological approach is, by its nature, subjective and will therefore not prompt generalizable truth. To reach consensus and common ground in how the reality of a given phenomenon can be described, it is necessary to agree on the definition of the phenomenon's essence. This can be made possible by establishing a basic structure, which allows others to recognize the same aspects of an experience. In order to establish the essence of a phenomenon, it is necessary to apply what Husserl (1969) called the techniques of *epoché* or

bracketing, to avoid that every day's assumptions and preconceptions obstruct a clear view on the essential structure. The term epoché describes the process of acknowledging and naming those assumptions and thus stepping away from one's own prejudices and biases (Jackson, 2016). The process of bracketing is a continuation of this process, by putting aside all those detected attitudes, while further examining the phenomenon's data, and thus becoming more receptive to as many variations as there are to be found. This will invariably lead to a better and richer understanding of the essential structure of the investigated phenomenon. There are several variations of the phenomenological inquiry, with one of them being the hermeneutic phenomenology, described as the "research in which the researcher seeks to understand human action through explicating and interpretation from textual data" (p. 893). In the MT research context, this means: verbal and social interactions are transcribed into text, whereas musical interventions are converted into a textual description.

Historic hermeneutics started as the art and science of interpreting a written text, often in a spiritual and/or religious context, with an emphasis on understanding the author's intention (Loewy & Paulander, 2016). Meanwhile, the field of studies for the hermeneutic approach has broadened considerably, thus encompassing arts in general, psychological processes, and human understanding. It is through the hermeneutic inquiry, that the importance and relevance of the MT language can be convincingly laid out, helping to enhance the understanding of our discipline as such. The authors are stating their belief that hermeneutic investigation "is the most culturally attuned way of seeking truth that emerges within music experiences" (p. 937).

According to Kenny et al. (2005) in hermeneutics "the researcher is the primary instrument of the work" (p. 335). Thus it is necessary to implement the *hermeneutic circle*, on how to achieve meaning from an experience, in order to suffice the theory of knowledge, and the integrity of one's research. This describes the process of one's understanding of a text as a whole, by being established by reference to the individual parts and one's understanding of the individual parts by reference to the whole, which means that neither the individual parts nor the entire text can be understood properly without reference to each other. Thus "The essential task of hermeneutics is the assignment of meaning through multiple means of interpretation" (p. 347). When shaped by deep reflection, creativity, and diversity, this circular, complex, and open-ended process yields an increasing level of understanding.

When starting the analysis of my data, I need to put aside my preconceptions, and alternate between my familiarity with the material and the process, and an equanimous distance. The interpretative process must include a willingness to argue all the pros and cons concerning the plausibility of my findings. Thereafter the theoretical and methodological aspects need to be implemented into the newly gained insight, furthermore acknowledging that they, too, can be temporary by their character, and thus subject to a historical change of time.

3.2 Microanalytical Method

Wosch and Wigram's (2005) book on microanalysis incorporates a total of 20 different methods, addressing different client populations, different music therapy approaches, and different challenges in clinical practice. Referring to the concept of microanalysis as a tool for music therapists, the specific cases most suitable for the method are those with "minimal changes in relationships or interactions between people or minimal changes in the music and in dynamic forces'' (p. 14). Microanalysis is helpful in detecting answers such as how, when, and what is happening during an MT session, as well as to reflect on the MT's actions and reasoning. This is of particular relevance if a client has only restricted or no abilities to reflect over his/her own actions, thus enabling the researcher to better understand and evaluate the client's behavior, development, and potential. Those clearly defined procedures enable a systematic analysis of parameters such as musical activity, interpersonal behavior, or the client's emotions and communications. The outcome of the analysis can serve as a basis for arguments regarding the benefit and effectiveness of music therapeutic interventions. Following the process analyses, according to Schindler (1996), who differentiates psycho-therapy process analysis into six different time levels (1) the whole process, (2) phase, (3) session, (4) episode, (5) phrase, and (6) individual cognitive process), Wosch and Wigram (2005) conclude that only the last four levels are relevant for microanalysis in music therapy. Those are: "Level 1: session, Level 2: episode (f. ex. improvisation, verbal part, a music listening period), Level 3: therapy event (f. ex. a short verbal, musical, or other nonverbal phrases), and Level 4: moment-by-moment experienced change (

f.ex. moment-by-moment interaction, moment-by-moment emotion)" (p. 22). This results in the following working definition of microanalysis:

> Microanalysis is a detailed method investigating microprocesses. Micro-processes are processes and changes/progressions within one session of music therapy. The amount of time can be one minute (moment) or five minutes (therapy event) of one session, one clinical improvisation (episode), or a complete session. To analyze process over time, several microanalyses can be undertaken to look at several events. (p. 22)

Since the client in my case study is a young child with ASC, he hasn't been able to reflect much on what happened during music therapy sessions. The purpose of our sessions was to work with the client's challenges concerning social contact, communication, and social play through MT, thus there are often only small changes to be seen in certain situations, which require moment-by-moment analysis. Therefore my choice to apply microanalysis to evaluate my data is comprehensible.

3.2.1 Ethnographic Descriptive Video Microanalysis

To analyze my video recordings of the MT sessions with Mads, I found inspiration in the ethnographic, descriptive approach to microanalysis, as presented by music therapist Ulla Holck (2007). This method can be used to describe what actually happens in an everyday setting between client and therapist since it provides a means to uncover actions the therapist might not be aware of. An ethnographic approach is meaningful when investigating communicative patterns and social interaction with clients with limited ways of expression, as with children with ASC. As Holck points out, the observational analysis applies especially if one of the participants is lacking the ability to answer questions on the subject, as in an interview. Referring to Silvermann (1993), Holck specifies the aim of ethnographic observation as being a "search for the 'practice' of the people being observed" (p. 30). This means observing people in the respective situation, looking for habits, patterns, or repeated actions between the participants manifesting over a period of time spent together, making sure that there are no incidental actions.

There are two related approaches that can be utilized: the *cultural* and the *interaction* analysis, thus involving words, rhythmic patterns, and gestures (Rasmussen, 1997). Through observations, generalized patterns can be established and deviations distinguished. In a cultural analysis, the pronounced deviation from the patterns is being investigated. Whereas, the interaction analysis provides a more holistic view of communication. Analyzing interactions in music therapy, involves music and prosody, facial expression, gestures, and body movements (Holck, 2007). Thus, using video recordings of the sessions is the most appropriate source of data. According to Holck, this analytical method comprises the four following steps: "Stage 1: Data selection; Stage 2: Transcription; Stage 3: Pattern genera-lization - horizontal and vertical analysis; Stage 4: Interpretation." (p. 31)

3.2.2 Data Selection

It is vital to choose the right material, in order to accomplish a precise investigation, especially when involving microanalysis of video recordings (Holck, 2007). Holck describes an example from the clinical praxis with a client who displays a specific "problem", i.e. lack of response. Such a behavior could be investigated through the *problem-based analysis approach*, thus looking into the client's actions, investigating the typical example of the pattern, as well as the deviation from or the breaking of the pattern (i.e. the desired response). On the other hand, when reviewing a longer sequence (5-10 minutes), applying an *open analysis approach* would involve exploring all kinds of interaction patterns between the participants. Which positions this data selection method closest to the ethnographic approach. For an ideal observance, a two angled recording would be best, but a camera angle where both the client's and the therapist's actions, facial expressions, gestures, and musical interplay can be followed, can do as well. Because of the COVID-19 situation, it was not

possible to rent a camera that could have been positioned and adjusted better and would have been more light-sensitive, I had to use my laptop instead. I recorded directly via the Panopto[1] software, but the camera on my laptop does not record in high quality, therefore the video recordings are a bit deficient. Still the material meets the criteria for my analysis.

3.2.3 Transcription

For the problem-based analysis approach, a less detailed transcription might suffice, whereas for the open analysis approach, a more detailed transcription is mandatory (Holck, 2007). In order to describe temporal occurrences in the session, both classical or graphical notation can be used. It is through the transcription process, that indistinct connections and subtle details can emerge. Holck suggests to start with the musical notation first, if there is a notable musical pulse, and thereafter to add gestures and facial expressions. Another approach would be to draw a timeline first and place musical occurrences and the gestures accordingly. It is important to be aware that this is a very time-consuming method.

3.2.4 Generalisation Of Patterns: Horizontal And Vertical Analysis

According to Aldrige (1996) a horizontal and a vertical analysis is necessary to conduct a pattern generalization. For the horizontal analysis a temporal axis is required. Reviewing and transcribing the data according to the chosen focus, should prompt clearly definable *chains of interaction* (Holck, 2007). As a next step, the chains of interaction are compared across the material in a vertical analysis, to distinguish patterns, as described under 3.2.2. Since human interactions are under continuous change, the researcher needs to move back and forth in the material, to ensure that the distinguished patterns are indeed alike. However, in addition a new review of the horizontal analysis is requested to guarantee that the proper interactions are being compared. To specify the patterns, especially when they are indicating a clear change, a more detailed transcription is necessary. It is worth mentioning that in this process implicit interactions are more elaborate and need further assertion.

With my client I will be presumably looking for communication patterns (i.e.: intersubjectivity, turn-taking, or disrupting patterns), new occurrences and new skills as well as the MT's actions, aiming to discover *patterns in perspective* (Holck, 2007).

3.2.5 Interpretation

As Holck (2007) rightly concludes, it is human nature to wonder why other people are acting the way they do. Which leads to Wolcott's (1990) question "What do people in this

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[1] Panopto [Computer software, blended learning, lecture recording]. (2020). Seattle, Washington, U.S. Retrieved from: www.panopto.com

setting have to know (individually and collectively) in order to do what they are doing?" (p. 32). This means the researcher's guesses and assumptions need to be incorporated in the descriptions of the interaction patterns. Built-in expectations can occur on both sides throughout the course of sessions. *Cheating* those expectations can induce humor, as well as frustration. From my personal case study, I experienced another possible event, which included a surpassing of expectations. It is what sparked my particular interest specifically. In interpreting my data and implying relevant theory, I am searching to find satisfactory explanations. In any case, the knowledge of the population in question is a basic requirement for all interpretations (Holck, 2007). To validate one's findings, it is mandatory that material contradicting those findings should not be left out. If the researcher is in doubt, in some cases a *member check* could be helpful, to make sure that analysis and results are meaningful.

3.2.6 Implementation of the method

To ensure the incorporation of all the necessary and comprehensible steps in my analysis, I decided to start with a trial. For this purpose I transcribed the first three sessions, using the linguistic annotation tool ELAN 6.0[2]. By doing so I was looking for what Plahl (2007) describes as "possible interaction units and their possible function in the music therapy process" (p. 44) as well as for "patterns of reference and regulation in music therapy and their dimensions in time" (ibid.). Furthermore I was performing continuous event coding, by marking start and ending points of each event. Since Plahl refers to preverbal communication, I took inspiration from her coding method, but adjusted it to the specifics of my client. Starting with a preselection of parameters, such as *music* from both client and MTh subdivided into *turn-taking*, *duet*, *solo*, *verbal communication* from both client and MTh and *gestures* and *body language*. Since the video quality of my recordings is sometimes poor, it was at times not possible to clearly evaluate the clients *gaze*. I nonetheless chose to include this category, since it seemed of importance for some segments. But it was first through the trial-process that I was able to determine all the necessary categories I wanted to apply for my analysis. One major acknowledgement was that there is a significant difference between being the MTh and another thing altogether in being the assessor. Which means the trial-process was also an assessment training process, to help sharpen my eyes and mind for this particular step.

During the trial, I decided on the following coding categories for my transcription: *client talk*, *music client*, *MTh/talk*, *music MTh*, *turn-taking*, *duet*, *solo*, *gaze*, *body language/ gestures*, and *unexpected (significant) events*. Those categories will be further described in the analysis chapter.

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[2] ELAN (EUDICO Linguistic Annotator "ELAN (Version 6.0) [Computer software]. (2020). Nijmegen: Max Planck Institute for Psycholinguistics, The Language Archive.

4 Case presentation

In this chapter, I will present my client, provide an overview on the course of my sessions, as well as the objective of the MT intervention, the setting, and the external circumstances.

4.1 Presentation of the client

Mads is a seven year old first-grader in an elementary school's division for pupils with special needs and had been diagnosed with a pervasive developmental disorder within the AS when he was approx. four years old. He is highly verbal and displays advanced motor skills, but is lacking other age-appropriate competencies, thus facing difficulties in terms of contact (initiating contact verbally, or via eye contact or gestures), communication (verbal: expressing his needs and feelings; non-verbal: use of appropriate gestures, misreading nonverbal cues), arousal regulation (holding focus, joint attention, change of activities), and social play (engaging in play with peers, sharing tasks, accepting rules). Mads needs support to gain an overview and find meaning particularly with new activities, as well as adult guidance to help develop his independence and therefore thrives best in an environment with a clear and predictable framework. The client often needs to be completely alone, especially after he has been upset about something. He spends most of his indoor breaks on his iPad with video games, watching movies, or drawing; on the playground, he mostly plays alone climbing or doing equilibristics. He shows empathy if one of his peers is in distress, addressing himself mostly to adults, also to share something of interest. He is friendly, inquisitive, and strong-headed, largely insisting on doing whatever he "fancies". He can get very upset and angry if he is supposed to do something he doesn't agree with. It was shortly before my internship started when the client started distinguishing more between the nature of some of the feelings, which were overwhelming him. Instead of only being "angry" about everything, he started being able to better differentiate, and when guided by adults, to find more accurate descriptions and graduations of those emotions. About the same time, the client displayed another new behavior by slipping into a role, such as a squirrel, slenderman, or a spider, which obviously enables him to better engage in social play with other children. Before the MT sessions, the client never mentioned music at all, but he was seemingly happy to play music, and he received a keyboard as a birthday present prior to our third session.

4.2 Session overview and objectives

Preceding my MT sessions, I had the opportunity to observe the client's daily school and playtime routine over four weeks. His medical record, the class staff's considerations, and my observations were the basis for the client's referral to MT. The objectives for our MT sessions have been to create meaningful musical frameworks to help increase the client's

ability to focus, for joint attention, self-awareness, self-regulation, creative expression, and social play. MT provides a safe space where he is met and acknowledged through music, and is being supported in exploring different moods (f. ex.: *happy-sad*; *vivid-tired*; *angry-relaxed*). The client has received eleven weekly sessions of approx. 30 minutes (see fig. 3).

Figure 3

Flowchart MT Sessions 1 to 11

Session 1 (**assessment phase**):
"*I only want to play what I fancy*."
Curious, but with short joint attention and focus (*6 instr.*), likes piano and xylophone, no interest in singing known songs.

Session 2: playing longer at the piano, 7 "JAWS" duets (repet. bhv.), *creepy* music; good rhythmical skills; client asks for *a sad song* (62 bpm): "*I have tears in my eyes*!", wondering how his peers would feel.

Session 3 (**implementation phase**)
Moving from 'JAWS' to new expressions. New *sad song* (60 bpm), again with **tears**. Longer duets on other instruments. Exploring different moods on the drums.

Session 4: Client mentions playing soft and quiet music at home; Experimenting with dynamics, melodic contour, and tempo; Client's 1. attempt to play a *sad song* for the MTh; sad duet (62-50 bpm).

Session 5: Client tired, playing a *tired* duet on steel-drums -> arousal up again; long duets and turn-takings on piano and drums, exploring different emotions and situations. Client's 1. *sad* solo (62 bpm).

Session 6: Client sticks with an instrument for long periods (*3 instr.*), playing with dynamics, tonal/atonal, exploring; *Evil ghost solo* with talks (ca. 4 min; 62 bpm); Extending use of instruments.

Session 7: Client pretends being 'Slender-man', drops its quickly; playing 20 min at the piano, on different topics, with big range of expression. First recorded piece (duet). Playing with fake endings. (*2 instr.*)

Session 8: Good and long attention span in different settings; playing with timing and unexpected pauses; finding humour in music, but also *evil ghost* and *dangerous snake* music; then asking for a *good song*.

Session 9: significant events; starting with *happy dance song*; mastering rhythmic challenges; discovering how to strum; distributing drums for *jungle song*; playing a *sad song* for the MTh (62 bpm).

Session 10 (**closing phase**): Client plays a *Sonic* solo; two solo songs (62 bpm) listening closely to the reverberant sound; with drum turntaking: "***Can you hear I'm teasing you?***" and *jungle song*.

Session 11: Client starts session as 'dangerous cat'; thinks mallets resemble eyes (10x), the MThs djembe play is "luring" him away from the repetitive behaviour; one last 'JAWS' duet; jumps and dances to the music, divers playing.

To meet the client's need for structure and since the client showed no inclination for a good day and farewell songs, we established a routine, where the client could choose which instrument to start with. Thereafter taking turns, playing duets, and later solo, were part of the routine. Each session included rhythmic exercises on drums. Whenever the client displayed difficulties following a task or felt uncomfortable with an activity, I provided a supporting framework to empower the client to gain confidence. The client was very curious and fascinated with all the instruments in the room. He showed a particular liking for the piano and was quick in following rhythmic and melodic lines. However, his ability to concentrate was not high at first. He often said everyone should just do what he fancies in the first session. In general, the client encounters difficulties with joint attention, but it soon became obvious that when engaging in turn-taking or duets he could focus much better. Also, his ability to follow melodic and rhythmic lines evolved at a fast pace and he was quick in catching humor and unexpected breaks or sounds and engaging with the MTh. In the beginning, he would rather give up or change activities, when thinking he could not achieve a goal. The client has a very distinct preference for *scary* or *creepy* characters, he knows from his iPad. In his daily routine, this leads to repetitive and restricted behaviors often lasting the entire day. During our MT sessions, though, the client could surprisingly easily let go of the correspondent role. However, when finding figures or characters through music during the MT sessions, the client asked for many repetitions, as with improvising on the title theme of the movie "Jaws". The topic that captured most of his attention was picturing emotions through music, such as *creepy*, *spooky*, *happy*, *tired*, *angry*, or *sad*. Thus exploring different emotions, to support the client's ability to better distinguish and express different feelings, became a vital part of our routine. One explicit situation was when the client shed some tears while playing a *sad song* duet with the MTh, where he also wondered if his peers would react the same way. This marks a behavior none of the staff members had witnessed before with the client. The particular quality of *sad music* obviously preoccupied the client since he attemptted to achieve the same result with the MTh, by playing for her. Later in the process, the client found his impressive own way of playing sad music. This development of the "sad" topic seemed pivotal, also concerning its tempo, circling mostly around 60 (beats per minute (bpm).

In summary, the client started with being interested in music and in trying out all the instruments, but with a short joint attention span, often paired with reduced self-confidence, to rapidly acquiring and displaying musical and emotional self-awareness and creative expression, and to readily engage in consistent musical and social play with the MTh, also extending those newly acquired abilities for self-regulation purposes and the joy of playing to his private keyboard at home. The client's progress during MT might advance his further engagement in social play with his peers, since his awareness of his own emotional range has considerably developed, as well as finding new ways of expressions.

4.3 Setting and external circumstances

The client never had MT before, nor had he attended music classes, since the Covid-19 situation canceled all music teaching at his school. When I started my internship, I was allotted a small conference room in close proximity to the client's classroom, where I could prepare my instrument settings before every MT session. My setting included an electric piano, different drums, and small percussion instruments, steel drum, xylophone, ukulele, and guitar. The MT sessions were part of the client's weekly school day schedule, always on the same day and the same time, and he always seemed glad to follow me to the therapy room.

5 Data Analysis

In this chapter, I will analyze and present my data. To distinguish between my role as a MTh and that of a researcher, I will refer to myself as MTh throughout the data analysis. The clinical material consists of approx. six hours video recordings from 11 MT sessions. After furtherly specifying my data analysis approach, I will focus on session two with two clips, and session nine with its particular significant moments. To pinpoint the development of the particular nature of the investigated events, I will also relate to selected events from sessions three and four. My analysis is based on Holck's (2007) ethnographic, descriptive approach to microanalysis. This chapter will be concluded with a summary of my data analysis.

5.1 Implementation of the Analysis Method

Prior to presenting my data, it is conducive to further elaborate on the procedure of the selective process. To gain better insight and overview also in terms of the duration of the entire analysis, I performed a trial inspired by Plahl's (2007) five essential steps to her method of video microanalysis:

Step 1: Constructing the category system

Step 2: Defining and selecting the sample of sequences (time sampling, event sampling)

Step 3: Choosing the program of analysis and the technique of coding

Step 4: Training application of category system and assessing reliability (inter-, intrarater)

Step 5: Analysing different parameters on micro level (frames, seconds, minutes) (p. 43).

Concerning step five, and since I was the only rater, this implies that performing the trial also served as my own assessment training. This process led me to the following coding categories for my transcription: *client/talk*, *music client*, *MTh/talk*, *music MTh*, *turn-taking*, *duet*, *solo*, *gaze*, *body language/gestures*, and *unexpected (significant) events*. Those categories are determined to help monitor and describe the client's actions and development according to my research questions, and the assessed objectives for the MT intervention. My initial intention was to include a more vast range of different events from the MT sessions, but this turned out to go beyond the scope of this thesis, and on the other hand, the analysis revealed new details on the process in the development of the client's behavior I wasn't expecting when I started my analysis. As soon as I detected the patterns and different steps following the client's first reaction to sad music up to his gaining control to express and play sad music, the necessity to adjust my approach became clear. Since I assumed that what

caught my attention and led to my research questions was evolving along with the MT sessions, I chose to transcribe all eleven sessions.

For both the trial and the whole analysis, I have been using the linguistic annotation tool ELAN 6.0 (Max Planck Institute for Psycholinguistics, 2020). This software proved to be a helpful tool for transcribing my video material for the horizontal analysis. By creating "tiers" as the first step I could assign them to the chosen categories (see fig. 4). There is an unlimited possibility to add annotations along the timeline in every tier. Those annotations can be set with up to 1/100 second accuracy. In addition, the software offers the possibility to analyze material frame by frame, and each annotation can be precisely accessed. After the transcription has been completed I exported the annotations as a *.txt-file.

Figure 4

Horizontal transcription of the third MT session, using the ELAN 6.0 software.
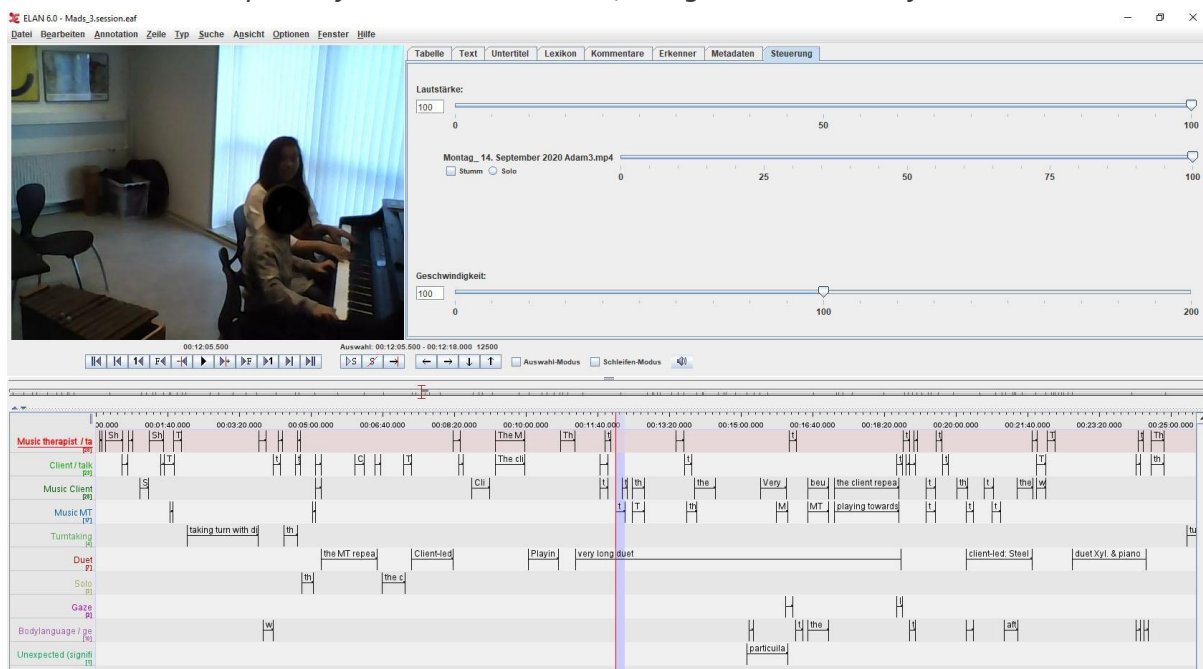
Next, I transferred the annotation data into an excel file (see fig. 5), where I added further categories, such as instruments and duration of the different musical activities for a better overview (see ATT 2). Furthermore, I coded the transcription for my vertical analysis (see fig. 6).

Figure 5

Outtake from the horizontal and coded transcription from session 2

Session 2

Timecode	Category	Content	Instrument	Duration
05:33- 07:08	**Duet**	**MThL**: experimental, a bit gloomy improvisation. MTh is creating a rhythmical and harmonic pattern, encouraging the client with body language and eyes to join in.	piano	01:35
06:59- 07:06	Client / talk	***"This is really creepy!"***		
06:59- 07:06	Gaze	Looking up towards the MTh		
07:07- 07:19	Client / talk	The client asks thee MTh to play a "**good**" one now.		
07:07- 07:19	Bodylanguage / gestures	Clapping his hands in excitement.		
07:18- 08:38	**Duet**	MTh-led start of the duet, later on the client adds new patterns and ideas, which the MT picks up (**MThL** & **CL**)	piano	

Figure 6

Reading guide for the transcription

Reading Guide:

Musical action	Duet, turntaking or solo
	significant events
italic entries	music by MTh or C
Italic bold entries	client's quotes
red entries	Tempo (bpm)
CL	client lead actions
C	client
MThL	Music therapist lead actions
MTh	Music therapist

 Those results were then transferred into a word document for the final vertical analysis, eliminating the additional categories and merging 'category' and 'content' under 'content' and adding a column for 'MTh's Aim & Interpretation'. At this point, I adjoined further details to the description and interpretation of all the crucial episodes and significant moments. But it was first when I immersed myself into microanalysis and musical notation of selected parts, that I found characteristics, which led me to go back to previous episodes, adding a thicker description, thus uncovering development, interconnections, and correlations, I haven't been aware of. Based on the outcome of those steps, I made the final decision of which sequences to include into my data presentation.

5.2 Description of the Categories

Since my client is facing mainly difficulties in terms of contact, communication, arousal regulation and social play, my focus in MT was to provide the necessary support for him to engage in joint attention and social play, to find new means of self-regulation, to provide ways for a deeper self-awareness, and to explore the field of creative expression. Thus the categories of my analysis should reflect those areas of social interaction, comprising both verbal and non-verbal communication, as well as musical activities.

I chose to emphazise the client's verbal comments, since he was quite outspoken during unexpected and significant events, also in relation to perceived emotions. The client has no difficulties in holding eye contact and he also vividly uses them, when he is acting as one of his characters. Unfortunately the quality of the videos isn't satisfactory in all parts, depending on the light and the MTh and the client's position in the room, still I included gaze as a category, since it is vital for an accurate description. The category body language/gestures includes the client's postures, movements in space and hand gestures.

The music interaction part is divided into three subcategories: *turn-taking* (client led [CL] or MTh led [MThL]), *duet* (CL or MThL), and *solo*, as well as *music client* and *music MTh*. Since the client wasn't fond of singing or at joining me into a welcome song, I started most of the sessions with MThL turn-taking on the instruments of the client's choice, with short melodies or rhythmical patterns. The purpose of taking turns was at first to introduce the client to a new instrument, inviting him into a back-and-forth of musical expressions, sometimes with the aim of imitation, or with mirroring different emotions, animals, situations, or as rhythmical patterns, followed by a CL turn-taking. This led invariably to a duet, as soon as the flow and a stable joint attention had established. Engaging with the MTh in mutual musical conversation, implied quite often intersubjectivity, or as LaGasse phrased it: a "two-way purposeful musical play, whereby the MTh improvises music that offers space for a response, engaging the child in a back-and-forth musical interaction" (LaGasse, 2017, p. 29). Performing a solo was something that developed over time, as the client's self confidence and his familiarity with the instruments grew. However, there is a distinct difference between playing alone, with no contact to the MTh or performing a solo for the MTh, especially since the client clearly addressed the narrative of his solos also verbally, before or after performing them.

One of the main occurrences I was hoping for and have been focusing on during the MT sessions, as well as during my analysis are the *unexpected (significant) events*. This mixed term is inspired by Trondalen's *significant moment*: "a term that signifies some clear and evident signs in a limited period of time which is analysed and contextualised" (Trondalen, 2005, p. 200). Those events are referring to new actions, new and unexpected reactions, as well as outstanding musical and emotional events.

5.3 Data Presentation

With regard to my research questions, my emphasis was on finding patterns and behaviors in the client's communicative interactions and abilities: What is typical and what is atypical? When is the client taking initiative, and when is he following? Is the client displaying new communicative skills? What encourages the client's development? What are the parameters in IMT and in the MTh's actions and how do they facilitate change in the client's behavior? Since the volume of this thesis is restricted, I can only present and discuss a limited number of excerpts from the MT sessions, to highlight those different patterns and undergird the detected changes and development in the client's behavior.

When presenting the selected episodes, I will start with the objective phenomenological reduction of the respective episode, then proceeding to the microanalysis with color codes and the musical notation of excerpts, concluding with the interpretation of the episode also in relation to the MTh's aims, the context of the moment and/or implicit meaning of behaviors from an hermeneutic understanding (Finlay, 2011).

5.3.1 Horizontal Analysis and vertical Analysis

To investigate possible *chains of interaction* and *patterns in perspective* (Holck, 2007), all eleven MT sessions have been transcribed (appx. 4) and partly coded for the vertical analysis (appx. 3). Since the vertical analysis was particularly revealing regarding the client's relatedness with sad versus spooky music, I focused most on the client's development in this area. The different musical parameters became therefore particularly significant. Moving between the parts and the whole, generated new and different meanings leading to a deeper understanding for the interpretation.

5.3.2 Microanalysis

In the microanalysis I am investigating the small actions, changes and progressions within one episode. To elaborate the different communication levels during the particular episodes more precisely, I will incorporate the color coded analysis. As a result of looking out for pattern generalization and new occurrences, I subdivided and colored the following attributes to communication, music and physical expression (see tab. 2).

Table 2

Reading guide for the microanalysis

Levels of communication	Communication	Musical expression	Body Language	Gaze
Colour codes	Verbal communication	melodic contour	towards the MTh /client	towards the instrument
	perceived emotions	tempo	towards the instrument	towards the MTh / client
		dynamics	turned away	looking into a different direction
		texture		
		rhythmic contour		
		stopping to play		

5.3.2.1 Episode One - "This is creepy!"

This episode is from session two (timecode: 04:47-07:08), after a client-led turn-taking which transitioned into a duet. The transcription of the entire session with the vertical analysis is in attachment 3. At the beginning of the session the client was reserved, as he felt he wasn't able to complete the "tasks" or was doing things wrong. He became more at ease, while leading turns. After the client seemed relaxed and secure, the MTh picked up one of his trills, repeating it, extending it and inviting the client with words and gestures to join her into playing a duet (d = 2:16) together.

The client was sitting at the upper part of the piano, and after some seconds he said, the music was creepy. He moved his body and rocked slightly in the pulse of the music, exploring a good range of the keys, often addressing the MTh telling her how creepy the music was, thus turning his entire body towards her. MTh was creating a rhythmical and harmonic pattern mostly in a mezzoforte range with small syncopes, encouraging the client with body language (moving in time, nodding her head) and eyes to join in. She also involved changes in dynamics and intensity, encouraging the client with her eyes, to join her. The client was perfectly in time using both hands, and playing clusters and single quarter notes, alternately. When moving closer to the MTh, he started playing more punctuated and he then crossed over the MTh's hands to the lowest parts of the piano. Towards the end the client repeated "This is really creepy!" (see fig. 6), looking intensely towards the MTh. He then suddenly stopped playing, asking the MTh to play a 'good' one, clapping his hands in excitement (see tab. 3).

Table 3

Episode one - color coded microanalysis

Client's actions	MTh's actions
"This sounds creepy"	
Playing upper keys, eighth notes.	Playing stomping bass in *mf*.
Moving closer to the MTh.	Looking encouraging towards the client.
Plays cluster in the same rhythm with the MTh.	
"This is very creepy!" Looking intensely at the MTh.	
Plays eighths in time	MTh makes a short break, starting with a more punctuated rhythm.
Plays eighths with both hands, right hand on the high keys, left hand in the middle range.	
Moving gradually towards the MTh Starts playing more punctuated, responding with higher volume and small clusters	The MTh increases the volume and intensity.
"It is mega creepy!"	The MTh plays a clear accent, looking towards the client and nodding affirmatively.
Client crosses over MTh hands.	The MTh resumes chord progression with a punctuated pattern.
Client plays eighths, looks up, saying: "This is creepy!"	*Music score* (06:52-06:59)
Stops in the midst of the music, saying: "Now we are taking a good one!"	

Figure 6

Notation of an excerpt from episode one (timecode: 06:52-07:59)

In this episode the client displays his ability to also follow the dynamics of the music. Throughout, he demonstrates a very stable joint attention. It seems he gains confidence, when playing closer to the MTh, since he thereby also follows the rhythmic contour. Since the client started playing only on the white keys, the MTh played a frame in A minor on the very deep range of the piano, trying to achieve a growling sound. After the client mentioned for the first time that he thought the music was creepy, she added a rhythmical frame, changing between A minor and G major. When she accentuated the C, the client answered with a similar rhythm, continuing afterwards with small clusters, repeating how creepy the music is. Using short staccato clusters to stress the creepy or spooky nature of the music became a recurring motif in the client's music. Shortly after, he just stopped playing, asking for good music. This was the beginning of a pattern where the client asked for different music, that can be attributed to different levels of affect attunement and self-regulation. Even though this was only the second session, it seemed that the client was willingly engaging in musical play, exploring new means of expression, sometimes copying some of the MTh's musical or rhythmic motifs, often looking for a physical proximity to the MTh, before starting something new. From the very start, the client displayed good rhythmical skills, but lacked the notion of ending a musical interaction. Therefore this is to be seen as the starting point for investigating the small changes and progressions the client displayed in the process of the MT sessions. It was the first time the client attributed a certain quality to the music. The client became more daring in exploring the piano, while simultaneously being able to stay in time with the musical frame the MTh was providing. He regularly reassured himself, by looking at the MTh and observing what and how she was playing, trying to imitate her. Outside the therapy room, the MTh noticed the particular joy the client took in sharing stories about creepy beings or drawing creepy pictures, therefore she was not surprised, when the client addressed the gloominess of the music as being creepy, deducing this as a sign of enjoyment. However,

asking for a good one, after a creepy incident, is something that differs very much from the client's daily routines.

5.3.2.2 Episode Two -"I got tears in my eyes!"

This episode is also from session two (timecode: 23:47-26:14), which started after finishing a new musical game the client had initiated. Obviously the client had heard or seen something from the movie "Jaws" and he started playing the E_1-F_1 pattern both rhythmically and dynamically accurately, telling the MTh that it was *shark-music*. This led to three duets, where the MTh pretended to be an innocent swimmer, playing cheerful music, until she was attacked and eaten by the shark client, a social play variation, that became popular during the MT sessions. After finishing, the client asked for a good one again, a *drum-song* as he called it, which they also briefly did (d = 0:30). Then the client asked the MTh to play a sad song with him.

They started playing a therapist-led duet in a slow pulse (60 bpm, d = 2:27). The MTh played a steady minor chord progression in the left, while the right played a simple melodic line with little rhythmical changes. The client stood in front of the piano playing eighth notes with small breaks in-between, moving along the keys, sometimes very close to the MTh, and then back to the upper keys again. Again, it was in proximity to the MTh where the client tried new musical expressions first. At a certain point, the client looked toward the MTh saying "I got tears in my eyes from the music!". The MTh asked him if they should continue, he affirmed, adding that the tears were still coming, and asking "I wonder if the others would also cry, when hearing our music?". They continued playing until the client stopped playing (see tab. 4).

Table 4
Episode two - color coded microanalysis

Client's actions	MTh's actions
Stands in front of the piano. Playing short and gentle eights, perfectly in time.	Starts with slow minor chord progression in *mp*.
Watching the MTh, while still playing. Exploring the middle and upper range of the piano	increases the dynamic.
Moves toward the MTh. Playing a couple of gentle clusters, close to the MTh.	Continues playing the same harmonic and rhythmic frame, with a small melancholic melodic line.

Moves between and over the MTh's hands.	
Moves up again, playing eights, looking closely at the piano.	Repeating the same melody again.
Playing small rhythmic pattern (**new initiative**)	Playing steadily but increasing dynamics and intensity. (*Musicscore: 24:49-25:00*
"I have tears in my eyes! " Blinking his tears away, whipping his eyes.	Stops the music, laying her hand on the client's shoulder. Telling him that is a good reaction, asking if they should continue playing.
Agrees to continue with music. Plays soft quarters. Wondering if his peers would react the same way.	Resumes the music, with the same characteristics, small variations in the melody.
Playing soft clusters, close to the MTh. Plays quarters Suddenly stops playing	Brings the music to a closure.

Figure 7

Notation of the pivotal moment from episode two (timecode: 24:49-25:00)

To witness how deeply the client was moved by the music, was a big surprise to the MTh. It became clear that the client enjoyed the sadness of the music and was eager to find out how others would react, thus demonstrating an ability to move from an intrapersonal to an interpersonal level. This was a very significant moment that initiated an obvious musical and emotional process in the client, throughout the remaining MT sessions. During the analysis, it became clear that this was the starting point that led to the client's sad solos for

the MTh in the ninth session. As well as the recurring use of ca. 60 bpm, the A minor key and a descending melodic line in connection with sad music (see fig. 7).

In this episode, it is the client who requests a particular emotion in the music. This could also be an early sign of a need for self-regulation. As the MTh recently became aware, it was a new area for the client, to discover and distinguish the different layers of emotions, most recently in connection with what he called "being mad". This was related to when he was angry and upset, reacting strongly, and needing time off. Since there was only one previous session, the MTh had not yet worked with playing and exploring different emotions. Once again, the client initiated a musical activity, involving explicit emotional sensations. It appears surprisingly manageable for the client to achieve musical attunement, assumed by his rhythmical abilities and his adaptivity to dynamic changes. Also, this time, when the client moved closer to the MTh, he played soft clusters and when moving further away, introduced new rhythmic patterns, and later picked up on the MTh rhythmic contour. But the most unexpected and significant occurrence was when the client said he was moved to tears by the music. As the MTh later found out, the client never displayed similar behavior before. The next surprise was the client's level of self-awareness and empathic reasoning, about how his peers might react to the music he and the MTh were playing. However, there was still this lack of perception concerning the ending of a musical piece or a musical interaction.

5.3.2.3 Episode Three - "That was a good one!"

Episode three is an outtake from a very long duet (d = 7:34) from session three. To outline the development in the client's behavior, I will start with the objective description of the entire duet, including the microanalysis for the middle part (timecode: 13:41-16:26). Previous to the duet was the "Jaws routine", with variations on other animals, where the client still used much of his shark material. It was the MTh's wish for a quiet and more peaceful duet. Therefore, she started with a slow C Major chord progression (t = 62 bpm), which the client perceived as being a very sad song. The MTh explained that not all slow music is sad music. The client joined in, playing quarter notes in perfect pulse with the music. The MTh asked the client if he would prefer a more vivid song, which he agreed to, nodding his head. Therefore she started anew at a slightly faster pace (t = 70 bpm), which the client immediately adapted to. When the MTh introduced arpeggios, the client answered with glissandi and trills. They engaged in a stable musical flow, and the MTh praised the client. Suddenly the client stopped and asked "Can we play a sad song?", showing the MTh which keys she should play (c'-h-a-h at t = 60 bpm). She then resumed playing a slower melody in A minor. The client joined with some fine and harmonious melodies, leading to a particularly beautiful passage. There was talk in between with minor breaks and the MTh played more slowly (timecode: 15:00-16:40, t = 50 bpm). At one point, the client played in close proximity to the MTh and sometimes crossed to the deep keys, over her hands. When going back to his part of the keyboard, he looked up to the MTh telling her "Do you have tears in your eyes? I have tears in my eyes!". To which, the MTh nodded, telling him she was also very moved by the music.

The client then rested his head against the chair, continuing to play beautiful and thoughtful music, while the MTh played chord progressions with a gloomy melody. Staying in the same posture, the client repeated one note again and again with his right hand, while playing variations with the left one. Near the end, he moved down towards the MTh's hands and they finished together with many delays and breaks. He then looked smiling toward the MTh saying "That was it!". When asked what he thought about the song, he replied "This was a good one!" (see tab. 5).

Table 5

Episode three - color-coded microanalysis

Client's actions	MTh's actions
"Can we play a sad song?" And you play those' Playing c'-h-a-h with 62 bpm. Says he will play the higher keys. Watching the MTh	Looking towards the client MTh agrees. Plays in A minor, slow melancholic melody
Starts playing eighths, alternating with left and right hand, perfectly in time. Moving his left hand towards the MTh, right hand two octaves apart.	MTh continues at the same pace, same baseline, and melodic contour.
Moves both hands closer to the MTh, copying parts of the melodic and rhythmic contour.	
Moving to the higher octaves, playing slow punctuated lines.	
Moving towards the MTH hands, crossing them, while being in time with the music. Playing with both hands close to the MTh, same rhythmical pattern. Long look at the MTh.	Looking attentively toward the client, getting slower.
Changing between playing upper octaves and close to the MTh. Playing a beautiful melody.	Same harmonic and rhythmic frame, small variations in the melody (*mp*).
Briefly playing two cluster on the black keys, Returning to white keys.	

Client looks up to the MTh. "Do you have tears in your eyes? I have tears in my eyes!"	Music score (*timecode: 15:49-16:05*) To the client: Saying she is very touched by the music.

Client changes position, leaning his head on the backrest, playing with his right hand.

Figure 8

Notation of the pivotal moment from episode three (timecode: 15:49-16:05)

Shortly after starting the MTh-led improvisation, which was clearly in a major key, but obviously with the same bpm as the sad improvisation from session two, the client interpreted the slow music as being sad. After explaining to the client that it might be due to the tempo, he perceived the music as sad, so she checked on the client's preference. Whereafter she slightly accelerated the tempo, and the client followed with ease. The arpeggios introduced by the MTh were meant to make the music more vivid, to which the client also reacted with new and faster means of expression. This was suddenly interrupted by the client asking the MTh to play a sad song, starting with particular keys. Obviously, the client had been memorizing some of the keys, the MTh had played, as well as the tempo. What might seem like a premature assumption, turned out to be a recurring pattern and connotation to playing sad music. After the MTh changed to playing in a minor key, they soon established a harmonious duet. The client displayed a surprising musicality, developing small melodies and picking them up again. Unnoticeably, the MTh decreased the tempo. For the second time, the client was crossing physically over the MTh's hands, with almost tender movements. This could be interpreted as a reassuring social interaction. It seemed that the physical proximity reassured the client's confidence since it mostly led to trying new musical ideas. After playing delicate melodies, the client stopped and admitted having tears in his eyes. However, it seemed he was looking for emotional attunement with the MTh since he asked her if she had tears in her eyes as well (see fig. 8). Based on the client's posture, playing slow and harmonious music was a soothing and relaxing experience as he leaned his head on the chair while continuing to play thoughtful music in time with the MTh. There was a new feature at the end of the improvisation since, at the slightest sign that the client might

withdraw from playing, as he did before, the MTh went on playing a fake ending, with a clear body language and looking intensely toward the client. He immediately understood and joined in on multiple endings. Finishing together was an important step towards self-awareness and social play, also taking ownership, by verbally stating that the piece was over. At the beginning of the session, the client told the MTh that he got a keyboard for his birthday and how glad he was since he could also play music at home now.

5.3.2.4 Episode Four - "It's annoying that I am not so good at it!"

This episode is from session four and showcases the client's first attempt to play sad music for the MTh. The reason for choosing to do a microanalysis on the subsequent episode (d = 1:42), was to analyze the client's reactions, after his disappointment for not having been able to play a song for the MTh. At the beginning of the session, the MTh asked the client if he plays music on his new keyboard, to which he answered "Yes, I am playing something special, special songs". Asked if the music was rather quiet, happy, or rather sad, he specified, adding "There is only quiet and soft music."; also, that he would like to play quiet music together with the MTh. After short turn-taking, they played a slow and mellow duet (t = 1:32), until the client suddenly stopped since he wanted to tell the MTh *something*, namely, that he thought it was a great song. He then continued, telling the MTh, that he wanted to play a sad song for her, hoping to move her to tears. After the client cautiously pressed a couple of keys, he paused, played two fourths on the black keys, ending with a trill, saying "It is annoying, that I am not so good at it" (see fig. 9). The MTh immediately moved towards the low keys to support the client's attempt with the song, playing long soft notes in a minor key. The client reached over, telling the MTh, she was going to play the deep keys. The MTh started to create a harmonic and rhythmic frame, inviting the client with body gestures and gaze to join her. The client played a steady beat, sometimes with small rhythmical sections. After the MTh repeated one of his melodic lines, changing it slightly, the client said he thinks it would be a creepy song, repeating this several times. He fell out of pulse at a certain time, accelerating at a point, adding more clusters, until moving to the lowest octaves, telling the MTh in English, that they should play the piano, "scary piano" (see tab. 6).

Figure 9

Notation of the pivotal moment from episode four (timecode: 05:34-05:46)

Table 6

Episode four- color-coded microanalysis

Client's actions	MTh's actions
"Let me play a sad song for you! I think you will cry" Sits at the center of the piano. Plays six notes in *p* and *pp in* A minor (t=60 bpm)on the white key**s**, pausing, playing two perfect fourths on the black keys, closing with a trill "It is annoying that I am not so good at it!"	Sits right behind the client ***Music score*** *(05:34-05:46)* Moves to the lower octaves.
Joins in playing quarters Reaches over MTh's hands, telling her she should play the deep ones	Soft quarter notes in a minor key Slow chord progressions *(mf)*
Playing half notes *(f)*, changing to higher octaves Moving closer to the MTh, watching her hands closely Small rhythmic punctuations Adding small melody	Framework in a minor key Picks up the rhythmic contour of the melody, extemporizing the melodic line
Playing the same melody again Gaze at MTh "This is a creepy song!" Regular eights *(f)* Playing louder; "This IS a creepy song!"	Nodding towards the client. Playing arpeggios, increasing dynamics. playing ***ff,*** adding more harmonies and rhythm
Accelerating with the same melodic pattern. Shortly out of pulse. Back in pulse, increasing volume, playing clusters Moving to the lower octaves. Asking to play scary music.	Joining with playing out of pulse. Playing clear eights arpeggios

It came as a surprise to hear that the client was playing particularly soft music, when at home. Also, after having played a slow duet, which the client had obviously enjoyed, it was unexpected to witness how aware the client was, in his attempt to move the MTh to tears. It seems, the client deliberately played notes around A minor tonality, and when he thought he wasn't good enough, switched to the black keys playing two parallel perfect fourths, thus stressing the dissonant character of the experience. However, knowing that his

disappointment could easily take too much space in the client's perception, the MTh hurried to scaffold the client's musical ideas by playing soft minor chords, encouraging the client to go on. The client obviously wanted to lead, telling the MTh where she should play. It became obvious for the MTh, that the client was not in the mood to continue with the idea of a sad song, since he increased the dynamics and his touch on the keys became more distinct and staccato. Very soon he started to emphasize that he felt the music was creepy. After moving towards the deep keys, he stopped playing and asked for scary music. This resembled a pattern in the client's coping mechanisms, he displayed outside the therapy room, when feeling overwhelmed or insecure, to somehow escape into more eerie figures or topics. Thus, they ended with playing the 'Jaws' routine a couple of times and afterward, before proceeding to play on other instruments and with different topics. Overcoming emotions of frustration and distress seemed to possibly be much easier for the client in the setting of MT.

5.3.2.3 Episode Five - Session Nine - A Road to Accomplishment?

Session nine, was a very clear turning point for the client, therefore I chose to sum up the different phases that preceded the very last episode of this session, his solo for the MTh. When the client joined the MTh, he was in a good mood and very energetic. As soon as he entered the room, he walked to the steel drum and started playing (see fig. 10).

Phase one: The MTh asked him if it was where he wanted to start, while joining him by playing quiet chords on the piano, the client interrupted her, telling her "It should be a happy song, a dance song.". The MTh started playing a vivid and dance-like frame, the client joined in, playing a little melody. Shortly after, the client walked halfway around the steel drum, playing an ascending row, over again, each time starting with the deepest tone. He hesitated sometimes since the number of nine tones did not fit into the frame (4/4 beat), the MTh played. The MTh tried to mark the first beat more clearly and adjusted to the client, each time he missed the first beat. In addition, the MTh implemented reggae beats, whereafter the client slowed down on half beat, and moved his body in time with the music. He then suddenly played a faster rhythm on the highest note and went on with more complex patterns, to which the MTh immediately responded. After a short while, the client stepped back from the instrument, stopped for some beats, looking toward the MTh, then resumed with one loud beat and continued playing a melody. Towards the end the client played double notes with both mallets and ended the song with a very clear gesture, looking toward the MTh.

Phase two: The client smiled and walked over to the table and picked the ukulele, telling the MTh that this is what he wanted to play. They engaged in a tentative duet where the MTh provided a steady medium-slow frame at the piano, while the client explored the ukulele. After he discovered how to strum a rhythm, the MTh immediately adjusted to the new beat, the client stopped and told her that it should be a different kind of song. The MTh switched to the djembe instead, starting a new duet. She mirrored the client's strumming on the drums while singing a melody fitting the range of the ukulele. Meanwhile, the client

switched between strumming and fingerpicking, remaining in time. The MTh made sudden breaks and used decreasing and increasing dynamics, which the client followed, which the client watched closely, adjusting to the dynamic changes, and rocking his body to the rhythm. At the end of the duet, the client initiated a triple ending with clear and elaborate gestures, which the MTh mirrored in gestures and rhythm. She congratulated the client and is asking him if he would like to join her on the drums.

Phase three: The MTh started drumming, while the client fetched an instrument. When the client returned with a little bongo drum and layed it next to his legs on the chair he was sitting on, immediately started to explore the bongo drums. After trying to adjust the drum on a fitting place, he went on exploring another drum, until he decided that the MTh should also switch, so they both would play a "jungle duet" on the two drums with the jungle pattern. During the jungle duet, the client often changed places and ways of playing since the bongo drum wasn't fitting or sounding well enough in different places he chose. The client lifted his hands into the air, to indicate that they were done playing, whereafter the MTh complimented him.

Phase Four: They changed to the piano and after shortly exploring funny sounds, the client stopped, asking for the "Jaws game", which the MTh agreed to do once. The client stopped after their "shark-routine", by playing a deep cluster, adding "This is game-over!".

Phase five: The MTh suggested leaving the depth and darkness of the ocean and taking "A hike in the forest" instead. She provided a vivid frame in a major key and kept on telling the client about the different animals they might encounter on their hike. The client joined in, but soon attempted to repeat some of the Jaws patterns, but transposed to the middle range of the piano, which gradually changed into something new, with bird trills, and snakes. The MTh continuously commented on all the new musical ideas the client displayed, as well as on her own contribution, which the client followed attentively. They continued dialoguing in music back and forth until the client wanted the MTh to press one of the buttons on the piano, which led to a forceful excerpt of a Rachmaninoff piano piece. Both client and MTh reacted surprised and laughed heartfully.

Phase six: The client told the MTh, he wanted to play a song for her, where she should just listen. The client started playing a slow melody, after a few seconds he stopped and asked the MTh "Let me play a song for you. Can we record it?". While the MTh sat very quiet and a bit further away from the piano, when the client started playing very concentrated, alternating between left and right hand in a steady pulse. The MTh leaned a bit forward pressing one button on the e-piano since she wanted to make sure it recorded. The client watched her while keeping on playing, but this small disturbance affected the steadiness of the music's pulse for a short while. He resumed the steady pulse and only after starting to play with both hands, another rhythmical insecurity occurred. When tackling this situation, the client introduces more quarter notes and new rhythmical patterns. Toward the end, he made short pauses in between, before ending the song, with his arms and thumbs up, smiling at the MTh, as she stopped the recording, and added one final deep cluster. The MTh congratulated the client for his extremely beautiful song and asked him if he would like to

listen to it, to which he agreed. He listened very closely, looking down at his hands, saying "It is a fine song". When the MTh observed that she thought it sounded quite sad, the client replied "Maybe a sad ghost". The MTh once again praised the client and thanked him for his solo, thus bringing the session to a close.

Figure 10

Overview over the six phases from session nine

The 'happy dance song' (d=2:01) **CL**
(*steel drum & piano*)
Vivid impro in 4/4, until the client is caught up in a repetitive row of 9 tones on the steel-drum. MTh backs up with Reggae-rhythm. Client manages to pause, and adjust again to the 4/4 beat, 'dancing' with the music.

The ukulele-song (d=2:02) **CL**
(*ukulele, djembe, voice*)
Client picks ukulele for the 1. time and discovers how to strum, MTh should play djembe. Fine impro with different dynamics and unexpected pause. MTh backs up with vocals. The client leads a 3-fold ending, with clear signs.

The jungle-song (d=1:24) **CL**
(*bongo drum, small drum*)
Client initiates a new impro with new instruments. Even though the client is struggling to put the bongos on best spot to play, he always stays in time, playing new patterns and he initiates a clear ending, lifting his hands in the air.

One 'Jaws' -attack (d=0:49) **CL**
(*piano*)
One game sufficed, with client concluding with his new "game over" cluster.

A hike in the forest (d=3:34) **MThL**
(*piano*)
MTh suggested to leave the ocean an explore the forest instead. At first, the client used 'Jaws' patterns, but was fast to find new motifs, supported by the MTh's musical frame. At the end they accidentally hit a button at the piano, that started a Rachmaninoff recording, which caused laughter and surprise.

'Let me play a song for you!' (d=1:18) **CL** (*piano solo*)
Client asked to play for the MTh and to be recorded. After playing a thoughtful and beautiful solo, he lifted his arms, smiling brightly, signalling 'victory'. He then listened closely to the recording, saying: 'I t is a fine song, maybe about a sad ghost!'

Right from the beginning of the session, the client was very explicit about how the music should be, demonstrating clear initiation of engagement. For the first duet, the MTh chose a 4/4 beat. As soon as the client got caught in repeatedly playing all the nine tones of the steel drum, which didn't fit the 4/4 beat, it became visible that he felt uncomfortable since

he repeatedly hesitated for a split second. The client had always displayed a very strong and advanced sense of rhythm, therefore the MTh tried to support and guide him back, by marking the first beat more strongly. But it was first when she played a reggae beat, that the client was able to make a short break, coming back on beat with the music again. This was an unexpected moment since it was the first time the client overcame a discomfort and repetitive pattern by the means of music only. For the next duet, which provided further unexpected moments, the client chose the ukulele, discovering how to strum, instructing the MTh which instrument to play, easily following changes in tempo and dynamics, and taking clear ownership of the improvisation by unmistakably leading the threefold ending. The client clearly thrived after another accomplishment, he was smiling and made "cool" moves walking toward the MTh. With his next choice, using different drums and attributing one of them to the MTh, finally deciding on playing a "jungle song", the client demonstrated confidence and clear musical ideas. However, since he never played the bongo drums before, he faced some difficulties placing them in the fitting place. Nonetheless, this wasn't too disturbing, since the client was always playing in time, with no visible tensions or signs of discouragement, and again he clearly signaled when the song was over. When the client asked for a Jaws duet, he surprisingly agreed to only one run, and even developed a new musical expression for "game over", thus finding new means of coming to a closure! The next improvisation was MThL, aimed at exploring new sounds and motifs under the theme of "A hike to the forest". The client nonetheless, repeated the rhythmic pattern of Jaws in the middle range of the piano. Knowing that the client liked squirrels and sometimes pretended to be one, the MTh talked about and played "climbing and jumping in trees". This caught the client's attention and he joined in with new ways of expression, until they ended with also looking for new sounds on the piano, thus accidentally pressing on a button that started an excerpt of a Rachmaninoff piece, causing laughter and amazement at the client.

5.3.2.3.1 "Let Me Play a Song for You!"

The client asked the MTh to play a song for her and to be recorded. The client started playing soft half notes alternating with both hands, in a clear 62 bpm pulse. When the MTh reached over, to check if she had pushed the record button, the client shortly lost the beat, but after a pause and one whole note, he was back playing in time. After playing the deepest tones, he moved four octaves up, starting a thoughtful, descending melody with his right hand, adding a bass line, with his left hand. This caused a slight irregularity in the beat, which soon was over again. The client went on playing involving more dynamic development, then playing fewer notes with pauses, and fading out. He lifted his arms in the air with thumbs up, smiling brightly at the MTh and adding one last deep soft cluster (see fig. 11).

Figure 11

Notation of the client's solo from episode five (timecode: 18:12-20:30)

What happened here, was the culmination of a development that had started in session two, when the client first was moved to tears by a sad song. His preference for exploring sad music became apparent over time. Obviously circling around the tonality A minor with approx. 60 bpm, implementing descending melodic lines, was something the client came to associate with 'sad' and melancholic music, which also was 'good' music to him. He played his solo with dedication and strong focus. It was the first time he played independently with both hands, and it was obvious that it was partly challenging for him since, despite his

good sense of rhythm, he was a bit offbeat for a short period of time. However, it was a big achievement for the client, and he perceived it as such, giving himself thumbs up when he was done. When they listened to the recording afterward, the client was extremely attentive, at times squinting with concentration. All in all, he seemed very aware of his creation and could clearly attribute certain feelings and pictures to his music, and he radiated with joy and contentment.

5.3.3 Summary of the Data Analysis

In conclusion, I would like to summarize the results of my data analysis, highlighting the client's areas of challenge, the therapeutic approach, and specific MT tools implemented to meet the client's needs, as well as outlining the main points of the apparent development in the therapeutic process for each area (see tab. 7).

Table 7

Summary of the data analysis

Areas Of Challenge	Therapeutic Approach (Improvisational MT)	Apparent Development in the Therapeutic Process
Arousal Regulation: Joint attention; Holding focus; Change of activities; Repetitive patterns; Self-regulation.	Scaffolding the client's expression, facilitating musical and emotional attunement through imitation, matching, dialoguing, holding, extemporizing; supporting the client's expression with dynamics, tempo, tonality, and melodic contour in music, and through physical expression, thus establishing prolonged phases of joint attention and intersubjectivity.	Significantly increased joint attention span; breaking free from repetitive patterns by means of music only; self-regulation (playing quiet music at home); bringing music to closure; from 'creepy' to the 'good' one; becoming more independent (new initiatives).

Contact & Communication: Initiating contact; Verbal: expressing needs & feelings; Non-verbal: use of appropriate gesture	Providing a safe environment and familiar structures (CL/MThL turn-taking & duo); using musical (unexpected pauses, dynamic shifts) and non-musical (gestures, eye-contact) cues to encourage the client; relationship building; creating a shared musical history with returning subjects.	The client acquired and displayed strong musical and emotional self-awareness and creative expression; reflexiveness of his own creative output; spontaneous self-expression; narrative reflection on emotional qualities in music and in feelings; initiation of contact.
Social Play Sharing tasks; Accepting rules; Imagination of other's minds.	Creating meaningful musical frameworks, through free or thematic musical 'journeys', or by providing harmonic and rhythmic frames, to foster intersubjectivity; incorporating the client's interests; musical plays with certain rules (MThL/CL, imitating animals, playing emotions; pretend plays); animating the client to explore new musical expressions.	From intrapersonal experience to interpersonal engagement (what would his peers think, the MTh should be moved to tears, when he plays sad music); new means of expression; new initiatives; emotional communication; spontaneous self-expression; new self-confidence; joy in sharing music as well by initiating and in following the music; musical and emotional attunement.

6 Discussion

The aim of this single case study was to investigate the patterns and new communicative skills improvisational MT can prompt in a highly verbal child with autism, and whether and to which extent they can be interpreted as signs for the MT's ability to create new choices and coping mechanisms. In the first part, I will therefore discuss the results from my personal point of view with reference to chosen literature, followed by reviewing them in comparison to other studies. In the next step, I will discuss my method and methodology and will conclude by pointing out the strengths and weaknesses of my study.

6.1 Discussion of the Results

The journey of performing this ethnographic, descriptive informed microanalysis was quite rewarding and full of surprises. My findings indicate a clear development in the client's behavior in the areas of arousal regulation, contact, and communication, as well as in social play.

In terms of arousal regulation, the results show a considerable increase in the client's ability for joint attention, being able to engage in turn-takings and duos for up to fifteen minutes, by comparison to around one minute at the beginning of the sessions. The client's difficulties with the change of activities showed a clear decrease as well as with being caught in repetitive patterns, both when musically guided by the MTh, but also when following the music only. The client also acquired new skills to better conclude musical interactions. Regarding self-regulation, the client often asked for a good song, after getting excited with 'creepy' music, and he also told the MTh, that he played quiet music at home on his keyboard, if he wanted to relax. This also transfers to the client's explicit preference for slower music (with ca. 60 bpm) in minor keys. Research indicates a particular strength in music processing within the population of people with autism, for instance: intact brain processing of musical emotions, including enhanced brain activity in relation to happy vs. sad music, indicating increased cognitive processing, as well as physiological arousal (Gebauer et al., 2014). Molnar-Szakacs and Heaton's (2012) research also indicate intact emotion recognition in the population with autism, and Ouimet et al.'s (2012) findings on the auditory-musical processing are showing superior pitch processing, as well as Quintin et al.'s (2013) study, implementing musical puzzles to analyse audio temporal and audio constructive processing, showing also enhanced pitch perception. This seems to reflect in the client's advanced pitch, rhythm, and melodic contour memory. Another visible result was the client's growing autonomy, displayed in the later sessions by gesturing to the MTh when and when not to play and by starting new initiatives. Those results indicate the MT intervention's ability to facilitate arousal regulation in children on the AS. This is of proximate relevance since it is addressing one of the major challenges, namely hyperarousal in response to excessive sensory input and the lack of ability

to select between the different sensory inputs (Baron-Cohen, 2004). The results also conform with research outcomes in neuroaffective developmental psychology on the nature of emotional and musical attunement (Hart, 2008; Stern, 1984).

In the area of contact and communication, the results indicate enhanced initiation of contact, growing emotional self-awareness, and creative expression. The client furthermore displayed strong musical skills combined with reflexiveness on his own creative output and an increased ability to narrate emotional qualities in music and in feelings. All in all, this indicates a growing foundation for a more untroubled engagement in social play. One surprising outcome was the client's demonstration of his ability to transfer intrapersonal experience to interpersonal considerations, and consistently trying to reproduce and deepen this experience. The results clearly show the client's progress in finding new means of expression, taking new initiatives, and in engaging in emotional communication.

Finally, the client demonstrated a constant joy in sharing music as well by initiating and following the music. This display of musical and emotional attunement aligns with the theories on 'communicative musicality' and 'intersubjectivity '(Malloch & Trevarthen, 2009; Stern, 1985; Trevarthen, 2002; Trondalen, 2019) as well as with Kenny's (2006) 'field of play'. They also mirror the MT's capacity to repattern and retrain new sensory information leading to new functional adaptations, seen in the light of Damasio's (2003) 'theory of consciousness'.

This year two new reviews on the effect of IMT for children on the AS have been published. I would like to seize the opportunity two align my results in the light of the latest research. Mayer-Berarous et al.'s (2021) systematic review includes thirty-nine studies from January 1970 to September 2020 on the effect of educational and improvisational MT for children with ASD and/or other neurodevelopmental disorders, reporting a positive effect of IMT in most controlled studies. However, concerning IMT the authors state that there are few findings of significant improvements for the population, while pointing out that this might be due to the choice of the measurements specifics. Since, when focusing on the relational aspects and adjustments in the client-MTh interactions, the results in subjective clinical improvements, the level of functioning or quality of life, are again to be seen as promising. Especially the inclusion of family members into MT is found to be auspicious. This aligns with my findings in pointing out the importance of a high level of relational adjustments to the client, in order to support a positive social outcome. Marquez-Garcia et al.'s (2021) systematic review on the effect of IMT and singing/listening to songs on children with autism, incorporates 36 studies. The authors suggest creating a standardized framework, including the use of neuroimaging tools as an 'objective marker of changes', in addition to a combination of functional and behavioral outputs covering a broader range of patterns, than the main symptoms. Again the behavioral characteristics of the client-MTh relationship, are seen as vital; the better the attunement between the client and the MTh, the more likely the development of social skills, thus underscoring the nature of this mutual process. The authors conclude that IMT can specifically address social and behavioral deficits in children with autism, since there is evidence of improvement. At the same time they are stressing the importance for further and more detailed studies, aiming for more consistency and accuracy

by implementing neuroimaging methods. Thus this review supports and aligns with my results by validating both the choice for implementing IMT and the importance of a well-attuned client-MTh relationship on a positive outcome of social behavior.

6.1.1 Comparison to Megha Sharda et al.'s (2018) Study

The results of my research indicate improvement in the client's social and communicative skills. Nevertheless, since my study covers only qualitative outcomes, I find it meaningful to compare my findings in the light of this particular study with its incorporated quantitative measurements. Since one of my research questions addresses the hypothesis of the MT's ability to improve communicative skills in the light of neurobiological research, it is, for obvious reasons, appropriate to look into Sharda et al.'s (2018) study evaluating neurobehavioral outcomes of music interventions and to determine commonalities and differences in comparison with my single case study.

Based on their hypothesis that music-based activities might be able to restore altered brain connectivity and attenuate social difficulties for children on the AS, due to the music's impact on social functioning and brain connectivity, Sharda et al. (2018) synthesized two approaches from previous research, to propose an explanation for music-induced neuroplasticity and its impact on social functioning.

> (1) top–down reward-based cortical modulation to reinforce learning of non-musical behaviors such as social interactions through the intrinsic reward value of music,
>
> (2) bottom-up sensorimotor integration through sound and auditory-motor entrainment of neural networks through synchronization leading to modulation of atypical sensory processing, which in turn may improve social communication (p. 2)

This study included 51 children between 6-12 years, one half of them receiving 8-12 weekly sessions of 45 minutes individual IMT, while the other half received non-music (NM) play-based intervention also targeting social communication. The MT intervention included the use of musical instruments, songs, and rhythmic cues, aiming for communication, turn-taking, musical interaction, sensorimotor integration, and social appropriateness. The NM intervention structurally matched the MT design, also in therapist attention and emotional engagement. Both my client's age, the number of sessions, and the implemented MT approach conforms with the parameters of this study. The duration of the MT intervention was slightly shorter, between 25 and 38 minutes. The similarity in the employment of improvisational MT, as well as in the measured/ analyzed improvements in social communication is evident. Post-treatment improvements in social communication, specific to pragmatics, reduction of inappropriate initiations, and better social relations and interests

were found with a medium-sized positive effect. This coincides with my own qualitative findings. Since I assumed that the effect of MT on my client's improvement in social behavior and communication skills could be attributed to the brain's capacity to develop, repattern, and retrain new sensory information, it is of particular significance to relate to the outcome of this study. Post-intervention brain scans showed a distinct improvement in functional brain connectivity, thus providing evidence that individual music intervention can indeed improve social communication and auditory-motor connectivity in children with autism.

Sharda et al.'s study is of course an elaborate and multifaceted study with an abundance of resources, compared to my single case study, but it also addresses the changes and improvements in social interactions and communication using comparable musical tools. However, I consider this study a possible validation for my findings, especially with respect to my hypothesis on the neurobiological impact of MT; and moreover, I consider it encouragement for further research work.

6.1.2 Comparison to Kate Fawcett's (2019) Case Studies

My results showed that my client displayed a particular interest in 'sad' music. After having been moved to tears for the first time in the second session during a duet, he attempted to recreate this situation, by also aiming to achieve the same impact on the MTh. He finally played a 'sad' solo for the MTh in session nine. This atypical behavior sparked my wonderment, and I was searching for comparable cases in the literature.

We rely on treatment guidelines (Geretsegger et al., 2015), we are aware of the importance of the therapeutic relationship with our clients (Mössler et al., 2017), still, when entering the 'field of play' (Kenny, 2006; 2015) each time it is a unique journey. In order to better understand the influential factors on such a journey, I chose to investigate Kate Fawcett's (2019) chapter from "Music therapy and autism across the lifespan: A spectrum of approaches'', since she writes about the transitional nature of space and of the therapeutic process, building relationships through joint improvisations, thus sharing an 'audible journey'. Fawcett presents three cases from her work at a transitional center for school children with ASC, with the aim of helping children get school-ready, increasing their academic confidence and social tolerance. Though she had plenty of opportunities to watch the children during their daily routines and on the playground, as I had when working with my client, she encountered several uncertainties, since she rarely knew in advance which room she could use for her sessions, and in addition, the children's attendance was unpredictable. One of her clients, whom she introduced as Jack, who was the only one with whom she was able to perform the sessions in the same room, same setting, and weekday, displayed some similar behavior traits and patterns as my client. Since the MT sessions with my client took place in an elementary school with no previous implementation of MT, in an improvised space, with very poor sound isolation, it seemed comprehensible to compare my case with hers. Both clients mostly preferred to be alone, not engaging easily with other children, displaying strong musical memory, with a preference for fictional stories, re-enacting scenes from movies,

highly developed sense of pitch and rhythm, and they both repeatedly asked for 'sad' music. This raises the question of possible catalysts for such requests. I assume my client benefitted from the positive arousal regulation he experienced with soft, slow music in a minor key since he also actively played slow soft music for himself when being at home. Fawcett reported about her client's contentment with slow and soft music as well. There is, of course, evidence that people on the AS react more strongly to 'sad' music, than their neurotypical peers (Caria, 2011; Heaton, 2005; Stephenson et al., 2016), but this is only one part of a possible explanation for this phenomenon since it doesn't imply the process of actively acquiring skills to express those emotions in music. Here is why I chose to implicate Fawcett's case studies, since her approach to creating a secure environment, with what she calls 'creating patterns, creating relationships', appealed to me. Those prerequisites are key in providing a safe place where the client can evolve more independently and freely. This already starts when taking the child from the classroom, implementing all the information the MTh receives from the client on the way to the therapy setting, thus starting with playing 'what's in the room'. An approach I incorporated as well, particularly with the client from this case study. Fawcett draws theoretically from Kenny's (1989) 'field of play' and Ansdell and Pavlicevic's (2005) 'pleasure of improvising intimacy'. When comparing my case, with Fawcett's case, it is of course about acknowledging some of the therapeutic tools we were both implementing, but even more the focus and the particular nature of the client-MTh-relationship and the potential and impact of improvisational MT with this population in creating a musical space, which 'unlike physical space, (...) becomes more expansive the more it is shared (p. 247)'. Thus understanding the nature of the 'field of play' provides the MTh with a map to feel more secure about her work, embracing the unknown and the unknowable under particular circumstances. Congruously Fawcett concludes: 'Fields and playgrounds both suggest open areas of land that are nonetheless safely bordered – spaces defined by what is nurtured in them, not what is kept out' (p. 248). This seems to be a meaningful point of view, which might well present a possible explanation for the freedom of expression and musical narration my client displayed.

Therefore, comparing my study with her case studies added another layer of understanding to my results, which was, to acknowledge the importance of the particular impact the musical flow and kinship evolving between client and MTh during shared improvisations could potentially have on opening new windows of opportunities for the client.

6.1.3 Comparison to LaGasse's (2017) Review of MT Outcomes

Although my results indicate a distinct improvement in my client's social behavior, through enhanced emotional communication, new initiatives, and particularly the client's demonstration of his ability to transfer intrapersonal experience to interpersonal considerations, I have little evidence on how these changes transferred to his non-musical social skills outside the MT setting. As to further validate my results, I chose to include

LaGasse's (2017) review on the social outcomes of MT in children with autism. Furthermore, this review provides a set of basic points to help put my results in perspective.

When introducing the difficulties children with autism encounter within the area of social interaction, LaGasse also highlights the financial aspect of the costs of necessary interventions and/or treatments, and thus the necessity for evidence-based practices and strategies. Since the lack of social skills in this population involves lifelong implications that can compromise academic skills, self-worth, and independence, plus they are hard to achieve, the need for reliable interventions targeting social outcomes is imminent. As there are many different MT approaches, the common ground is the utilization of musical stimuli and musical engagement to provide a base for socialization, which can also lead to improved nonmusical skills. LaGasse introduces research results and the different explanations for the MT's efficacy, as well as different assessment and diagnosis methods. I consider it important to incorporate a more thorough assessment procedure, than I had the opportunity to, when starting with a new client. However, to acknowledge and review the different possibilities and tools for outcome measurements (both from a parental and from a clinician perspective), is important to be seen in perspective of one's own results and future practice. LaGasse included five parental-report tools (Allgood, 2005; Geretsegger et al., 2016; LaGasse, 2014; Thompson et al., 2014; and Thompson & McFerran, 2015) mostly on group and family constellations, evaluating via social responsiveness scales, autism treatment evaluation, communicative development inventories, parent–child relationship inventory, and interviews. She incorporated eleven clinician-based observation tools used to evaluate the effect of MT interventions, both with clinician-based observation scales like the 'Functional Emotional Assessment Scale' (Carpente, 2016), the 'Early Social Communication Scales' and 'Pervasive Developmental Disorder Behavior Inventory-C' (Kim et al., 2008) and the 'Autism Diagnostic Observation Scale – Social Affect' (Geretsegger et al., 2016) and clinician-based observation tools: 'eye contact, turn taking, imitation' (Finnigan & Starr, 2010), 'play/engagement and interaction with peers' (Kern & Aldridge, 2006), 'independent and prompted responses' (Kern et al., 2007), 'Instances of eye contact, as well as turn-taking frequency and duration' (Kim et al., 2008), 'motivational responsiveness and social responsiveness' (Kim et al., 2009), 'instances of joint attention, initiating, responding, and social eye gaze' (LaGasse, 2014), 'behaviors observed to be different for each child, based on needs' (Pasiali et al., 2014), and 'focus on faces, response to joint attention, and initiation of joint attention' (Vaiouli et al., 2015). Since it was not possible to implement parental-report tools or clinician-based observation scales, it is nonetheless an affirmation of my choice of analysis categories since they cover much of the same range of observation measures as presented in the review, thus leading to similar findings.

As a result LaGasse's review concludes that MT can be seen as beneficial to improving social skills, including social engagement and joint attention in children with autism, which I consider an additional validation of my results.

6.2 Discussion of Methodology and Method

Doing a qualitative single case study with a hermeneutic phenomenological approach, felt at times like switching between a meticulous magnifying glass and a surveillance drone. By moving between disclosing all the small parts, and achieving a greater understanding of the whole, it was vital to be aware at all times of the multiple realities that could be found. However, reviewing my results, I feel it was a meaningful choice to implement hermeneutic phenomenology, since both approaches, the phenomenological in finding answers and meaning without theoretical pre-assumptions using the technique of 'bracketing' to step away from one's own biases and prejudices, and the hermeneutic in understanding through explaining and interpreting data, implementing the hermeneutic circle, were necessary to answer my research questions. I primarily applied the phenomenological part to investigate and describe patterns and deviations in the client's development, focusing on finding the 'truth' about each experience, being more in the position of an outside observer, thus monitoring changes in duration, intensity, contour, nature of musical, verbal and non-verbal interactions during the MT sessions between the client and the MTh. Since the main starting point of my initial inquiry related to the client being moved to tears by 'sad' music and his subsequent question about how his peers would react, would they be there, and to the fact that towards the end of our MT sessions, the client chose to play music for the MTh in a similar-sounding style. This means, I was assuming that there must be an explanation for this behavior and development, for example from a neurobiological point of view, which of course had to be an open-ended process. For this purpose I had to attempt a multi-layered analysis, uncovering new details by going back and forth within my analysis and interpretation until I reached a point of satisfactory explanation.

To analyze my data, consisting of approx. six hours of video recordings from eleven MT sessions, I implemented an ethnographic, descriptive microanalysis approach inspired by Holck (2007) and Plahl's (2007) five steps to microanalysis. Since I was investigating MT sessions with a highly verbal child, and both methods are basically aimed at analyzing non- or preverbal children, I had to adjust them to my requirements in terms of chronological sequence or merging of work-process related steps. As presented in chapter 5.1 I started with a trial, since I wanted to get a feeling and understanding about both the nature and duration of the process. In addition, it was the first time I used ELAN 6.0, which means that I had to start to create a category system for my annotations for the transcription process.

Transcribing all eleven sessions was extremely time-consuming, but I wouldn't have been able to do the hermeneutic part of my analysis, specifically, if it wouldn't have been for transcription and pre-coding of the entire material. Once I had discovered certain details in my microanalysis I was able to easily move back and forth, uncovering and investigating the different steps, similarities, and deviations, that led to certain behavior and outcome, namely the client's solo in session nine. It was, in fact, discovering the specific tempo of the client's solo, which led me to look into other slow or 'sad' musical interactions

or expressions and as a further result investigating tonality and melodic contour, thus discerning commonalities and differences. Since the video material wasn't always of satisfactory quality, I sometimes couldn't apply the pattern entire search and coding on the same level. Thankfully the musical output often compensated for the poor visuals, thus not posing a significant impediment to my analysis.

Implementing the ELAN 6.0 software was definitely a good choice and made the transcription process a lot easier and more transparent, though it took some extra time to learn the basic functionalities of the software. With a deeper knowledge, I am quite sure that it could have saved me even more time. Concerning the functionality of the software, I am not quite sure if this is due to my limited knowledge, or if it would get too confusing with further subdivisions within certain annotations. For my microanalysis, it has been a huge relief, how easily I could access the different annotation points as well as the convenience of being able to view the videos in slow motion and proceed frame-by-frame.

6.3 Discussion of the Strength and Weaknesses of this Case Study

Writing this qualitative single case study on the impact of improvisational MT can have on social skills of a highly verbal child with autism, and whether my results are showing the MT's ability to open new windows of opportunity, thus creating new choices and coping mechanisms, has been extremely informative and life-enhancing. This in itself I would like to consider a strength of this thesis, since every new study, every new description and search is adding new value, knowledge and insight to our profession.

What sparked my interest in writing this thesis was my initial surprise and wonderment about my client's solo, which he described as: "That was a good one!". It is a strength of this study design, to have been able to discover and uncover the process, the correlation, the deeper meaning of this particular display of newly achieved skills, since such an outcome wouldn't have been possible with quantitative measurements. Nor could I quantify my client's declarations on how he felt the first time when playing 'sad' music together with the MTh: "I got tears in my eyes from the music!" and "I wonder if the others would also cry, when hearing our music." Since I happened to be this client's MTh it also enhanced my self-perception and identity as a therapist, thus gaining more awareness of the importance of a close and attuned client-MTh-relationship, and discovering and understanding the 'ingredients', that contributed to this particular 'field of play' we shared.

Being able to find answers to my research question can also be considered a strength of this study. Is this study significant? As a singular work, maybe not, since it refers to the work with one client only. But it aligns with the research results of other studies, and thus adds further knowledge to the body of research in our profession, especially since there is still only scarce research on IMT with highly verbal children. However, I had neither a recent and thorough assessment of the client's social, communicative (verbal, non-verbal) and motor skills, and could thus only rely on an older version of the client's medical record and the

teacher's reporting. Likewise there was no possibility to do pre-and post-treatment evaluations after every session, I had to rely on my own observation, recordings and notes, as well as on the sporadic feedback from the teaching staff. There was a double bias I had to face, since I was the only evaluator of the material, in addition to also being the MT, who performed the intervention. For future research in this area it would be of importance to include validation from an external assessor, and parental as well as interdisciplinary feedback. In addition, higher quality video equipment would be preferable.

Even though I perceived both the timeline and the size of my thesis as being too limited, the experience of the entire process was satisfying.

7 Conclusion

Conducting a qualitative single case study, based on the hermeneutic and phenomenological approach of the interpretative method yielded answers to my research questions below:

1. Which patterns and behaviors can be detected and described that are 'atypical' for a child with autism, initiating new options for action, based on the video recordings of the eleven sessions?

2. How can the patterns and new communicative skills discovered in the music and in the client's behavior be interpreted in the light of the mentioned theories, and are those signs of the MT's ability to create new choices and coping mechanisms?

3. What are the musical parameters in improvisational music therapy and in the therapist's actions that facilitate changes in the client's behavior?

To answer research question number one, I performed a phenomenological descriptive analysis revealing a string of patterns and behaviors 'atypical' for a child with autism. Since the client never showed similar behavior in his daily routine, it was particularly his emotional reaction, when playing music with the MTh, that was clearly 'atypical' for the client, as was his consideration of the possible reaction of his peers, meaning that the client proceeded from narrating an interpersonal experience, to intrapersonal thoughts; as was his attempt to achieve a similar reaction through playing 'sad' music for the MTh. Attributing meaning to the different musical phrases and ideas played during the MT sessions and narrating about them, is also 'atypical'. The same goes for the strong musical and emotional attunement the client demonstrated. As a result this yielded new options for the client to interact, like: showing less difficulty in stepping out of repetitive behavior or in changing activities, higher task attention, showing self-confidence and initiating new activities, being able to conclude a piece or an activity and taking ownership of the new skills he displayed

(like playing a solo or conducting a duet). Another unexpected behavior was that the client started using music for his own arousal regulation, by playing soft music on his keyboard at home. It can therefore be concluded that it is possible to state that my analysis indicates 'atypical' behavior of the client during MT, leading to new options of action.

For my second research question, I implemented a hermeneutic deductive approach. The identified patterns and new communicative skills seen in the music and in the client's behavior, can be perfectly interpreted in the light of the afore mentioned theories. According to neurodevelopmental theories, the functioning of the nervous system is predicated on rhythm, resonance, and synchronicity, thus emotional and musical attunement is a vital step towards opening new windows of opportunity (Hart, 2008). Therefore one could assume that through the effective intervention with musical stimuli, certain patterns in the client's behavior could be altered and influenced in forming new patterns and behaviors since neural circuits and brain plasticity can be stimulated by the occurrence and the impact of resonance and synchronicity. According to research, the typical problems people with autism encounter with emotion recognition do not apply in connection with music, since musical recognition and understanding are intact, which would explain the effect of music on people with autism. This obviously applies to my client, since he could easily attribute emotions and feelings in music, actively searching to explore them. Also, Damasio's (1998) point of view supports the effect of musical emotions, since when emotions are memorized, as in my client's case with 'sad' or 'scary' music, they can be reactivated and thus lead to conscious or unconscious reasoning, posing a cognitive step in itself. The client acquired and displayed strong musical and emotional self-awareness and creative expression, he narrated the emotional qualities in music and in feelings, reflected on the impact of the musical emotions on others, and often initiated musical contact and play. Baron-Cohen (2004) points out how arousal regulation is one of the major challenges for children on the autism spectrum, as a result of excessive sensory input and the lack of ability to choose between the different sensory inputs. His 'triads of impairments and strength' might suggest an answer to new choices and coping mechanisms, my client displayed. It appears that what outside the MT setting manifests as a restricted sense of empathy, thus inhibiting proper social interactions and communicative development, does not apply when music is involved. This would suggest that MT can mitigate the impact of the 'triad of impairments' and draw from the 'triad of strengths', because of the client's strong affinity towards systems, rules, and regularities, since musical patterns like tempo (bpm), rhythm, tonality, and melodic contour, can be systemized and support the client's need for routines and sameness.

With regards to question three, the musical parameters in IMT and in the therapist's actions facilitated obvious changes in the client's behavior. My approach was client-centered IMT, thus focusing first on providing a safe environment and familiar structures (CL/MThL), incorporating the client's interests, providing meaningful musical frameworks to facilitate change in the client's behavior through imitation, matching, dialoguing, holding, extemporizing. By scaffolding the client's expression via dynamics, tempo, tonality, and melodic contour, using musical (unexpected pauses, dynamic shifts) and non-musical

(gestures, eye-contact) cues, it was possible to establish persistent phases of joint attention and intersubjectivity. Moreover, creating a 'field of play' and establishing a shared musical history with returning subjects, thus building a trusted relationship, enabled the client to explore new musical and emotional expressions and to engage in social interactions and play.

8 Perspectives

It is thrilling to find proof and evidence for MT's efficacy, thus looking into the human brain is certainly one of the most intriguing undertakings. But I consider it equally fascinating to dive into a deeper understanding of the human factor, namely the relationship to our clients and the deeper and even spiritual connection we can achieve, thus broadening our music therapeutic sense of self. I have been employing the position paper by five MTs (Pickard et al., 2020) on their understanding of 'normalisation' and maximisation' in the light of the neurodiversity movement since I was missing a broader statement from members of my profession on this issue. At the European Music Therapy Conference in Aalborg, 2019, I had the chance to meet and talk to some of them, and have since joined different zoom-meetings on the *Music Therapy and Autism Network* via Facebook with fellow MTs, some of whom are on the AS and have been sharing their points of view. I am very grateful to continuously learn more and be able to incorporate this knowledge into my professional work. When talking about unwanted, disturbing, or disruptive behavior, and repetitive patterns and subsequently mean to improve social skills and life skill training, we have to be very sensitive in how and why we are choosing to provide support. As Winter (2012) underscores, there is nothing wrong with the idea of 'maximisation', which means supporting a child's development, whereas 'normalisation' is perceived as the attempt to erase all outward signs of autism.

Having been able to work with a group of children with autism for those months, was a very precious experience, and so was the subsequent research work. There is still a widespread misconception of people with autism and how they process emotions or their lack of being able to engage emotionally, even within my profession. I experienced the children I worked with as being differently able in all possible shades and joyful in sharing music. I came to understand a lot more both about autism and its many facets and also on the possibilities of our profession to provide tools for well being and support of the development of skills and coping mechanisms. There are several questions that appeared as a result of this thesis. Unfortunately MT for children in Denmark is not a part of public health service, therefore further studies and research are of paramount importance. This will, of course, reflect on my future work since this is the population I would very much like to continue working with. As mentioned in my introduction under chapter 1.2, the first steps have been made, and I strongly believe that together with parents, pedagogues and teachers, and other MThs, a change will be possible. Especially since the path to a functioning school inclusion,

also in Nest[3] classes in Denmark, proves to be a rather challenging one, and might well profit from MT implementation. Also the question of how to encounter the challenges when starting in a new and unstructured environment, would be worth researching.

It is encouraging that the evidence for music as a strength-based approach for autism to assess the reward and emotional response and as a powerful tool for intervention (Quintin, 2019) is growing. But during my research, especially in relation to neuroscience, I was wondering why musical support is less accepted and integrated in comparison to visual support like PECS. Furthermore, I hope for additional research and neuroimaging on the processing of music in relation to emotions, but also over a period of time, in order to potentially map what sort of new brain development becomes visual, in its capacity to repattern new musical sensory information and thus adapt.

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[3] "The content of Nest is based on the principles in the American mother program. The program is based on the needs that children with autism (ASD) has in connection to: 1) structure, consistency, predictability, 2) information broken down, 3) processing time, 4) self-regulation instruction, 5) supported peer interactions" (TrygFonden's Centre for Child Research, 2021)
predictability, 2) information broken down, 3) processing time, 4) self-regulation instruction, 5) supported peer interactions" (TrygFonden's Centre for Child Research, 2021)

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Learning portfolio

One of the first books on music therapy and music therapy research that I read at the beginning of my MT education, was the Danish version of Jacobsen et al. (2019) "A Comprehensive Guide to Music Therapy". Revisiting chapter 5.1 (Ridder &Bonde, 2019) in particular, was a good start for my methodology chapter, reassuring me that my understanding has evolved considerably since then. In addition, of course, there is also progress and change in how research methods are defined, i.e. the differentiation of qualitative and interpretivist research (Wheeler & Murphy, 2015; Gattino, 2021). What stayed the same and served as the main basis for my work is the acknowledgment of "how the research method emerges from the research questions" (Ridder & Bonde, 2019, p.397).

To write this thesis was both a satisfactory and a nerve wracking experience. To have come so far, having gained both theoretical knowledge and practical experience, having learned to switch perspectives from working as a MTh to doing research, was uplifting. Still it also bears the feeling of closure, of leaving the nest, which is funny enough, since I am well into my fifties. To know that we are indeed in some way a rather small-sized professional family, where it is even more important to stay in touch, to exchange experience and to constantly learn from each other, makes this a good step forward. The nerve wracking part was to decide, what should be part of this thesis, and how to manage the nearly infinite amount of secondary literature, in search of the valuable bits fitting my research questions. It has been an affirming process, to realize how all the parts of the MT study program are coming together, lining up to a new and much deeper understanding of both the practical implementation of MT and the possible perspectives. I could draw a lot from my 8th semester literature review, and I realized again how important it is, to be able to recognize reliable sources. The amount of literature was frankly overwhelming at times, with ca. 180 scientific articles, studies and reviews, plus at least 30 books. Some of the article I found, slipped from my attention and reappeared after I was hectically looking for answers, and just when I was about to finish my thesis, I discovered, that what I thought was my discovery and conclusion, had been thought of before, namely with reference to my findings in the light of Baron-Cohen's triads.

Having Gustavo as supervisor was of invaluable help and support, not only because of his motivational work and the support with additional hints for literature, but it is particularly his dedication in advocating to include the neurodiversity aspect in all considerations of MT intervention for people on the AS and in research, which is so inspiring.

Appendices

Appendix 1 - Consent of the client's parents

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Kommunikation

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Samtykkeerklæring til brug af audio/videooptagelser

I forbindelse med studerende _Monique_ og dennes praktik på
Musikterapiuddannelsens 9.semester giver jeg hermed min tilladelse til, at sessioner må
bruges som en del af den studerendes uddannelse ud fra følgende aftaler og specificeringer:

Jeg giver min tilladelse til,   JA   NEJ

- at sessionerne må videooptages   ☒   ☐

- at sessionerne må audiooptages   ☒   ☐

- at optagelserne må bruges til den studerendes supervision på Aalborg Universitet   ☒   ☐

- at skriftlig beskrivelse og analyse af optagelserne i anonymiseret form må bruges i
  forbindelse med den studerendes afsluttende speciale, der er offentligt tilgængelig på   ☒   ☐
  Aalborg Universitets VBN server

- at specialet efter bestået eksamen kan danne ramme for artikler til nationale og   ☒   ☐
  internationale tidsskrifter

Forudsætningen for denne samtykkeerklæring er, at alt materiale bliver opbevaret sikkert og fortroligt i
henhold til Datatilsynets krav. Materialet bliver opbevaret indtil endt kandidat-eksamen i juli _____,
hvorefter det slettes. Alle der har tilladelse til at se materialet har tavshedspligt. Det er altid muligt at trække
denne samtykkeerklæring tilbage, hvorefter video- eller audiomateriale vil blive slettet.

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Dato   Underskrift

Spørgsmål angående samtykke er velkomne, og du kan kontakte den studerende på følgende email:

_____

Appendix 2 – videofiles via Panopto

Videofiles via Panopto

File One: Outtake from Session 3 (5.3.2.3 Episode Three)

File Two: the client's solo (5.3.2.3.1 "Let Me Play a Song for You!")

Appendix 3 - Horizontal and vertical analysis (selected sessions)

Session 2

Timecode	Content	MTh's Aim & Interpretation
00:08- 00:28	The MTh introduces claves for a small rhythmical routine **(MThL)**. The client watches attentively, but does not engage easily, looking elsewhere. The MTh tries to get the client to listen and to follow her instructions, by talking to him and using the claves. The client uses the claves like mallets on the xylophone. Finally, he agrees to a short **turn-taking** (d = 0:06). The MTh plays a rhythmical pattern and after the client repeats the pattern, she compliments him saying: "Good job". The client jumps and almost dances when he gets praised.	When they entered the therapy room, the client was a bit absent minded, since he had to leave at a point where he would have loved to continue watching something on his iPad. Therefore, the MTh chose to introduce the claves to him, since she expected it to provide a feeling of success to the client. It is obvious that the client is thrilled when complimented, after performing a new task.
00:38- 01:20	The MT suggested starting with the piano, where she would play the deep keys and the client the upper register. The MT suggests using only the black keys for their first turn-taking. The MT plays a little melody on the black keys. The client says he is in doubt if he can play in the same way. MTh says it is going to be easy, the only "rule" is to use the black keys, and that is easy.	Since the MTh already experienced the client's joy, when playing tonal music, she invites the client to only use the black keys, since it is easier to achieve a tonal meaning. On the other hand, she had experienced the client's cautious moments of self-doubt and hoped to make it easier for the client to engage.
1:25-03:46	**Taking turns** on the piano with small melodies and rhythmical patterns (**MThL**) (d= 2:21)	

	The MTh announces she will play four notes and asks the client to afterwards do the same. MTh plays 4 notes, whereafter the Client plays 4 notes in the same rhythm. MTh is praising the client, and he plays the same melody again. The MTh picks up the melody, repeating it in a deeper register, while the client is watching closely. The MTh plays the same keys but doubles each note. The client does the same in his register. Now the MTh plays a new melody. The client repeats the melody but closes with an ascending note, like a question. The MTh compliments the boy. Afterwards the MTh starts playing a rhythmical and harmonic frame, encouraging the client to join in. The client answers, he will try, but he is not sure if he can succeed and plays a little melody, gazing towards the MTh. She is complimenting the client, whereafter he is telling the MTh that the piano keys all have the same height. The MTH agrees and introduces the client to a new way of playing, which is playing only on the black keys. She plays a small melody. The client repeats the little melody slightly differently, saying: ***"I played wrong!"***, waving his hands defensively. MTh reassures him that it was just fine. But the client goes on saying, he was confused, if he did everything right. MTh tells the client that he must not get confused, since they only use the black keys, and there is nothing that can be done wrong. The MTh plays a little melody on the black keys. The client is playing a similar melody. The client is adding 3 trills. The MTh is approving of his new idea, praising him for it. MTh is praising the client telling him: "Good job!" The client is looking at the MTh with delight, he is then suggesting he should play something, and the MTh should follow. The MTh repeats the play rules, the client will play first, and the MTh will try to copy.	To anticipate possible self-doubts and loss of concentration, the MTh comments everything also verbally, being very clear in her movements, body language and facial expression, since the client is very closely watching every movement she makes. As soon as a feeling of security is established, due to a certain routine, the client asks to switch the lead.

03:57- 04:42	Client-led **turn-taking** (**CL**) at the piano (*d = 1:45*) Client starts with a little melody. The MTh answers with the same phrase, adding a harmony to the last note. The client plays a fast trill, to which the MTh answers with an identical trill. The client plays a soft longer melody finishing with a cluster. Again, the MTh answers with a similar phrase. The client is adding some trills, while the MTh is playing. The client is playing a longer melody with both hands, playing some cluster and trills at the end. The MTh is incorporating clusters and trills into her playing.	It is obvious that the client becomes more relaxed, when the turns work out easily. When the MTh had the feeling, that their taking turns, had established a feeling of security in the client. She picked up one of the client's trills, repeating it, extending it and inviting the client with words and gestures to join her in playing together.
04:47- 07:08 (Score)	**Duet** (d= 2:16) at the piano. Client starts with a trill and MTh joins into a little duet. Soon after, looking closely at the MTh, he states: "==This sounds creepy, it is a creepy song.==" The client is moving his body and rocking slightly in the pulse of the music, exploring a good range of the keys, often addressing the MTh telling her how creepy the music is, turning his entire body towards her. The client is playing in time using both hands, and playing alternately clusters and single quarter notes. He moves closer to the MTh and starts playing more punctuated and he then crosses over the MTh's hands to the lowest parts of the piano. **MThL duet**: experimental, a bit gloomy improvisation most in a mezzoforte range. MTh is creating a rhythmical and harmonic pattern, encouraging the client with body language (moving in time, nodding her head) and eyes to join in. The MTh also changes dynamics and intensity, signalling to the client also with her eyes, to join her. After a while he says: *"This is really creepy!"* At the end, looking up towards the MTh, the client asks the MTh to play a "***good***" one now, clapping his hands in excitement.	(the client stands on his feet, so he can cover a bigger range of keys) Knowing the client also outside the therapy room, the MTh had noticed the particular joy the client took in sharing stories about creepy beings or making creepy pictures, therefore she was not surprised, when the client addressed the gloominess of the music as being creepy, deducing that this is a sign of enjoyment. Still exploring those slightly "scary" emotions, the client often seems to look for the opposite shortly after. (*==Music score: 06:52-06:59==*) The client suddenly stops playing to ask for a '***good***" one. This behavior, asking for a "***good***" one, after a spooky or creepy one, is something that differs very much from the client's daily routines.

07:18- 08:39	**Duet (MThL** & **CL**) at the piano (d = 1:11). MTh-led start of the duet, later the client adds new patterns and ideas, which the MTh picks up. The client adds many trills, which are picked up and repeated 3 times by the MTh. The client moves toward the upper keys to end the song, while informing the MTh that the song will soon end. The MTh compliments and high-fives the client.	At the beginning, the client was insecure about when a song was over. This time it was the first time that he was taking ownership of a music interaction, by deciding and communicating when a piece will end.
08:41- 11:43	The client asks the MTh, to play the xylophone and to repeat what he is playing at the piano. Client-led **turn-taking** (CL) (d = 0:45), where the client starts with a melody. The MTh joins in, but the client stops her, insisting she should just repeat. The client plays short new melodies, and MTh repeats them on the xylophone. Since the client plays over the MTh's music, they proceed into a duet, where the MTh is following the client (d = 2:16) (**CL**) At a point, the client stops and tells the MTh, she should just "*repeat*" what he plays. The MT agrees, and continues imitating as close as possible the client's melodies and rhythm. The client discovers his image on the computer (where the session is being recorded) and starts interacting like seeing himself in a mirror. The MTh closes the camera view on her computer and suggests switching places.	The client obviously enjoyed being in the lead and expecting to be followed very closely. The MTh played a bit clumsy, to see the client's reaction. She afterwards explained that a xylophone does not have the same range of tones as a piano, and therefore she will never be able to reproduce all the music he is playing at the piano.

11:50- 14:3	The MTh closes the camera view on her computer and suggests switching places. The client agrees to play the xylophone. She informs the client that he is the soloist now and she would accompany him. **Duet** - with very clear support from the MTh (d= 2:05) (**CL**) The client starts tentatively, with no steady pulse at first, playing some rhythmical patterns as well on the wood only. The MTh is adjusting her playing to the client's musical ideas. The client stands up, while continuing to play, looking for something on the table, then picking up a pair of claves, which he is trying to integrate into his playing, switching them for the mallets and then switching back. While the client is trying different ways of playing, the MTh is providing a steady frame and pulse, watching the client attentively. Once again, the client stands up and reaches for another rhythm instrument. The MTh stops playing the piano and picks up the claves looking at the client and inviting him to play together. The client joins the MT in playing a rhythm together with a seed rattle.	The MTh used the technique of framing, to allow the client to feel supported and heard. It was clear that a steady pulse helped the client to engage in a mutual pulse. It became obvious that the client enjoys playing the xylophone, feeling confident enough to explore new ways of playing and being eager to include further ways of expression.
14:35 – 16:10	The client walks over discovering the steel drum, asking about the instrument. The MTh is introducing the client into playing the steel drum. **Solo** (d = 0:47) The client is playing the steel drum. The MTh is telling the client where the steel drum is coming from and is inviting the client to switch to the djembes, but the client prefers to play the ukulele and asks the MTh to accompany him on the piano.	Everything new can be tested, but then it is safer to go back to something one has already tried out.

| 16:11 - 20:01 | Playing a **duet**, ukulele & piano (**CL**) (d = 3:50) After a while, the client asks the MTh to play on the higher register at the piano, only to shortly after asking to switch places. Which means the MTh should play ukulele, or even better the guitar.

To which the MTh agrees and fetches the guitar, and right away fingerpicking some chords. To this the client starts playing some single notes, but then pressing multiple keys producing a sound cluster.
After a while, the client stops playing and tells the MTh that he will play as if a shark comes. The client plays the deepest keys at the piano, accelerating after a short while. At the second attempt he is mimicking the title music from "**Jaws",** while looking towards the MTh, to check if she notices what he is playing.
The MTh played matching sounds and complimented the boy after finishing the "shark attack".

The client tells the MT she should only listen, very attentively, and plays a longer version of "**Jaws**". | Since the MTh wanted to provide the client with a good sense of achievement, she stayed very close to the client's musical expression, adding harmonies to create a more palpable tonality.

The shark-theme was something that comes from the client's everyday life. He loves drawing sharks and talks about them often. |

20:00 – 22:31	The MTh asks the client if they should play a scary song, asking the client to start the "**Jaws**" melody once again, while she sits down at the piano. She explains that she would pretend to be an innocent swimmer, with no clue of the peril she was in. The client is very excited and dances on his toes, smiling brightly. They play **Jaws** duet nr. 1 (**CL**) (d = 1:43), where the client plays the Jaws theme and after a while "attacking" the MTh-swimmer telling her she was eaten up. MTh says, it was great, and they are both laughing. The client gets even more excited, jumping up and down, asking the MT to start "swimming" again. *Jaws* duet nr. 2 with a longer piano intro (d= 1:30) The client is asking for one more "**Jaws**" pretend play. "**Jaws**" duet nr. 3 (d = 1:26) "**Jaws**" solo, where the MTh should only listen (d= 0:26)	To develop the idea of the dangerous shark, the MTh proposes little stories around the shark and his possible victim, which the client obviously was thrilled by. Surprisingly, the client didn't object, when the MTh declined further Jaw-duets after their 3 times.

22:33 – 26:14	The client asks the MT to play a "**good one**" together, where he plays the piano, and she should play (sing) steel drums. He demonstrates what he has in mind, telling her he wants to play a "**drum-song**". **Duet** with the client leading with a particular rhythmical pattern (**CL**) (d =0:36) He than asks the MTH to play a 'sad' song with her.	As already mentioned, the client asked for a "good" song afterwards, having interesting expectations on how the MTh could sound as a steel drum.
	They start playing a **duet** in a slow pulse (**60 bpm**) (**MThL**) (d = 2:27). The MTh plays steady minor chords in the left, and in the right a melody with little rhythmical changes and a small melodic range. The client stands in front of the piano playing eighth notes with small breaks in-between, moving along the keys, sometimes very close to the MTH, and then back to the upper keys again. At a certain point, the client looks toward the MTh saying: **"I got tears in my eyes from the music!"** The MTh asks him if they should continue. The client affirms, and adds that the tears were still coming, and asking: **"I wonder if the others would also cry, when hearing our music."** They continue playing until the client says the song is over now.	To witness how deeply moved by the music, the client got, was a big surprise to the MTh. It became clear that the client enjoyed the sadness of the music and was eager to find out how others would react. This was a very significant moment that initiated an obvious musical and emotional process in the client, over the remaining MT sessions. During the analysis, it became clear that this was the starting point that led to the clients' 'sad' solos for the MTh in the 9th session. As well as the recurring use of ca. 60 bpm and A minor key in connection with 'sad' music. (*Music score: 24:49 - 25:00*)
26:16 - 29:45	Client stands up and is fetching a djembe drum, to which the MTh announces that they will take turns in playing. **Taking turns** with different rhythms, mostly **MThL** (d = 2:52) Continuing with playing rhythms from syllables. Exploring further rhythms, with no particular rules. MTh is praising the boy for his good rhythmical skills	It became even more obvious that the client has well developed rhythmic skills, which he gladly displays.

| 29:44 - 30:50 | For the farewell song, the client insists on playing the piano, while the MTh should play the xylophone.
They are trying a **duet**, but the client is caught up to explore the piano (d = 0:46)
He stops and asks the MTh, if she knows how a hard landing sounds like, demonstrating hard landing, crashing with both hands on the deep keys of the piano.
The MTh demonstrates at the piano, how the falling before the hard landing could sound like, falling down in big bump-steps from the upper part of the piano to the lower keys, while verbally explaining the falling. | As to provide stories to different more violent or loud expressions, the MTh decided to embed them into stories and give them a particular time lapse, be it on emotions or actions. |
| 30:53 - 31:30 | The client asks to do the "*Jaws*" game again, and he immediately starts playing. The MTh joins and lets herself be caught. (d= 0:17) | |

Session 3

Timecode	Content	MTh's Aim & Interpretation
00:13 - 01:59	She sings a birthday song to the client, while playing on the big wooden frog, while the client joins in with the small frog. She asks him about the gift he got, the client says he got a keyboard. The MTh is excited to hear this and tells him how happy she is on his behalf. She goes on singing a little song about a pollywog, while playing on the wooden frog, whereafter he asks the client to join her at the piano. The client agrees, wishing to play the deep keys, immediately asking to play the JAW / shark game. He plays the first notes of the JAW-theme. The MT says they can do so later, but first they will play another fun game, by using only the black keys, taking turns.	The client told the MTh about his new keyboard and how happy he is to have one now.
02:07-04:45	**Taking turn** at the piano, with different expressions and dynamics on the black keys only, at the beginning (**MThL**) (d = 2:34) The MT invites the boy to go on playing. While the MTh plays and waits for the boy to join in, he moves his hands over the keys, not daring to join in. The client says he thinks he is not so good at playing the piano. The MTh reassures the client that she believes he is doing very well at the piano and how much she enjoys playing with him. As the client gets more comfortable with playing, he also includes the white keys. After finishing taking turns, the client asks the MTh, if she would like to listen, to what he has been thinking of, to which the MTh relies, she would be happy to listen.	The MTh is playing short and easy patterns. Starting with feeling insecure and doubtful about being able to play the piano, the client feels much more at ease after a short time, feeling confident enough to ask the MTh to play something for her.

| 04:47 – 11:08 | **Solo** the client plays a little solo, with a punctuated rhythm (d = 0:16) The MTh repeats the 3 last thirds, the client had played. The client asks the MTh, to try following him with another melody. **Duet:** the MT repeats the client's melody and goes on with a development, the client joins in (**CL**) (d = 1:16) Client stops playing and asks, if they could do the **Jaws** music, but without a "swimmer" in the water. **Solo** the client plays the JAWS music (d = 0:32) **Duet:** The client instructs the MTh on how to play, which is to pretend that somebody gets into the water, first checking the water, if it is warm enough and then going in. The MTh follows the client's instruction, and the boy joins in with the JAWS music (**CL**) (d = 0:58) | After the client-led duet, he goes back to his initial request for the Jaws game. He also develops further details, asking the MTh to follow his instructions. |
| | The MTh asks the boy to try playing as if they were different animals. The boy replies that a crocodile would be nice and starts playing a Jaw-resembling theme. The MTh suggests having the crocodile hunting for the antelope. Playing crocodile-antelope song (**CL**) 0:42 Afterwards the MTh says she feels the need for a very quiet song and asks the boy to switch to the upper register. | To divert the client's fascination on JAWs, the MTh suggests other animals. Anticipating the level of arousal generated by these games and to avoid overstimulation, she asks for a quiet song. |

11:09-18:55 (Score)	**Duet** very long duet, the MTh starts with slow chord progressions (**MThL**) 7:34 He tells the MTh, that he thinks it is a very sad song. He joins in and is displaying a good rhythmical feeling, playing single notes within the pulse of the music. The MTh remarks, it could be since it is a slow song, the client feels the song is sad. She asks the client if he would prefer the song to be a bit more vivid, which he agrees to, nodding his head. The MTh starts anew at a slightly faster pace, which the client joins immediately in the same pulse. When the MTh introduces arpeggios, the client answers with glissandi and trills. (t = 70 bpm) They establish a nice musical flow, and the MTh praises the client. When the client asks **"Can we play a sad song?"**, showing the MTh which keys she should play (c-h-a-h in **t = 60 bpm**). She starts with a slower melody in A minor(from 13:55-16:26). The client joins with some fine and harmonious melodies, leading to a particularly beautiful passage. They talk in between and are having small breaks and the MTH plays slower (**MThL**). (15:00 - 16:40 - t = **50 bpm)** The client plays very close to the MTh and sometimes crosses to the deep keys, over her hands. When going back to his part of the keyboard, he looks up to the MTh telling her: **Do you have tears in your eyes? I have tears in my eyes!** The MTh nods, telling him, she is also very moved by the music. The <u>client is resting his head against the chair,</u> while continuing to play beautiful and thoughtful music. MTh plays chord progressions with a gloomy melody, while the client maintains his very laid-back position on the chair, repeating one note again and again with his right hand, while playing variations with the left one. Towards the end he moves down towards the MTh's hands and they finish together with many delays and breaks. The client looks smiling toward the MTh saying: **"That was it!"** When asked what he thought about the song, he replies: **That was a good one!**	The client interprets the slow music as being sad, even though it was in a major key. At this point the MTh checked on the client's preference. When the MTh slightly accelerates the tempo, the client follows with ease. The arpeggios introduced by the MTh were meant to make the music more vivid, to which the client also relied with new and faster means of expression. The client (**CL**) actively requests the MTh to play particular keys, which lead to a change into minor keys and established a harmonious duet. Unawaringly, the MTh is decreasing the tempo. For the first time the client was crossing physically over the MTh's hands, with delicate and almost tender movements. After this physical proximity the client goes on playing delicate melodies, then stops and admits having tears in his eyes. The client is obviously very relaxed and at ease, while continuing playing thoughtful music in time with the MTh. It is seemingly an important step to finish together with the MTh and for the client to take ownership, by also verbally stating that the piece is over.

18:55- 20:16	The client walks over to the table and picks a rhythm instrument and makes sounds with it, asking the MTh, what kind of instrument it is. The MTh tells him it is a guiro shaker and demonstrates how it is used. The client is joining in, by playing on the xylophone. The MTh sings a danish children song, while playing the guiro shaker. Afterwards she asks the client to choose which instrument he would like to continue with. The client chooses the steel drum and immediately starts exploring the instrument.	
20:14- 21:46	**Duet** client-led: Steel drum and piano (**CL**) 1:32 The MTh starts with slow accompaniment. The client slowly spins one time around himself and resumes playing. He experiments with using the claves instead of the mallets, but quickly returns to the mallets, starting a faster pulse. The MTh adjusts to the accelerated tempo. After a joint melody line had been established, the client sways in the rhythm of the music. Towards the end of the sequence, the client starts exploring the steel drum, not paying attention to what the MTh is playing.	The client extends his range of exploring the different instruments. And clearly swaying to the music and smiling each time a stable and distinct common pulse is established.
21:46- 22:18	MTh moves over to the client, asking the client if they should try a quiet one, but he does not seem interested. He walks over to the djembes playing with them with the mallets. Therefore, the MT asks the client to switch to the xylophones, suggesting a duet, where she would follow the client on the piano.	
22:42- 24:50	**Duet Xylophone & piano (CL)** 1:23 Right at the start, the client stops to tell the MTh that he did not play that figure, she just played. The MT replies that she is trying to listen as closely as possible and to follow every move he plays. Towards the end of their duet, the client rises and goes over to fetch the guiro shaker. The MTh suggests switching to the djembes, which the client agrees to.	The client insists on being copied as closely as possible and is losing interest when his expectations are not fully met.

| 25:22- 26:58 | **Turn-taking** on the djembes (d = 1:29
The MTh plays rhythmical patterns of different length and complexity, the client is picking up every rhythm without difficulties.
The client plays a longer phrase using both drums. When the MTh tries to repeat, he interrupts her saying: ***"You are doing it wrong ".***
The client plays a long and complex pattern on both drums.
The MTh pretends to be very clumsy, and the client interferes and plays an ever more complex and faster pattern.
She asks the client, if that was supposed to be some running animal the boy does not reply but fetches a cabasa instead. | With the djembes, the client is getting bolder and more sophisticated, expecting a perfect copy of his playing. He reacts positively to humour and is not insisting further to be copied.

Since it is almost impossible for the MTh to reproduce the exact patterns the client played, she suggests imitating animals on the drums. |

Session 4

Timecode	Content	MTh's Aim & Interpretation
00:26 – 01:27	MT is asking the client about his new keyboard and what he is playing. While the MTh talks to the client, looking at him, he keeps his eyes on the keyboard not looking up to the MTH, as she is talking to him. Yes, he says, ***"I am playing something special, special songs".*** Is the music rather quiet? Is the music rather happy or rather sad? ***"There is only quiet and soft music."*** He resumes playing the same keys in a soft manner. MTh: "Should we play some quiet music?" Client: "Yes, I would like that" The MTh tells the client they will first take turns in playing small melodies, listening to each other, and playing to each other.	When asking the client what sort of music he plays at home, she was surprised, since she was expecting him to play more in an active and loud range.
01:27-03:27	**Taking turn**s to play soft and quiet music (**MThL** in the start then in change with **CL**) (d = 2:00) MTh plays ascending 4 notes (c-e-f-g) and exaggerates the ending by lifting her hand high from the piano. The client is looking at the MTh,	At this stage, the MTh explores a bigger dynamic and interpretive range, thus presenting the client a broader range of expression.

asking if he needs to play the same notes, which she negates. The client is playing a new rhythm (6 notes), to which the MTh answers with a variation of the client's melody. The client starts playing c-h first softly, then accelerating and getting louder. The MTh is copying the dynamic line of the client, but not the notes. After watching the MTh closely, the client plays a long and diverse musical phrase.
After 5 seconds, the MTh attempts to play, but waits for the client to continue playing.
The client plays very close to the MTh, then moves further up to the higher keys and finishes with a trill, which the MTh repeats.
The client watches closely and then starts first with a fast melody, gradually decreasing tempo and dynamic, going into a minor mood, and on the black keys, closing with a soft cluster. The MTh picks up the client's last melodic pattern, and furtherly develops it, pausing in-between but holding the tension and using a broader dynamic range.
The client had been watching very closely, proceeding to play a small cluster, also exploring the keys in front of the MTh. There are changes in dynamics and tempo. He finishes with an accelerating trill in a clear crescendo, smiling after concluding his part.
Picking up the client's last trill and turning into a new and quieter theme, choosing one of his ideas up and improvising on it, the MTh invites the client to join in.

03:27- 06:02	**Duet** (d = 1:32) The client is joining the MTh in a slow and mellow duet, until they suddenly stop, because the client wants to tell the MTh something: ***"This is a great song!"*** The client says he wants to play a sad song for the MTh. The MTh agrees, and they switch places, while the MT sits a bit on the side. ***"Allow me to play a sad song"*** **I think you will cry! I know how to play a sad song.** The client starts pressing a couple of keys. ***"It is annoying that I am not so good at it."*** The MTh moves towards the low keys to support the client's song, playing long soft notes in a minor key. The client reaches over, telling the MTh, she is going to play the deep keys. (**60 bpm**)	After playing a slow, soft, and melodic duet that the client liked a lot, he asks the MTh to play a sad song for her, hoping she would shed a tear. It is surprising how aware the client is of what expression he wants to achieve to move the MTh. Knowing that disappointment could take too much place in the client's perception, the MTh scaffolds the client's musical ideas by playing soft minor chords, encouraging the client to go on.
05:55- 09:01	Quiet **duet** with verbal comments (d = 3:06) As they go on playing together, the client looks towards the MTh, saying: ***"This is a creepy song!"***, three times. To which the MTh is increasing dynamics. The client moves his hands between the MT's hands, walking further towards the lower keys, playing a distinct rhythmical pattern on the lower keys, picking up some of the notes, the MTh just had played. The MTh provides a clear pulse and structure, to support the client's exploration of the piano. The client asks for a new song, a creepy one, exclaiming: ***"We will play the piano! A scary piano!"***	

09:22-11:22	Scary and quiet piano **duet** (**CL**) (d= 2:00) The MTh starts playing a fast and chromatic melody to mimic a scary atmosphere, which the client comments with: *"That did sound so eerie!"* He demonstrates some deep and slow notes, to prove his point. The client suggests switching places, so he can play the higher keys and the MTh the deeper. The client starts with a descending medium slow melody, and the MTH adds some deep and growling, louder sounds. The client objects and tells her, it should not be a loud scary, but rather a quite scary music	Creepy / sad?
11:23- 11:36	The client asks to play the **Jaws** music. The MT asks if she should be the swimmer in the water, which the client denies. **Jaws solo** (d = 0:14) The client asks the MT to do the swimmer routine. **Jaws duet** 0:50 The client presses the lowest keys in a cluster, telling the MT, that this means: *Game over! A very creepy "Game over"*	
13:28- 17:40	The MT prepares to switch to the djembes. The client wishes for the one with the dark brown wood, since brown is his favourite colour. They talk about their favourite colours. The client looks around in the room, telling the MT, where the different colours are. **Turn-taking** The MTh plays a longer rhythmical pattern, which the client flawlessly reproduces. (**MThL**) Afterwards they are playing different emotions (**MThL** and **CL**) (d =3:18) The MTh praises the client, for his skills The MT asks the client to play the feeling of being tired, to which the client plays a slow and toting rhythm. The MTh asks the client, if he would like to hear how it sounds, when she is tired, demonstrating tiredness, also with her entire body. The client watches every move closely, asking her afterwards, if he should demonstrate, how it sounds if he is wide awake. He plays an energetic pattern, accelerating to the highest speed he can achieve.	

	The MTh comments on his velocity, also playing a faster and energetic rhythm. The client asks if the MTh wants to hear how it sounds if he is upset. the client demonstrates a harsh and loud pattern, ending with a bang: ***"And then I slam the door!"*** Client demonstrates the movement with his arms. He explains that he is so angry then. The MTh asks the client what he does to get better in such a case. The client plays less accentuated rhythms with a lighter beat, switching to a punctuated, almost dancing rhythm. When asked to play a sad mood, the client plays a medium slow rhythm, accelerating towards the end. In return the MTh plays an exaggerated "sad" mood, using a broad spectrum of different sound on the djembe, wiping over the skin, and using the attached strings as well. The client asks about the strings and tries the sound he can make on them.	
17:40- 19:58	**Duet** They both explore all the different sounds, one can produce on a djembe drum, afterwards playing the cat&mouse game (**MThL & CL**) (d = 3:38) The MTh suggests playing a cat and mouse game, where the cat should catch the mouse, but the mouse can hide in a hole in the ground, to which the client chooses to be the cat. The MTh pretends to be sad because she had been eaten by the cat. The client says he wants to be the mouse now, but will hide well, so the cat would not find the mouse. The client clarifies that only if he is coming out from his hole, will the cat be able to catch him. The client asks to show the MTh, the sound of different animals. Playing the steps of different animals, the MTh praises the child's idea and execution. The MTh suggests playing an accelerating rhythm going up in volume as well and finishing together	

| 20:07- 21:53 | Accelerating game (**CL** and **MThL**) 1:47
The MT explains the origin and the material of the djembe drums, answering the client's questions.
The MTh is laughing since the client played a little trick on her, Adding one extra beat after the MTh ended.
The MTh says: "That was it with the drums for today!"
Banking the drums in the rhythm of the words, she asks the client to repeat, which he denies, saying he cannot do it.
When the MTh plays the same rhythm & sentence twice, the client joins in perfectly synchronously. The client smiles when the MTh is praising him. | |

21:54- 28:47	The client asks what sort of instrument there is hidden under a blanket and the MTh uncovers a steel drum. The client is excited, he takes the mallets and immediately starts exploring the steel drum. The MTh asks the client, if she should accompany him with the piano, but the client asks the MT to play the xylophone, while he is playing the steel drum, suggesting playing a quiet drum song. **Duet** in slow tempo, with simple rhythmical pattern, looking to each other, and following each other (d = 2:16) The client walks over to the MT asking her if they could play a drum song, where there "***is somebody who wakes you up***". They proceed to play a wake-up song, then the client asks for a turbo song, and a third turbo wake-up song. The MTh tells the client she wants him to play a quiet song at the xylophone or the steel drum, and she would play the piano. **Duet** with steel drum and piano. The MTh plays a slow and steady frame, while the client plays a shorter note in pulse with the piano (**CL**) (d = 3:01) At a certain point, the client starts playing punctuated patterns, then using the rim of the steel drum to play percussion. The MTh stays in the same slow tempo, but perfectly synchronized to the client's fast percussion moves. The client starts playing a slower melody inside the steel drum, but then resumes his fast drumming on the rim. The MTh praises the client for the diversity of his playing, trying out new things.	
29:09- 34:42	In the end the client chooses to play the piano, while the MT should play steel drums. **Duet**: Steel drum (MTh) piano (client). In the start the client plays a few notes in the middle of the piano, but slowly ascends chromatically from the deepest key to the highest, while the MTh plays soft melodies. In the last part, both are getting more rhythmical, playing in the same pulse. The client asks the MTh to copy his music (using only the black keys) at the piano. China **turn-taking**, later also with all the keys (CL) piano (d = 1:04) The MT plays a goodbye song, the client joins her.	

Session 9

Timecode	Content	MTh's Aim & Interpretation
01:50 – 05:08	When the client joins the MTh, he is in a good mood and very energetique. As soon as he enters the room, he walks to the steel drum and starts playing. The MTh asks him if it is there where he wants to start, while joining him by playing quiet chords. The client stops the MTh, telling her: **"*It should be a happy song, a dance song*."** Client and MTh are engaging in a happy dancing song (**CL** and **MThL**) (d = 2:01) The MTh starts playing a vivid and dance-like frame, the client joins in, playing a little melody. Shortly after, the client walks halfway around the steel drum, playing an ascending row, over again, each time starting with the deepest tone. He hesitates sometimes, since the amount of nine tones does not fit into the frame (4/ 4 beat), the MTh plays. The MTh tries to mark the first beat more clearly, and adjusts to the client, each time he misses the first beat. MTh adds some reggae beats, thereafter the client slows down on half beat, moving his body in time with the music. The client suddenly plays a faster rhythm on the highest note and then goes on with more complex patterns, to which the MTh immediately responds. The client steps back from the instrument, stops for some beats, looking toward the MTh, then resumes with one loud beat and continues playing a melody. Towards the end the client plays double notes and ends the song with a very clear gesture, looking toward the MTh.	The client has very clear ideas on how the music should be already from the start of the session. **Initiation of engagement!** (also arousal regulation) The MTh chooses a 4/4 beat, since she believes this is an easy beat to follow for the client, and his expectations of a dance song. As soon as the client repeatedly plays the row of the 9 ascending tones, his playing does not fit the 4/4 beat any longer, and it becomes visible that he is caught in repeating the row and uncomfortable since he repeatedly hesitates for a split second. Until now the client has always displayed a very strong and advanced sense for rhythm. The MTh tries to mark the first beat more strongly, but it is not enough to help the client to leave or break his pattern. First when she played a reggae-like beat, the client changed his way of playing, and for the rest of the duet was in time and on beat with the music. **This is an unexpected moment, showing a new way of handling a situation, which means being able to move out from a seemingly uncomfortable situation and being stuck in a repetitive pattern, into something new.**

05:14- 06:24	The client smiles and walks over to the table and picks the ukulele, telling the MTh that this is what he wants to play. Tentative **duet** with the MTh providing a steady medium slow frame at the piano, with the client exploring the ukulele. (**CL**) (d = 0:50) The client discovers how to strum a rhythm, and the MTh adjusts to the new beat and tempo. But the client stops and tells the MTh, this should be a different kind of song. The MTh agrees and switches to the djembe instead.	This is the first time; the client chose to play the ukulele. First, he was fingerpicking, but then he discovered how to strum. It was also in the 2. session, where the MTh had played the guitar and had been strumming. As soon as the client was able to maintain a rhythm while strumming the ukulele, he asked for a new song. (Client asked for a new song) -> **Initiation of engagement!**
06:25- 08:41	New **duet** with ukulele djembe and voice. (**CL**) (d = 2:02) The MTh is adjusting her playing to the client's strumming and using them as a basis for her drum beats, while singing a melody that fits the range of the ukulele, as played by the client. The client strums the ukulele and sometimes fingerpicks single strings. The MTh is making sudden breaks, to encourage the client to try something new, also using decreasing and increasing dynamics. The client is often gazing at the MTh, reacting to dynamic changes, and rocking his body in time with the music. At the end of the duet, the client initiates a triple ending with clear and elaborate gestures. The MTh follows him, also using clear gestures to support the triple ending. She congratulates the client, and is asking him if he would like to join her on the drums. The client walks smiling towards the MThs and when she mentions the drum and starts making dance moves.	The client seems very much engaged in the music, he easily holds focus and follows the small changes and variations the MTh is playing. The client seems in a very good mood, making "cool moves" when walking toward the MTh.

| 08:42- 10:00 | The MTh starts drumming, while the client fetches an instrument. When the client returns with a little bongo drum and lays it next to his legs on the chair he is sitting, immediately starting to explore the bongo drums. The MTh plays a steady rhythmical frame. After a short while the client walks over and fetches a smaller drum, laying it on the ground, sitting on top and starting to drum. Short **Duet** with the new drum. After 10 sec. the client takes the drum back and picks another with the same patterns on the outside, like the bongos. The MTh takes the new drum. The client decides: "***This should be like a jungle song***". (**CL**) (d = 1:24) During the Jungle **duet**, the client often changes places and ways of playing since the bongo drum does not fit or sound well in different places he chose. The client lifts his hands in the air, to indicate that they are done playing. The MTh compliments the client. | The bongo drums with the jungle pattern (they are children drums, picturing scenes from the jungle), have never been used before during the sessions. This affected the client's ability to play them, since he wanted to see the MTh at the same time, and he was too small to keep them between his legs. Initiation of engagement! The client is very determined to proceed with a jungle duet, even though he very often needs to adjust the position of the drum. Also, it has little effect on staying in time, or coming back into time, after adjusting the instrument again. |
| 11:30- 17:32 | The client asks to play the piano, where he plays at the lower part of the keyboard, whereas the MThs should take the higher. He starts playing a thoughtful melodic line. As soon as the MTh joins, it leads to a more vivid exchange into a **duet**, exploring funny sounds on the piano. (d = 0:18) The client stops, asking for the **Jaws** game, and the MTh agrees to one time. **Duet Jaws** (**CL**) (d = 0:49) Client plays "game over" cluster, saying: "***This is game-over***!" The MTh suggests playing: "A hike in the forest" and asks the client where he would prefer to play. He chose to play the deep keys. The MTh prepares the client that they will let go of the darkness of the deep sea, the Atlantic or the Pacific Ocean, and experience a new feeling in the woods. **Duet** (d = 3:44) Starting with "a hike to the forest ". (at a certain point, the client attempts to repeat a **Jaws** routine but playing the same notes in the middle of the piano. The MTh keeps on playing and telling him about squirrels, and the client gradually changes the **Jaws** into something new) | Surprisingly, the client does not verbally insist on additional **Jaws** routines, he even develops a new musical expression for "game over". New means of coming to a closure! To shift the client's attention further away from "**Jaws** ", the MTh describes their rise from the depth of the dark ocean up towards the light and into the green forest. As they move on to their forest hike, the client nonetheless, repeats the theme in the middle range. Knowing that the client likes squirrels and sometimes pretends to be one, the MTh talks about them |

		pretending to musically climb and jump in trees. This is catching the client's attention and he joins in with new ways of expression.
17:33-23:02 (Score)	The client tells the MTh, he wants to play a song for her, where she should just listen. The client starts playing a slow melody, after a few seconds he stops and asks the MTh: **"Let me play a song for you. Can we record it?"** The MTh wants to record, but accidentally starts one of the piano samples, with a Rachmaninoff excerpt. The client is impressed and laughs together with the MTh. When the giggling is done, the MTh starts the recording.	This is what could be called a culmination of a development, the client has displayed in the previous sessions. In session six he already started to play a solo for the MTh, after he stopped his first attempt in session three, where he wanted to play a sad song, so the MTh would cry, but he realized he cannot do it. In session 7 he asked to play a dangerous game, with approx. the same length. Both pieces were at 62 bpm. (Initiation of engagement!)
	Amazing **solo** by the client. (d = 2:18) (62 bpm) While the MTH sits very still and a bit further away from the piano, the client starts playing very concentrated, alternating between left and right hand in a steady pulse. The MTh leans a bit forward pressing one button on the E-piano, since she wanted to make sure it records. The client watched her, while keeping on playing, but this small disturbance affected the steadiness of the music's pulse for a short while. He resumed the steady pulse and only after starting to play both handed another rhythmical insecurity occurred. When tackling this situation, the client introduces more quarter notes and new rhythmical patterns. Toward the end, he is making short pauses in between, before ending the song, with his arms and thumbs up, smiling at the MTh, but as she stops the recording, and adds one final deep cluster.	This is the first time the client plays independently with both hands, it is obvious that it is challenging for him, since his well developed sense of rhythm is sometimes a bit off. **Unusual display of music and focus and storytelling in music.**
	The MTh tells the client she thinks that it was an extremely beautiful song and asks him if he would like to listen to it. The client agrees. The client listens very closely, looking down to his hands. The client says**: "It is a fine song".** When the MTh mentions that she thinks it sounds a bit sad, the client replies: **"Maybe a sad ghost". T**he MTh says it is fantastic, to which the client says *yes*. After a while, he looks up and	The client seems very aware of his "creation" and can attribute certain feelings and pictures to his music.

	smiles at the MTh and starts adding some new melodies to the remaining 20 seconds. The MTh asks the client what he thinks. The MTh is over the moon, thanking the client and telling him how impressed and touched she is by his music.	

Session 10

Timecode	Content	MTh's Aim & Interpretation
00:17- 00:58	The client asks the MTh, if she knows who he is, she makes a guess but is wrong. The client says: "*I am Sauron-head*!" The client comes toward the MTh and leans with his back against her chest, showing her the mallets. ***"Don't you think they look like eyes?"*** The MTh agrees, asking the client where he wants to start - steel drum, piano, or xylophone. She plays a small pattern on the djembe. The client says: "*You should play the piano*!" The client tries a little drumroll on the steel drum. (d = 0:06) The MTh tells the client that she liked his solo.	
00:58- 05:05		

	The client walks to the piano and tells her that he will play the deep keys.	
	They engage in a **duet** at the piano. (d =2:08) The client starts with a little melody, which the MTh repeats, encouraging the client to continue. The client continues exploring the piano, playing without a pulse. The MTh starts creating a harmonic, a rhythmic frame, to support the client. When the client does not engage in the proposed musical frame, but instead plays short notes, the MTh joins him as well with short notes. The client starts doing glissandi with his entire underarm, the MTh uses only her hands to respond with similar movements and sounds. She then goes back to providing a harmonic frame with a distinct pulse. But the client asks her to stop playing and to listen, taking her hand down from the piano.	
	He plays a very fast and impressive little **solo**. (d = 0:07)	
	At the end he lifts his hands high in the air, to signal that the song is done. The MTh tells the client that his music was quite impressive, asking him what it was about.	
	The client says: "***That was Sonic***" (that is a hedgehog, a cartoon figure with enormous speed)	
	The client resumes playing again with a clear pulse and a certain urge. The MTH joins him into a little duet, providing harmonies and a more transparent sound. **Duet** (**CL**) (d = 0:41)	
05:15-05:21	The client asked the MTH to press the pedal for that specific sound, but she should not play.	
	He is playing a new **solo**: (d = 2:43) Slow piece with medium range, clear pulse, with pauses in between in perfect time. Two low inserts and back to the middle, at the end a long cluster, waiting to disappear into silence.	This can be seen as a continuation of the client's solo journey, also since the tempo is in the same range of ca. 60 bmp and the client is playing different themes with his left and right hand. In addition, he is very clear, that this is his music alone and for the MTH to listen (since he denies every attempt of the MTh to join in)
	Indicates to the MTh, not to join in	
	saying: "***That was it***!"	
	Looking and smiling at the MTh.	
	Lifts his hands into the air.	
	The MTh congratulates the client.	

08:12-12:11	the client asks if they can make a recording again. The MTh asks, if they should play something together, or if he wants her to play for him, and maybe add something to the music she is playing, or if he would prefer to play alone. The client is very clear, insisting he would be the one who plays. The MTh says that is perfectly ok, and she would only hold the pedal down. Recorded **solo**. (d = 1:45) The client starts with the same bmp as in the piece before. Playing in the middle range, again very regular notes with pauses in between. After a while he plays in change with the deepest keys, towards the end he accelerates and finishes with a long cluster on the lowest keys, waiting for the sound to fade completely out. The client is very much focused on his playing, listening after every tone, especially until the music fades out and afterwards lifting his arms, thus signalling that the music's over. They start listening to the solo! And after 20 sec. the client starts improvising to the recording, adding some staccato notes in the beginning. He stops again, leaning over and caressing the MTh , only to make a scary face shortly after. ***"Can you see the white of my eyes?"*** They are waiting for the music to end. The client jumps up, saying: "***Ha, ha, haha", look what I can***!, trying to climb up a door frame.	**The client starts his new piece in the same tempo, introducing regular pauses, towards the end he accelerates, which is a new feature as well as the fade-out cluster. He is very clear in indicating that the fadeout is necessary to be recorded as well.**

| 12:19- 20:16 | The MTh grabs a djembe and asks the client to take the other one. He tells her that he *LOVES brown*! (twice) The MThs shows her Djembe, saying that its colour is a sort of red brown, whereas the clients is a deep brown. Taking turns with loads of talk and laughing. The client often adds an extra beat to tease the MTH. the play with syllables and beats, "missed" beats, pauses and voice. (**MThL** and **CL**) *"Can you hear I'm teasing you?"* Client asks for a jungle song on the jungle drums, and he fetches them. Jungle **duet**, with good pulse, also with hand clapping. (**CL**) (d = 2:09) | |

Appendix 4: **Transcription of the MTh sessions with Mads: horizontal analysis**

Reading Guide:

Musical action	Duet, turntaking or solo
	significant events
italic entries	music by MTh or C
Italic bold entries	client's quotes
red entries	Tempo (bpm)
CL	client lead actions
C	client
MThL	Music therapist lead actions
MTh	Music therapist

Session 1

Timecode	Category	Content	Instrument	Duration
00:00- 01:20	Client / talk	Knows music from Minecraft		
01:20- 02:23	Music therapist / talk	Talking about what animals or situation the different range of keys is resembling		
01:20-02:23	Client / talk	The client thinks the deep keys are sounding like a shark		
02:40 - 03:53	Gaze	Looking at the MTh but not joining into the song		
02:50- 03:53	*Music MTh*	Singing song about two cats, while the client is listening	Piano	01:03
03:55- 04:34	Music therapist / talk	MTh is suggesting that the client should play a small rhythm-instrument (handdrum) to the song		

04:48- 06:11	**Duet**	MTh plays song, while client is playing the little drum (**MThHL**)	piano, handdrum	01:23
06:13- 06:23	Music therapist / talk	MTh suggests turn-taking, but the client denies		
06:13- 06:23	Client / talk	***"I only want to play what I fancy."***		
06:43- 07:26	**turn-taking**	turn-taking xylophone and piano (**MThL**)	xylophone, piano	00:44
06:44- 07:26	Gaze	client is gazing towards the MTh, when MThhplays, and afterwards looking to the instrument		
07:30- 07:38	Music therapist / talk	MTh is inviting the client to play a duet together with her		
07:37- 11:14	**Duet**	Playing duet with the client		03:37
07:37- 08:13	*Music client*	Client is playing in the same pulse as the MTh		
08:07- 08:23	*Music MTh*	MTh is making unexpected pause, looking at the client		
08:15- 08:27	Bodylanguage / gestures	Client turns around looking at the MTh		
08:15- 08:27	*Music client*	Client reacts to the MTh's pauses, pausing as well		
08:47- 09:03	*Music MTh*	The MTh adds a clear beat with her foot		
09:05 - 09:10	Gaze	exchanging glances		
10:04- 10:45	*Music client*	After a period with rather rigid playing, the client expands his playing across the whole xylophone		
10:27- 10:57	*Music MTh*	MThh is mirroring what client's expression by playing glissandi on the piano		
11:03- 11:14	*Music MTh*	The MTh shows the client another way of finishing a piece of music		
11:03- 11:14	Client / talk	The client says he would love to own a xylophone		
11:15- 11:26	Music client	Client continues to play the instrument (**CL)**	xylophone	00:11
11:28- 11:33	Music therapist / talk	After they finished, the MTh suggests a new duet		
11:28- 11:33	Client / talk	The client asks the MTh to follow his music		

11:28- 11:33	turn-taking	copying the client's melodies		
11:38- 15:26	**Duet**	moving into a second duet (**CL**)	xylophone, piano	03:52
11:41- 15:26	Gaze	The client looks more often towards the therapist.		
12:39 - 13:07	*Music MTh*	The MTh is mirroring the client's rhythmical an melodical patterns, each time he shows something new		
14:07- 14:25	Music therapist / talk	MTh encourages client to continue playing		
14:07- 14:25	Bodylanguage / gestures	After being encouraged, the client moves his body to the music, while playing		
14:44- 14:52	Gaze	Each time, the MTh imitates one of the client's patterns very clearly, the client looks up to the MTh		
15:27- 15:42	Client / talk	The client asks to play another duet, where he wants to follow the MTh		
15:49- 17:41	**Duet**	Duet nr 3 (xylophone and piano) (**CL**)	xylophone, piano	01:52
16:15- 16:30	Gaze	The client looks a couple of times towards other instruments		
16:45- 16:52	Gaze	After a new rhythmical pattern from the MTh, the client looks up to her		
16:54- 17:01	*Music client*	He then shortly runs over and picks the little hand drum and plays a fast rhythm and afterwards taking back to the xylophone		
17:04- 17:20	Bodylanguage / gestures	After having resumed at the xylophone, the client display very clear body language, moving with the music		
17:43- 18:09	Music therapist / talk	After finishing the duet, the MTh suggests playing the drums	drums	
18:26- 19:19	**turn-taking**	Playing different rhythmical patterns. The client is picking up quickly and displays good rhythmical abilities. (MThL)	drums	00:53
18:26- 19:19	Client / talk	After 3 turn-takings, the client asks that *each should play just what he likes to*		
19:21- 19:44	Client / talk	The client looks for other instruments		

19:21- 19:44	Music therapist / talk	the MTh follows and picks up the guitar for herself. She suggests playing a song for the client, while he should play the drums.		
19:46 - 21:35	**Duet**	Duet with guitar, drums and xylophone	guitar, drums and xylophone	01:49
20:53- 21:12	Client / talk	After playing duet and following each other in rhymical patterns, the client again says we one should only play what on fancy in that minute.		
21:05- 21:34	Music therapist / talk	The therapist agrees, telling the client, they have 2 minutes to play whatever they each of them wants		
21:37- 21:55	Music therapist / talk	MTh suggests playing the piano, while the client should play on drums and xylophone		
21:37- 21:55	Client / talk	the client prefers to play the piano together with the MThh		
22:06- 22:14	Client / talk	The client changes his mind and wants the MThh to play xylophone		
22:15- 24:41	**Duet**	Duet with xylophone and piano (**CL**)	piano, xylophone	00:59
22:15- 24:41	*Music client*	Clear pulse and exploring the entire piano		
24:44- 25:14	Client / talk	The client suggest another instrument, and that he wants the MTh to follow him		
25:20 - 26:17	**Duet**	Little duet with guitar (MTh) and piano (client) - (**CL**)	guitar, piano	00:57
26:23- 26:49	Client / talk	The client tells the MTh on how a piano is functioning, with small hammer banking on strings.		
26:55- 27:40	Music therapist / talk	MTh explains, that an e-piano has no hammers inside		
27:47- 28:56	Music MTh	Demonstrating the sounds an e-piano can make		
27:47- 28:56	Client / talk	The client says it sounds sad, when the MThh plays a slow tune in a minor key		
29:22- 30:36	**Duet**	Last duet with piano and triangle, where everyone should play just as he pleases. (**CL**)	piano, triangle	01:14

Timecode	Category	Content		
29:22 - 30:36	*Music client*	Client plays the piano again. When playing, what crosses his mind, the client is rather playing out of pulse, compared to playing together		
29:22- 30:10	*Music MTh*	The MTh is trying to follow the clients exploration of the piano		
30:42- 31:24	Music therapist / talk	The MTh suggest imitating animals on different instruments, which they do, with the client remaining seated at the piano		
31:46- 32:09	Music client	The client plays horse steps on the drum		
32:13- 32:29	Music therapist / talk	The MTh suggests playing a walk in the forest at the piano, as a goodbye song		
32:29- 35:01	**Duet**	Walk in the forest, experimenting with little pulse, talks in between. Client is suggesting how different animals might sound.		02:30
34:35- 35:06	Music MTh	At a certain point the MTh plays a farewell song		
			6 instruments	

Session 2

Timecode	Category	Content	Instrument	Duration
00:10- 00:13	Client / talk	the client does not engage easily in this		
00:10- 00:13	Gaze	The client looks elsewhere		
00:16- 00:19	Music therapist / talk	The MTh tries to get the client to listen and to follow her instructions, by talking to him and using the claves		
00:16- 00:19	Music Client	The client uses the claves like mallets on the xylophone		
00:22- 00:28	**turn-taking**	The MTh insists to go on with this little exercise, she plays a rhythmical pattern and after the client repeated the pattern, she complimented him saying: "Good job".	claves	00:06

00:22- 00:28	Bodylanguage / gestures	He jumps and almost dances, when he got praised		
00:38- 00:49	Music therapist / talk	The MTh suggested to start with the piano, where she would play the deep keys and the client the upper register.		
00:57- 01:03	Music therapist / talk	The MTh suggests using only the black keys for their first turn-taking		
01:10- 01:13	Music MTh	The MTh plays a little melody on the black keys	piano	
01:13 - 01:15	Client / talk	The client says, he is in doubt if he can play in the same way		
01:17- 01:20	Music therapist / talk	MTh says it is going to be easy, the only "rule" is to use the black keys, and that is easy		
01:25-03:46	**turn-taking**	Taking turns on the piano with small melodies and rhythmical patterns (**MThL**)	piano	02:21
01:25- 01:27	Music therapist / talk	The MTh announces she will play four notes and asks the client to afterwards do the same		
01:25- 01:27	*Music MTh*	MTh plays 4 notes		
01:28 - 01:30	*Music Client*	Client plays 4 notes in the same rhythm as the MTh		
01:28- 01:30	Music therapist / talk	MTh is praising the client		
01:34- 01:39	Music Client	Client plays the same melody again		
01:31- 01:34	*Music MT*	the MTh picks up the melody, repeating it in a deeper register		
01:34 - 01:39	Gaze	Looking at the MTh		
01:40- 01:42	*Music MTh*	MTh plays the same keys, but doubling each note		
01:42- 01:45	*Music Client*	The client does the same in his register		
01:46- 01:48	*Music MTh*	The MTh plays a new melody		
01:48- 01:52	*Music Client*	The client picks up the melody but closes with an ascending note, like a question		

01:52- 01:53	Music therapist / talk	The MTh praises the boy		
01:53 - 02:01	*Music MTh*	The MTh plays a rhythmical and harmonic frame		
01:59 - 02:01	Music therapist / talk	Encouraging the client to join in		
02:02- 02:06	Client / talk	The client says, he will try, but he is not sure, if he can succeed		
02:07- 02:10	*Music Client*	The client plays a little melody		
02:08- 02:10	Gaze	client gazes towards the MTh		
02:24- 02:28	Gaze	Client looks attentively towards the MTh		
02:29- 02:30	Music therapist / talk	Praising the client		
02:43- 02:45	Music therapist / talk	Praising the client		
02:46 - 02:50	Client / talk	The client is telling the MTh, that the keys have the same height		
02:51- 02:52	Music Client	Client plays a little melody, a bit different, than the one the MTh played before		
02:51- 02:52	Client / talk	***"I played wrong!"***		
02:51- 02:52	Bodylanguage / gestures	Waving his hands to dismiss, what he played		
02:52- 02:54	Music therapist / talk	MTh says it was just fine, what he played		
02:58- 03:02	Client / talk	Client says he was confused, if he did everything right		
03:02- 03:06	Music therapist / talk	MTh tells the client, that he must not get confused, since they only use the black keys, and there is nothing that can be done wrong.		
03:08- 03:16	Music MTh	The MTh plays a little melody on the black keys		
03:16- 03:23	Music Client	The client is playing a similar melody		
03:23- 03:24	Music Client	The client is adding 3 trills		
03:23- 03:24	Music therapist / talk	The MTh is approving of his new idea, praising him for it.		
03:42- 03:46	Music therapist / talk	MTh is praising the client telling him: "Good job!"		
03:42- 03:46	Gaze	client is looking at the MTh with delight		

03:48- 03:49	Client / talk	client suggests he should play something, and the MTh should follow		
03:51- 03:56	Music therapist / talk	The MTh repeats the play rules, the client will play first and the MTh will try to copy		
03:57- 04:42	**turn-taking**	client-led turn-taking (**CL**)	piano	01:45
03:57- 04:03	*Music Client*	Client starts with a little melody		
04:03- 04:06	*Music MTh*	MTh answers with the same phrase, adding a harmony to the last note		
04:07- 04:08	*Music Client*	Client plays a fast trill		
04:08- 04:09	*Music MTh*	MTh answers with an identical trill		
04:10- 04:15	*Music Client*	The client plays a soft longer melody finishing with a cluster		
04:15- 04:21	*Music MT*	MTh answers with a similar phrase		
04:15- 04:18	*Music Client*	The client is adding some trills, while the MTh is playing		
04:21- 04:33	*Music Client*	The client is playing a longer melody with both hands, playing some cluster and trills at the end		
04:33- 04:40	*Music MTh*	Therapist is incorporating cluster and trills into her playing		
04:47- 05:28	**Duet**	Client starts with a trill and MTh joins in into a little duet	Piano	00:41
05:29- 05:32	Client / talk	***This sounds creepy, it is a "creepy" song***		
05:29- 05:32	Gaze	Looking closely at the MTh		
05:33- 07:07	Bodylanguage / gestures	The client is moving with the pulse of the melody, exploring a good range of the keys, often addressing the MTh by turning his entire body towards her		
05:33- 07:08	**Duet**	**MThL**: experimental, a bit gloomy improvisation. MTh is creating a rhythmical and harmonic pattern, encouraging the client with body language and eyes to join in.	piano	**01:35**

06:59- 07:06	Client / talk	*"This is really creepy!"*		
06:59- 07:06	Gaze	Looking up towards the MTh		
07:07- 07:19	Client / talk	The client asks thee MTh to play a "**good**" one now.		
07:07- 07:19	Bodylanguage / gestures	Clapping his hands in excitement.		
07:18- 08:38	**Duet**	MTh-led start of the duet, later on the client adds new patterns and ideas, which the MT picks up **(MThL** & **CL**)	piano	
07:51- 08:01	*Music Client*	The client adds many trills		
07:51- 08:01	*Music MTh*	Th MTh is picking up a rhythmical pattern from the client, repeating it 3 times		
08:29- 08:36	*Music Client*	The client moves toward the upper keys to end the song		
08:31- 08:39	Client / talk	The client informs the MTh, that the song will soon end		
08:34- 08:39	Music therapist / talk	MTh praises the client, high-fiving the client		
08:41- 09:05	Client / talk	The client asks the MTh, to play the xylophone and to repeat what he is playing at the piano		
09:06- 09:26	**turn-taking**	Client-led turn-taking (**CL**)	piano, xylophone	00:20
09:06- 09:16	*Music Client*	The client starts with a melody		
09:09- 09:17	*Music MTh*	The MTh joins in		
09:15- 09:19	*Client / talk*	The client stops the MTh, telling her, she should just repeat		
09:19- 09:21	*Music Client*	Client plays a short melody		
09:20- 09:22	*Music MTh*	MTh repeats the pattern on the xylophone		
09:25- 09:30	*Music Client*	As the client plays over the MTh, they move into a duet		

09:27- 11:43	**Duet**	They move into a duet, where the MTh is following the client (**CL**)	piano, xylophone	02:16
09:54- 09:59	Client / talk	The client stops and tells the MTh, she should just "REPEAT" what he plays		
09:56- 10:00	Music therapist / talk	The MTh agrees		
09:59- 11:43	*Music MTh*	the MTh imitating the clients melodies and rhythm		
09:59- 11:43	Bodylanguage / gestures	The client discovers his image on the computer (where the session is being recorded) and starts interacting like seeing himself in a mirror		
11:46- 12:06	Music therapist / talk	The MTh closes the camera view on her computer and suggest, to switch places		
11:58- 12:09	Client / talk	The client agrees to play the xylophone.		
12:18- 12:25	Music therapist / talk	She tells the client, that he is the soloist now and she would accompany him		
12:30- 14:35	**Duet**	client led duet - with very clear support from the MTh (**CL**)	piano, xylophone	02:05
12:30- 12:40	*Music Client*	The client starts tentatively, with no steady pulse at first, playing also some rhythmical patterns on the wood only		
12:35 - 12:47	*Music MTh*	The MTh is adjusting her playing to the client		
12:42 - 12:56	Unexpected (significant) events	The client stands up, while continuing to play, looking for something on the table. Picking up a pair of claves		
12:48 - 13:26	*Music Client*	The client is trying to integrate the claves into his playing, switching them for the mallets and then switching back		
13:16 - 13:35	*Music MTh*	While the client is trying different ways of playing, the MTh is providing a stead frame and pulse, watching the client attentively		

14:01 - 14:13	*Music Client*	Once again, the client stands up and reaches for another rhythm instrument		
14:15 - 14:37	Music therapist / talk	The MTh stops playing the piano and picks up the claves looking at the client inviting him to play together		
14:16- 14:35	Music Client	The client joins the MTh in playing a rhythm together with a seed rattle		
14:35 - 14:51	Client / talk	The client walks over discovering the steel drum, asking what instrument it is		
14:52 - 15:17	Music therapist / talk	The MTh is introducing the client into playing the steel drum		
15:10 - 15:57	**Solo**	The client is playing the steel drum		00:47
15:57- 16:10	Music therapist / talk	The MTh is telling the client, where the steel drum is coming from and is inviting the client to switch to the djembes		
16:03- 16:10	Client / talk	The client prefers to play the ukulele, and wants the MTh to accompany him on the piano.		
16:11 - 20:01	**Duet**	Playing a duet, ukulele & piano (**CL**)	ukulele & piano	03:50
17:00 - 17:10	Client / talk	In between the client asks the MTh to play on the higher register at the piano		
17:19 - 17:32	Client / talk	The client asks the MTh to switch places, where she should play ukulele, and soon after decides it should be the guitar		
17:31- 17:42	Music therapist / talk	The MTh agrees and picks the guitar.	guitar	
17:44 - 18:03	*Music MTh*	The MTh starts fingerpicking some chords		
17:46 - 18:05	*Music Client*	the client starts with playing some single notes, but then pressing multiple keys producing a sound cluster		
18:06 - 18:11	Client / talk	After a very short time the client stops playing and tells the MTh, that he will play that a shark is coming		

18:11 - 19:27	*Music Client*	The client is starting to play the deepest keys at the piano, accelerating after a short while. At the second attempt he is mimicking the title music from "*Jaws*"		
18:30 - 18:43	Music therapist / talk	The MTh is praising the boy.		
18:54 - 19:22	Gaze	Gazing towards to the MTh, to check if she notices, what he is playing		
18:58 - 19:26	*Music MTh*	The MTh played matching sounds		
19:27- 19:35	Client / talk	Client tells the MTh she should only listen, very attentively		
19:36 - 19:53	*Music Client*	playing a longer version of "**Jaws**"		
19:54 - 19:57	Bodylanguage / gestures	Walking towards the MTh		
19:56 - 20:01	*Music Client*	Repeats "**Jaws**"		
20:00 - 20:16	Music therapist / talk	The MTh asks the client, if they should play a scary song, asking the client to start the "*Jaws*" melody once again, while she sits down at the piano. She explains that, she would pretend to be an innocent swimmer, with no clue of the peril she was in		
20:09 - 20:16	Bodylanguage / gestures	The client is very excited and dances on his toes, smiling brightly		
20:20 - 22:03	**Duet**	**Jaws** duet nr. 1 (**CL**)	piano	01:43
20:55 - 21:00	Music therapist / talk	MTh says, it was great. They are both laughing		
20:55- 21:00	Bodylanguage / gestures	The client gets even more excited jumping up and down		
21:00- 21:03	Client / talk	The client is asking the MTh to start "swimming"		
21:05- 21:35	*Music Client*	**Jaws** duet nr. 2 with a longer piano intro		
21:37 - 21:45	Client / talk	The client is asking for one more "**Jaws**" pretend play		
21:47 - 22:03	*Music Client*	"**Jaws**" duet nr. 3		
22:04 - 22:31	**Solo**	"**Jaws**" solo, with the MTh just listening	piano	00:26

22:33 - 22:44	Client / talk	The client asks the MTh to play a "**good one**" together, wher he plays the piano and she should play (sing) steel drums.		
22:50- 22:50	Client / talk	He demonstrates what he has in mind, telling her he wants to play a "**drum-song**".		
22:52 - 23:28	**Duet**	Duet with the client leading with a particular rhythmical pattern (**CL**)	piano	00:36
23:29 - 23:34	Client / talk	The client tells the MTh, he now wants to play a sad song, where she should play the deep register		
23:34- 23:46	Music therapist / talk	The MTh agrees, telling the client that afterwards they will play the drums.		
23:34 - 23:46	Bodylanguage / gestures	The client jumps up and down, while the MTh is talking to him		
23:47 - 26:14	**Duet**	They play a impro with slow pulse, minor chords and little rhythmical changes (**MThL**) (**ca. 60 bmp!!!!**)		02:27
24:56 - 25:05	Client / talk	The client tells the MTh: **"I got tears in my eyes from the music!"**		
24:56 - 25:05	Bodylanguage / gestures	the client stands in front of the piano, moving along the keys, sometimes very close to the MTh, and than back to the upper keys again		
24:56 - 25:05	Unexpected (significant) events	Tears from the client		
25:05 - 25:08	Music therapist / talk	The MTh asks, if they should continue		
25:07- 25:09	Client / talk	Client says yes, and adds that there are still tears coming		
25:16 - 25:23	Client / talk	**"I wonder if the others would also cry, when hearing our music."**		
26:10 - 26:14	Client / talk	The client says the song is over now.		
26:16 - 26:24	Bodylanguage / gestures	Client stands up and is fetching a djembe drum	Djembe	
26:47 - 26:52	Music therapist / talk	The MTh announces that they will take turns in playing		
26:52 – 29:44	**turn-taking**	Taking turns with different rhythms, mostly **MThL**		02:52

28:14- 28:36	*Music MTh*	Continuing with playing rhythms from syllable		
29:06 - 29:44	*Music Client*	Exploring further rhythms, with no particular rules		
29:38 - 29:45	Music therapist / talk	MTh is praising the boy for his good rhythmical skills		
29:44 - 30:03	Client / talk	For the farewell song, the client insists to play the piano, while the MT should play the xylophone.		
30:04 - 30:50	**Duet**	Falling and landing (**CL**)		00:46
30:21 - 30:37	Client / talk	He stops and asks the MTh, if she knows how a hard landing sound like.		
30:21- 30:37	*Music Client*	Demonstrating hard landing, crashing with both hands on the deep keys of the piano		
30:37 - 30:52	*Music MTh*	The MTh demonstrates at the piano, how the falling before the hard landing could sound like, "falling down in big bump-steps from the upper part of the piano to the lower keys		
30:39 - 30:50	Music therapist / talk	explaining the falling		
30:53 - 31:03	Client / talk	the client asks to do the "*Jaws*" game again		
31:03 - 31:13	Music Client	he immediately starts playing		
31:03 - 31:13	Music MTh	the MTh joins and lets herself be caught		
31:13 - 31:30	**Duet**	playing a last "*Jaws*" duo, bevore ending the session		00:17

6 instruments

Session3

Timecode	Category	Content	Instrument	Duration

00:13 - 00:37	Music therapist / talk	She sings a birthday song to the client, while playing on the big wooden frog, while the client joins in with the small frog. she asks him about the gift he got		
00:36 - 00:44	Client / talk	the client says he got a keyboard		
00:45- 00:51	Music therapist / talk	The MTh is excited to hear this and tells him how happy she is on his behalf.		
01:01-01:13	*Music MTh*	She goes on singing a little song about a pollywog, while playing on the wooden frog	wooden frog	
01:14- 01:34	Music therapist / talk	She asks the client to join her at the piano	Piano	
01:30- 01:35	Client / talk	the client says yes and asks to play the deep keys		
01:35-01:49	Client / talk	the client immediately asks, if they can play the JAW / shark game.		
01:43- 01:47	Music client	first notes of JAW		
01:48- 01:59	Music therapist / talk	The MTh says, they can do so later, but first they will play another fun game, by using only the black keys, taking turns.		
02:07-04:41	**turn-taking**	taking turn with different expressions and dynamics on the black keys only, at the beginning (**MThL**)	Piano	02:34
03:47- 03:57	Music therapist / talk	The MTh invites the boy to go on playing		
03:53- 04:07	Bodylanguage / gestures	while the MTh plays and waits for the boy to join in, he moves his hands over the keys, not daring to join in		
04:07- 04:17	Client / talk	the client says, he thinks he is not so good at playing the piano		
04:14- 04:20	Music therapist / talk	The MTh tells the client, that she believes he is doing very well at the piano and that she enjoys playing with him		
04:22- 04:41	music client	starts playing on the white keys as well		

04:38 - 04:45	Client / talk	the client asks the MTh, if she would like to listen, to what he has been thinking of		
04:41 - 04:45	Music therapist / talk	the MTh says she is happy to listen		
04:47 - 05:03	**Solo**	the client plays a little solo, with a punctuated rhythm	piano	00:16
05:02 - 05:06	*Music MTh*	the MTh repeats the 3 last thirds, the client had played		
05:06- 05:14	Client / talk	The client asks the MTh, to try following him with another melody		
05:06- 05:14	Music Client	playing a little melody		
05:14- 06:32	**Duet**	the MTh repeats the client's melody and goes on with a development, the client joins in (**CL**)	piano	01:16
06:01- 06:14	Client / talk	Client stops playing and asks, if they could do the JAW music		
06:29 - 06:37	Client / talk	he asks to do the music again, without a "swimmer" in the water		
06:39- 07:11	**Solo**	the client plays the **JAWS** music	piano	00:32
07:09- 07:20	Client / talk	The client tells the MTh; that now there will come somebody into the water, first checking the water, if it is warm enough and then going in		
07:20- 08:18	**Duet**	Client-led: the MTh follows the client's instruction, and the boy joins in with the JAW music (**CL**)	piano	00:58
08:18- 08:28	Music therapist / talk	The MTh asks the boy to try playing different animals		
08:26- 08:32	Client / talk	The boy thinks a crocodile would be nice, and starts with Jaw-sounds again		
08:44- 09:09	*Music Client*	Client plays crocodile music, which resembles a bit the Jaw theme		

09:17- 09:58	Music therapist / talk	The MTh suggest changing places, but agrees to a last crocodile antelope game		
09:17- 09:58	Client / talk	The client wants one more crocodile song		
10:03 - 10:45	**Duet**	Playing crocodile-antelope song (**CL**)	piano	00:42
10:48- 11:08	Music therapist / talk	The MTh says she feels the need for a very quiet song and asks the boy to switch to the upper register		
11:09- 18:43	**Duet**	very long duet, the MT quietly beginns with playing slow chordprogressions (**MThL**)	piano	07:34
11:43- 11:54	Client / talk	He tells the MTh, that he thinks it is a very sad song (**62 bpm**)		
11:43- 11:54	*Music Client*	the client is displaying a good rhythmical feeling, playing single notes within the pulse of the music		
11:50- 11:58	Music therapist / talk	the MTh explains, it could be because it is a slow song, that the client feels it is a sad song. She asks the client if he would prefer the song to be a bit more vivid, to which he nods		
12:05- 12:18	*Music MTh*	the MTh starts anew with a faster pulse		
12:14- 12:21	*Music Client*	the client joins immediately in the same pulse		
12:28- 12:45	*Music MTh*	The MTh introduces arpeggios		
12:28- 12:45	*Music Client*	the client answers with glissandi and trills		
13:29- 13:40	Music therapist / talk	when they meet in a nice musical flow, the MT praises the client		
13:41- 13:51	Client / talk	the client asks the MTh to play certain keys. (**CL**) (C-A-B)		
13:44- 13:58	*Music MTh*	the MTh starts with a slower minor key melody		
13:55- 14:24	*Music Client*	the client joins with some fine and harmonious melodies.		
15:08- 16:05	Unexpected (significant) events	particularly beautiful passage		

15:11- 15:17	Bodylanguage / gestures	the client plays very close to the MTh and sometimes crosses to the deep keys, over her hands		
16:02 - 16:12	Gaze	he looks up to the MTh		
16:02 - 16:12	Client / talk	Telling the MTh: *I have tears in my eyes!*		
16:07- 16:17	Music therapist / talk	the MTh agrees, telling him, she is also very moved by the music		
16:16- 16:26	Bodylanguage / gestures	the client is resting his head against the chair, while continuing to play		
16:33- 17:02	*Music Client*	beautiful and thoughtful music		
16:33 - 17:02	*Music MTh*	MTh plays chord progressions with a gloomy melody		
16:33- 17:02	Bodylanguage / gestures	the client maintains his very laid-back position on the chair		
17:10- 18:40	*Music Client*	the client repeats one note again and again with his right hand, while playing variations with the left one. Towards the end he moves down towards the MTh's hands and they finish together		
17:10- 18:40	*Music MTh*	playing towards a finish with many delays and breaks		
18:37 - 18:45	Gaze	looking toward the MTh and smiling		
18:37 - 18:45	Client / talk	the Client tells the MT: *"That was it!"*		
18:46- 18:55	Music therapist / talk	the MTh asks the client, what he thinks about the song		
18:50- 18:55	Client / talk	the client says: *That was a good one!*		
18:55- 19:03	Bodylanguage / gestures	the client walks over to the table and picks a rhythm instrument and making sounds with it	guiro shaker	
18:55- 19:03	Client / talk	Asks the MTh, what kind of instrument it is.		
19:01- 19:06	Music therapist / talk	The MTh tells him it is a guiro shaker, and demonstrates how it is used		
19:18- 19:31	Music Client	the client is joining in, by playing on the xylophone	xylophone	

19:18- 19:31	*Music MTh*	the MTh sings a danish children song, while playing the guiro shaker		
19:32 - 19:40	Music therapist / talk	the MTh tells the client, that he can choose which instrument he would like to continue with.		
19:41- 19:49	Client / talk	the client chooses to play the steel drum	steel drum	
20:01- 20:16	*Music Client*	the client immediately starts exploring the instrument		
20:14- 21:46	**Duet**	client-led: Steel drum and piano (**CL**)	steel drum, piano	01:32
20:14- 20:24	*Music MTh*	the MTh starts with slow accompaniment		
20:14- 20:24	Bodylanguage / gestures	The client slowly spins one time around himself and resumes playing		
20:39-20:52	*Music Client*	the client tries using the claves instead of the mallets, but quickly returns to the mallets, starting a faster pulse		
20:50- 21:02	*Music MTh*	the MTh joins in the faster expression		
21:07- 21:26	Bodylanguage / gestures	after they established a joint melody line, the client sways in the rhythm of the music		
21:25- 21:47	*Music Client*	the client starts exploring the steel drum, not paying attention to what the MTh is playing		
21:46- 21:53	Music therapist / talk	MTh moves over to the client, asking the client, if they should try a quite one		
21:52- 22:05	Client / talk	The client doesn't seem very interested		
21:52- 22:05	*Music Client*	walking over to the djembes playing with them with the mallets	djembe	00:13
22:07- 22:18	Music therapist / talk	Therefore the MTh asks the client to switch to the xylophones, suggests a duet, where she would follow the client on the piano		
22:42- 24:25	**Duet**	Duet Xylophone & piano (**CL**)	xylophone, piano	01:23

24:11 - 24:17	Client / talk	client tells the MTh, that he didn't play that figure, she just played		
24:11- 24:17	Bodylanguage / gestures	client is putting the mallets down		
24:14- 24:21	Music therapist / talk	the MTh replies, that she is trying to listen as closely as possible and to follow every move he plays		
24:22 - 24:28	Bodylanguage / gestures	the client rises and goes over to fetch the guiro shaker	guiro shaker	
24:32- 24:50	Music therapist / talk	The MTh suggests to switch to the djembes		
24:32- 24:50	Client / talk	the client agrees		
25:22- 26:51	**turn-taking**	turntaking on the djembes (the client is picking up every rhythm without difficulties)	djembes	01:29
26:10- 26:18	*Music Client*	client plays a longer phrase on both drums		
26:18- 26:21	*Music MTh*	The MTh tries to repeat, but the client interrupts her		
26:18- 26:21	Client / talk	***"You are doing it wrong"***		
26:22- 26:33	*Music Client*	the client plays a long and complex pattern on both drums		
26:33- 26:36	*Music MTh*	The MTh pretends to be very clumsy		
26:36- 26:51	*Music Client*	the client interferes and plays an ever more complex and faster pattern		
26:51- 26:58	Music therapist / talk	She asks the boy, if that was supposed to be some running animal		
26:57- 27:02	Bodylanguage / gestures	the boy doesn't reply but fetches a cabasa	cabasa	
27:04- 27:22	*Music Client*	the client returns to the drums and once again plays a fast and complex pattern on both drums	djembe	00:08
27:28- 27:51	*Music MTh*	the MTh is showing the client, how the cabasa is working		
28:06- 28:47	*Music Client*	the client experiments a bit with the cabasa	cabasa	
28:06- 28:47	*Music MTh*	the MT is accompanying him at the djembe		

28:48- 31:12	turn-taking	playing first different animals and afterwards different feelings (**MThL** and **CL**)	djembe	02:24
28:50- 28:58	*Music MTh*	the client is playing the steps of an elephant		
28:59- 29:09	*Music Client*	he once again plays a fast rhythm on both drums		
29:06- 29:16	Music therapist / talk	the MTh interrupts him, telling him it is her turn. He should guess what kind of animal she is playing		
29:19- 29:28	*Music MTh*	The MTh plays something, that should resemble a mouse		
29:25- 29:28	*Music Client*	the client joins in		
29:28- 29:30	Client / talk	The client says it is a mouse		
29:36- 29:46	*Music MTh*	MTh attempts to play a kangaroo		
30:02- 30:06	Client / talk	The client suspected it was an elephant, which it wasn't		
30:13- 30:30	*Music Client*	He plays, what he believes a kangaroo would sound like		
30:30- 30:34	Music therapist / talk	the MTh asks the client to demonstrate, what it sounds like, if he is in a good mood.		
30:33- 30:38	*Music Client*	the client plays an energetic pattern		
30:38- 30:39	Music therapist / talk	She asks him, how it sound, when he is angry		
30:39- 30:49	*Music Client*	the client demonstrates his angry sounds (also with imitating smashing doors)		
30:48- 30:51	Music therapist / talk	Asks for a tired Mads		
30:50- 30:56	*Music Client*	client mimics a tired self		
30:59- 31:03	Music therapist / talk	Happiness		
31:04- 31:12	*Music Client*	Happy drumming		
32:47- 32:58	Client / talk	the client asks for a Goodbye song at the piano	piano	
33:06- 34:38	**Duet**	Playing at the same time and sometime with each other... But obviously with fun	piano	01:32
			6 instruments	

Session4

Timecode	Category	Content	Instrument	Duration
00:26 - 00:36	Music Therapist / talk	MTh is asking the client about his new keyboard and what he is playing.		
00:26- 00:36	Gaze	While the MTh talks to the client, looking at him, he keeps his eyes on the keyboard not looking up to the MTh, as she is talking to him.		
00:36- 00:42	Client / talk	Yes, he says, *"I am playing something special, special songs"*		
00:47 - 00:51	Music Therapist / talk	Is the music rather quiet? Is the music rather happy or rather sad?		
00:56- 01:02	Client / talk	*"There is only quiet and soft music."*		
00:59- 01:29	Client music	The client resumes with playing the same keys in a soft manner.		
01:04- 01:08	Music Therapist / talk	"Should we play some quiet music?"		
01:08- 01:09	Client / talk	*"Yes, I would like that"*		
01:11- 01:27	Music Therapist / talk	But, first let us take turns in playing small melodies, where we are listening to each other and playing to each other.		
01:27-03:27	**turn-taking**	Taking turns to play soft and quiet music (**MThL** ind the start then in change with **CL**)	Piano	02:00
01:27- 01:33	*MTh music*	Mt plays ascending 4 notes (c-e-f-g) and exaggerates the ending by lifting her hand high from the piano.		
01:32- 01:35	Gaze	Mads is looking at the MTh		
01:32- 01:35	Client / talk	Mads, asks if needs to play the same notes		
01:32- 01:35	Music Therapist / talk	The MTh responds, that this is not the case		
01:34- 01:39	*Client music*	Mads is playing a new rhythm (6 notes)		

01:40- 01:43	*Music MTh*	The MT answers with a variation of the clients melody		
01:45- 01:51	*Client music*	The client starts playing c-h first softly, then accelerating and getting louder		
01:52- 01:58	*Music MTh*	The MTh is copying the dynamic line of the client, but not the notes		
01:52 - 01:58	Gaze	The client watches closely, what the MTh is doing		
01:59- 02:17	*Client music*	The client plays a long and diverse musical phrase		
01:59- 02:17	Gaze	After 5 seconds, the MTh attempts to play, but waits for Mads to continue playing		
02:18- 02:29	*Music MTh*	The MTh starts with a trill, and then goes on with a more elaborate impro.		
02:18- 02:29	Gaze	Mads is watching the MTh very closely. And towards the end he also lifts his hands to the keyboard.		
02:30- 02:36	*Client music*	Mads starts very close to the MTh, then goes further up over the whole keys and finishing with a trill.		
02:37- 02:39	*Music MTh*	The MTh repeats the trill		
02:37- 02:39	Gaze	The client watches closely		
02:39- 02:47	*Client music*	The client starts with a fast melody, decreasing tempo and dynamic, going into a minor mood, and on the black keys, closing with a soft cluster		
02:47- 02:59	*Music MTh*	The MTh picks up the clients last melodic pattern, and furtherly develops it. Pausing in-between but holding the tension. Using a broader dynamic range		
02:47- 02:58	Gaze	The client is watching very closely, what the MTh is doing		
02:51- 02:52	Music Therapist / talk	The MTh looks towards the client, to see his reaction		

03:01- 03:13	*Client music*	The client play small cluster, exploring also the keys in front of the MTh. There are changes in dynamics and tempo. He finishes with an accelerating trill in a clear crescendo.		
03:14- 03:25	*Music MTh*	Picking up the clients last trill and turning into a new and more quiet theme, picking one of his ideas up and improvises on it. Inviting the client to join in		
03:14- 03:25	Gaze	Mads smiled after he concluded his part.		
03:27- 05:05	**Duet**	The client is joining the MTh in a slow and mellow duet, until they suddenly stop, because the client wants to tell the MT something (50 bpm)	piano	01:32
03:42- 03:54	Client / talk	***"This is a great song!"***		
05:03- 05:10	Client / talk	The client says he wants to play a sad song for the MT		
05:07- 05:28	Music Therapist / talk	The MTh agrees, and they switch places, while the MT sits a bit on the side		
05:28- 05:34	Client / talk	***"Allow me to play a sad song"*** I think you will cry! I know how to play a sad song.	piano	
05:34- 05:46	*Client music*	The client starts pressing a couple of keys		
05:40- 05:46	Client / talk	*"It is annoying, that I am not so good at it."*		
05:44- 05:49	Music Therapist / talk	The MTh move towards the low keys to support the client's song		
05:49- 06:02	*Music MTh*	The MTh plays long soft notes in a minor key		
05:55- 06:02	Client / talk	The client reaches over, telling the MTh, she is going to play the deep keys		
05:55- 09:01	**Duet**	Quiet duet with verbal comments	piano	03:06
06:35- 06:42	Gaze	looking towards the MTh		
06:36- 06:54	Client / talk	Client says: ***"This is a creepy song!*** 3 x		
07:03- 07:22	*Client music*	Increasing dynamics		

07:24- 07:38	Bodylanguage / gestures	The client moves between the MTh's hands, walking further towards the lower keys		
07:58- 08:27	*Client music*	The client plays a clear rhythmical pattern on the lower keys, picking up some of the notes, the MT just played		
08:07- 09:00	*Music MTh*	The MTh provides a clear pulse and structure, to support the client's exploration of the piano		
08:58- 09:05	Client / talk	The client asks for a new song, a creepy one.		
09:06- 09:10	Client / talk	He says: We will play the piano! A scary piano!		
09:22-11:22	**Duet**	Scary and quiet duet (**CL**)	piano	02:00
09:20- 09:33	*MT music*	The MT starts playing a fast and chromatic melody to mimic a scary atmosphere		
09:30- 09:37	Client / talk	The client says: ***"That did sound so eerie!"***		
09:35- 09:44	*Client music*	He demonstrates some deep and slow notes, to prove his point.		
09:46- 10:03	Client / talk	The client suggest to switch places, so he can play the higher keys and the MTh the deeper		
10:03- 10:11	*Client music*	The client starts with a descending medium slow melody		
10:08- 10:13	*Music MTh*	The v adds some deep and growling, louder sounds.		
10:10 - 10:13	Client / talk	The client tells her, it should not be a loud scary, but rather a quite scary music		
11:23- 11:36	Client / talk	The client asks to play the JAWS music		
11:35- 11:41	Music Therapist / talk	The MTh asks, if she should be the swimmer in the water, which the client denies		
11:46- 12:00	**Solo**	JAWS solo	piano	00:14
12:02- 12:09	Client / talk	The client asks the MTh to do the swimmer routine		
12:11- 13:01	**Duet**	JAWS duet	piano	00:50

13:06- 13:15	Client / talk	The client presses the lowest keys in a cluster, telling the MTh, that this means: *Game over! A very creepy "Game over"*		
13:28- 13:43	Music Therapist / talk	The MTh prepares to switch to the Djembes		
13:43- 13:53	Client / talk	The client wishes for the one with the dark brown wood, since brown is his favourite colour.		
14:02- 14:12	Music Therapist / talk	They talk about favourite colours		
14:12- 14:19	Client / talk	The client looks around in the room, telling the MT, where the different colours are.		
14:19- 17:37	**turn-taking**	The MTh plays a longer rhythmical pattern, which the client flawlessly reproduces. (**MThL**) Afterwards playing different emotions (**MThL** and **CL**)	djembe	03:18
14:30- 14:33	Music Therapist / talk	The MTh praises the client, for his skills		
15:02- 15:10	Music Therapist / talk	The MTh asks the client to play the feeling of being tired		
15:10- 15:22	*Client music*	The client plays a slow and toting rhythm		
15:10- 15:22	Gaze	Looking at the MTh		
15:22- 15:31	Music Therapist / talk	The MTh asks the client, if he would like to hear how it sounds, when she is tired		
15:31- 15:47	*Music MTh*	MTh plays a pattern, demonstrating tiredness, also with her entire body		
15:31- 15:47	Gaze	The client watches every move closely		
15:47- 15:51	Client / talk	The client asks, if he can demonstrate, how it sound if he is wide awake		
15:50- 15:53	Music Therapist / talk	the MTh affirms		
15:53- 16:02	*Client music*	The client plays an energetic pattern, accelerating to the highest speed he can achieve		
16:02- 16:07	Music Therapist / talk	The MTh comments on his velocity		
16:08- 16:13	*Music MTh*	The MTh plays also a faster and energetic rhythm.		

16:12- 16:16	Client / talk	The client asks if that is how she feels, when she is awake and good		
16:24- 16:26	Client / talk	The client asks, if the MTh wants to hear how it sounds if he is upset.		
16:27 - 16:32	*Client music*	the client demonstrates a harsh and loud pattern, ending with a bang		
16:31- 16:33	Client / talk	***"And then I slam the door!"***		
16:32-16:35	Bodylanguage / gestures	Client demonstrates the movement with his arms		
16:38- 16:42	Client / talk	He explains that he is so angry then		
16:43- 16:48	Music Therapist / talk	The MTh asks the client, what he does to get better in such a case		
16:48- 16:58	*Client music*	the client plays less accentuate rhythms with a lighter beat, switching to a punctuated, almost dancing rhythm		
16:59- 17:01	Music Therapist / talk	The MTh says that it sounded nice		
17:01- 17:02	Client / talk	The client asks to play a sad mood		
17:02- 17:13	*Client music*	The client plays a medium slow rhythm, accelerating towards the end		
17:14 - 17:17	Client / talk	The client asks for the MT's sad version		
17:16- 17:34	*MT music*	The MTh plays an exaggerated "sad" mood, using a broad spectrum of different sound on the djembe, wiping over the skin and using the attached strings as well		
17:33- 17:37	Client / talk	The client asks about the strings and tries the sound he can make on them		
17:40- 19:58	**Duet**	They both explore all the different sounds, one can produce on a djembe drum, afterwards cat&mouse game (**MThL** & **CL**)	djembe	03:38

17:57- 18:02	Music Therapist / talk	The MTh suggests playing a cat and mouse game, where the cat should catch the mouse, but the mouse can hide in a hole in the ground		
18:00- 18:03	Client / talk	The client chooses to be the cat		
18:24- 18:34	Music Therapist / talk	The MTh pretends to be sad because she had been eaten by the cat		
18:33- 18:51	Client / talk	The client says he wants to be the mouse now, but will hide well, so the cat wouldn't find the mouse. The client clarifies, that only if he is coming out form his hole, will the cat be able to catch him		
18:49- 18:57	Music Therapist / talk	The MTh agrees		
19:22- 19:27	Client / talk	The client asks to show the MTh, the sound of different animals		
19:28- 19:55	*MT music*	Playing the steps of different animals		
19:52- 19:58	Music Therapist / talk	MTh praises the child's idea and execution.		
20:00- 20:06	Music Therapist / talk	The MTh suggests playing an accelerating rhythm going up in volume as well and finishing together		
20:07- 21:53	**Duet**	Accelerating game (**CL** and **MThL**)	Djembe	01:47
20:27- 20:39	Music Therapist / talk	The MTh explains the origin and the material of the djembe drums		
20:40- 20:47	Client / talk	The client asks further questions on the djembe		
21:13- 21:18	Music Therapist / talk	The MTh is laughing since the client played a little trick on her		
21:18- 21:20	*Client music*	The client added one more bang after the MT ended		
21:22- 21:30	Music Therapist / talk	The MTh says: "That was it with the drums for today!"		
21:22- 21:30	*MT music*	Banking the drums in the rhythm of the words		
21:31- 21:34	Music Therapist / talk	Asking the client to repeat		

21:34- 21:37	Client / talk	The client denies, saying he cannot do it.		
21:38- 21:41	Music Therapist / talk	The MTh starts again		
21:40- 21:51	Music Therapist / talk	The MTh plays the same rhythm & sentence twice		
21:43- 21:51	*Client music*	The client joins in and is total synchronous		
21:51 - 21:53	Music Therapist / talk	The MT is praising the client.		
21:54- 22:03	Client / talk	The client asks what sort of instrument there is hidden under a blanket		
21:58- 22:06	Music Therapist / talk	The MTh uncovers a steel drum	Steel drum	
22:02- 22:12	Client music	the client takes the mallets and immediately starts exploring the steel drum		
22:20- 22:24	Music Therapist / talk	The MTh asks the client, if she should accompany him with the piano		
22:24- 22:33	Client / talk	the client asks the MTh to play the xylophone, while he is playing the steel drum, suggesting playing a quiet drum song.		
22:32- 22:35	Music Therapist / talk	The MTh agrees		
22:36- 24:52	**Duet**	Duet in slow tempo, with simple rhythmical pattern, looking to each other, and following each other	Steel drum, xylophone	
23:58- 24:14.750	Client / talk	The client walks over to the MT asking her, if they could play a drum song, where there "***is one who wakes you up***".		
24:41- 24:44	Client / talk	the client asks for a turbo song		
24:42- 24:52	*Client music*	a third turbo wake-up song		
24:52- 25:02	Music Therapist / talk	The MTh tells the client, she wants him to play a quite song at the xylophone, and she would play the piano		

25:23- 25:32	Music Therapist / talk	The MTh tells the client, he could also choose to play steel drum		
25:35- 28:36	**Duet**	Duet with steel drum and piano. The MTh plays a slow and steady frame, while the client plays a shorter note in pulse with the piano (**CL**)	steel drum, piano	03:01
26:04- 26:35	Client music	the client starts playing punctuated patterns, then using the rim of the steel drum to play percussion		
26:26- 26:54	*MTh music*	The MTh, stays in the same slow tempo, but perfectly synchronized to the clients fast percussion moves		
27:06- 27:24	*Client music*	The client starts playing a slower melody inside the steel drum, but then resumes his fast drumming on the rim.		
27:34- 27:42	*Client music*	quietly banking the mallets against each other		
27:48- 27:54	*Client music*	resuming to play inside the steel drum		
28:06- 28:27	*Client music*	now the client plays in the same pulse as the MTh		
28:34- 28:47	Music Therapist / talk	The MT praises the client for the diversity of his playing, trying out new things.		
29:09- 29:21	Client / talk	In the end the client chooses to play the piano, while the MT should play steel drums		
29:24 - 32:24	**Duet**	Duet: Steel drum (MTh) piano (client). In the start the client plays few notes in the middle of the piano, but the slowly ascends chromatically form the deepest key to the highest, while the MTh plays soft melodies. in the last part, both are getting more rhythmical, playing in the same pulse.	steel drum, piano	
32:25- 32:27	Client / talk	The client asks the MTh to copy his music (using only the black keys) at the piano		
32:28- 32:38	Music Therapist / talk	The MTh agrees, telling the client it might turn out into a little China song		

32:49- 33:53	**turn-taking**	China turn-taking, later also with all the keys (CL)	piano	01:04
34:03- 34:47	*MTh music*	The MTh plays a goodbye song		
34:11 - 34:42	**Duet**	the client joins in	piano	00:31

4 instruments

Session 5

Timecode	Category	Content	Instrument	Duration
00:07- 00:12	Music therapist / talk	The MTh tells him what lovely sounds the instrument makes		
00:13 - 00:18	Music therapist / talk	She says, she would fancy to start at the piano, and asks the client, if that is ok with him or if he rather prefer another instrument, to start with		
00:18- 00:25	Client / talk	The client chooses the steel drum		
00:24- 00:26	Music therapist / talk	The MTh agrees		
00:32- 00:42	**Duet**	They are playing a little duet, where the MTh plays a very clear melody, while the client plays more carefully and cautious.	steel drum	00:10
00:41- 00:48	Client / talk	the client interrupts the playing. He asks the MT: "***Would like to hear a tired song?***"		
00:47- 00:49	Music therapist / talk	the MTh says, she would love to		
00:48- 01:22	**Solo**	The client starts with a slow sequence of notes, without pulse, occasionally hitting the rim of the steel drum.	steel drum	00:30
01:19- 01:21	Music therapist / talk	The MTh asks the client, if she should play the piano, while he is playing the steel drum, to which he doesn't reply. She tells the client, that what he just played sound so nice.		

01:20- 01:22	*Music Client*	The client starts playing a rhythmical pattern on the rim of the steel drum.		
01:22-02:06	**Duet**	The MTh picks up the clients rhythmical pattern, doubling it up. (**CL**)	steel drum	00:44
01:41- 01:51	Client / talk	The client asks the MTh to play inside the steel drum, while he is playing on the rim		
01:54- 02:07	*Music MTh*	The MTh plays a lively melody		
02:06- 02:08	Bodylanguage / gestures	The client reaches over toward the MTh, to stop her from playing		
02:06- 02:08	Client / talk	The client tells the MTh, that they should start anew, where he will start with the rhythm, whereafter the MTh should join in		
02:08- 02:12	*Music Client*	the client plays his rhythmical pattern 4 times		
02:11- 02:13	Client / talk	Says: "***Now!***" to the MTh		
02:14- 03:11	**Duet**	They are playing a lively song together, MTh with the melody, the client with the rhythm. He later adds some melodic insertions as well	steel drum	00:57
02:40- 02:57	Bodylanguage / gestures	the client starts moving his body in the music's pulse and stepping from one foot to the other in the rhythm		
03:05- 03:11	Client / talk	the client says, the song ends when he says so.		
03:05- 03:11	*Music Client*	the client is playing the last notes inside the steel drum, to bring the music to an end.		
03:12- 03:27	Music therapist / talk	The MTh tells the client how much she liked the music, asking him, if he feels less tired after playing the music. She goes on explaining, that they started slowly and then got more awake. She asks the client if he had the same feeling and if he feels more awake now.		
03:19- 03:27	Client / talk	The client confirms twice, that he feels better		
03:23- 03:35	*Music Client*	the client starts playing at the xylophone	xylophone	00:13

03:33 - 03:37	Music therapist / talk	the MTh moves to the piano		
03:35- 03:39	*Music MTh*	the MTh plays a little melody at the piano	piano	
03:38- 03:41	Client / talk	The client immediately walks over to the piano and sits down with the MTh		
03:42- 03:47	Client / talk	He tells the MTh, that she should play the deep ones.		
03:47- 03:56	Music therapist / talk	the MTh asks, if they should play a tired song once more, or rather to play "Let's see what's happens"		
03:54- 03:59	Client / talk	the client says: "Let's see what happens!"		
04:03- 04:15	**Duet**	experimenting for a very short while	piano	00:12
04:10- 04:15	Client / talk	The client asks the MTh to repeat, what he plays and afterwards it should be the other way round.		
04:14- 04:16	Music therapist / talk	the MTh agrees.		
04:26- 06:26	**turn-taking**	Taking turns, on the theme: "Let's see what happens!"	piano	02:00
04:55- 05:23	*Music Client*	the second time, the client plays a very elaborate and long theme		
05:25- 05:49	*Music MTh*	the MTh tries to reproduce the melodic and rhtythmical line, as accurate as possible		
05:45- 05:52	Client / talk	the client is glad to support the MTh, to remember, all he had played		
06:25- 09:57	**Duet**	they continue to play almost the same time, until the MTh picks up one of the client's little melody and develops it into a theme, with chords and pulse. The client joins into the duet. (**MThL**)	piano	03:22
07:06- 07:17	Music therapist / talk	since they happened to land on the black keys, the MTh suggest, they should play a little cowboy song		

07:35- 07:39	Music therapist / talk	the MTh explains, that one part sounded like a tired horse		
09:50- 09:55	Client / talk	the client tells the MTh, that the song should end at that point		
09:50- 09:55	*Music Client*	playing 4 clusters, mirrored by the MTh		
09:55- 09:58	Music therapist / talk	The MTh tells the boy, she really liked the song, asking how he felt about it.		
09:58- 10:01	Client / talk	the client said he liked it as well, and wants to do another one, where he plays the deep tones		
10:17- 10:19	Client / talk	The client says, the white keys would be nice to play		
10:21- 12:35	**Duet**	They are playing another happy song together, with different rhythmical figures. The client is picking up some of the MT's ideas and vice versa, starting with playing a short, jumping, happy song		02:14
10:39- 10:43	Client / talk	the client invites the MTh to also use the middle range of the keys		
12:42- 12:45	Client / talk	After song has ended, the client asks for a **JAWS** play		
12:44- 12:46	Music therapist / talk	the MTh agrees		
12:48- 13:47	**Duet**	**JAWS** pretend game	piano	00:59
13:47- 13:50	Client / talk	the client shouts with excitement		
13:58-15:25	**Solo**	small soli, where the client demonstrates different feelings on the piano	piano	01:27
13:58- 14:05	Music therapist / talk	the MTh asks the boy, how it sounds when he is afraid, after he played some scary deep notes		
14:05- 14:14	*Music Client*	The client demonstrates the same deep tones.		
14:21- 14:28	Music therapist / talk	the MTh asks how it sounds, when the client is happy		

14:30- 14:37	*Music Client*	the client demonstrates an ascending jumping melody		
14:39- 14:48	Client / talk	the client goes back to the deep tones, saying that that would be **the "afraid" sound**		
14:47- 14:51	*Music Client*	playing some deep and very loud cluster on the lowest keys		
14:51 - 14:57	Music therapist / talk	the MTh asks the client to play a melody that shows the feeling of being sad		
14:58- 15:21	*Music Client*	the client plays a slow, almost out of pulse melody in the middle range of the piano, with obviously "sad" characteristics (**62 bpm**)		
15:20- 15:25	Music therapist / talk	The MTh tells the client, that she almost got tears in her eyes and how beautiful the melody was.		
15:34- 15:41	Music therapist / talk	She then proposes to switch to the drums.		
15:39- 15:58	*Music Client*	The client plays a scary farewell on the piano.		
16:22 - 16:48	*Music Client*	the client demonstrates on the muted piano, how the keys are sounding like heartbeats		
16:46- 17:05	*Music MTh*	the MTh joins in, playing the same rhythm on the claves		
17:48- 17:58	Music therapist / talk	the MTh tells the client to repeat the rhythms she is going to perform with the claves	claves	
17:58- 20:40	**turn-taking**	taking turns with different rhythmical patterns, exploring a big range of different sounds with the claves. (**MThL**)	claves	02:42
18:30- 18:37	Client / talk	the client praises the MTh, since she was able to repeat a long phrase		

19:55- 20:00	Music therapist / talk	The MTh repeats something the client just had played, which included hitting one's legs with the claves, and she was surprised by the pain it caused but laughed at the same time.		
19:58- 20:03	Client / talk	The client thinks, that was funny.		
20:37- 20:56	Music therapist / talk	the MTh praises the client for his excellent rhythmical skills. She tells him, that they will proceed to the drums.		
20:56- 21:13	Client / talk	The client tells the MTh, he will take the brown djembe, since he loves brown.		
21:14- 22:07	**turn-taking**	Taking turns with different patterns, which the MTh plays first and the client repeats effortless (**MThL**)	djembe	00:53
22:04- 22:09	Client / talk	the client suggests the mouse and cat game		
22:33- 23:57	**Duet**	Playing a duet with a lager scale of dynamics and tempi (**CL** and **MThL**)	djembe	01:24
23:55- 24:00	Client / talk	The client suggest to show the MTh, how it sound, when he is tired.		
23:58-26:05	**turn-taking**	demonstrating to each other how it sounds, when they are in different moods (**CL** and **MThL**)	djembe	02:06
23:58- 24:10	*Music Client*	The client plays a slow sequence of punctuated, stumbling beats		
24:12- 24:18	Music therapist / talk	The MTh asks the client, if he would like to hear, how it is when she is tired. Which he says yes to.		
24:19- 24:41	*Music MTh*	The MTh plays a slow and lazy interpretation of being tired		
24:19- 24:41	Bodylanguage / gestures	The client watches attentively while jumping up and down at the same time		

24:36- 24:43	Client / talk	The client asks the MTh, if she would like to hear how he sound, if he is wide awake.		
24:43- 25:01	*Music Client*	the client plays his being awake beats		
24:56- 25:10	Client / talk	He tells the MTh, it would be like jumping on a trampoline.		
25:15- 25:33	*Music Client*	pretending to be jumping on a trampoline.		
25:15- 25:33	*Music MTh*	pretending to be jumping on a trampoline.		
25:30- 25:38	Client / talk	***Would you like to hear my "angry" sound?***		
25:37- 25:46	*Music Client*	Imitating the sound of slammed doors		
25:47- 26:02	Music therapist / talk	the MTh asks the client; what it is he is doing afterwards he had slammed the door.		
25:56- 26:05	*Music Client*	Playing a steady and vivid rhythm.		
26:21- 26:34	Music therapist / talk	the MTh suggest a goodbye song and asks the client, which instrument he would like to play		
26:30- 26:38	Client / talk	the client chooses the piano, where he wants to play the deep tones and the MTh should play the upper range		
27:00- 29:54	**Duet**	Playing a duet with a wide range of rhythmical and melodical expressions, changing styles, experimenting and ending in the mute mode with heartbeats (**CL**)	piano	02:54
29:55- 30:21	Music therapist / talk	The MTh thanks the client for the music and asks him, if he feels more awake now.		
29:55- 30:21	Client / talk	He denies it but says it could be because he is hungry now.		

5 instruments

Session 6

Timecode	Category	Content	Instrument	Duration
00:23- 00:26	Music client	plays at the upper range of the piano	piano	
00:26- 00:27	Music therapist / talk	The MTh suggests starting with taking turns		
00:27 - 03:13	**Turn-taking**	Taking turns with a wider range on different ideas, rhythms, and melodies (**MThL** and **CL**)	piano	02:46
00:27- 00:27	*Music client*	The client answers with a sound cluster		
00:28 - 00:28	Music therapist / talk	The MTh tells the client; they each will wait for the other to finish first.		
00:37- 00:38	Music therapist / talk	The MTh will start and says it will be like question and answer.		
00:40- 00:42	*Music MTh*	The MTh plays a little melody of 6 tones		
00:42- 00:44	Client / talk	The client asks, if he should play at the same time as the MTh		
00:44- 00:48	Music therapist / talk	The MTh replies, that they will play after each other and later play together		
00:48- 00:52	*Music MTh*	The MTh repeats her little melody		
00:52- 01:02	*Music client*	the client plays some individual tones, moving into cluster and ends with a fast trill on the highest keys		
00:52- 00:54	Client / talk	***"This is my melody!"***		
01:02- 01:03	Music therapist / talk	The MTh says. "Ok! That was a long one"		
01:03- 01:08	*Music MTh*	The MTh plays also a longer and more rhythmical phrase		
01:03- 01:08	Gaze	As soon as the MTh starts playing, the client watches her hands closely		
01:08- 01:16	*Music client*	The client plays in a much softer and slower way, but finishes with a sudden loud trill		
01:14- 01:17	Gaze	At the end of his phrase, he turns his look to the MTh's hands		

01:17- 01:19	*Music MTh*	The MTh answers with a lively melody, mimicking at the end the client's trill		
01:19- 01:22	*Music client*	the client plays an ascending glissando with his fist		
01:22- 01:23	*Music MTh*	The MTh answers with a descending glissando with her pointing finger		
03:13- 03:18	Music therapist / talk	The MTh suggests, to try to copy each other in music		
03:18- 04:30	**turn-taking**	MTh-led turn-taking, where the client copies the MTh's musical expressions. The client is showing great skills in following both the rhythmical and melodic line	piano	01:12
04:29- 04:44	Music therapist / talk	After praising the client, the MTh suggests playing together and asks the client if the song should be: happy, sad or a dancing song		
04:43- 04:45	Client / talk	The client states: "*I want a happy song*!"		
04:45- 08:43	**Duet**	The MTh starts with a uplifted, lively melody. After a while she is crossing with her right hand over the client's hands, attempting to lure him out from his repetitive playing, she succeeds after a while. The playing gets more diverse, the client plays with a good rhythmical feeling. (**CL**)	piano	03:58
04:45- 06:02	*Music client*	The client repeats the same notes and rhythm all the way along		
07:44- 08:21	*Music client*	The client suddenly moves to the black keys, and start using many clusters and glissandi, also using the piano percussively.		
07:44- 08:21	*Music MTh*	The MTh slows a bit down and moves into more atonal playing and into minor keys		
08:25- 08:27	Music therapist / talk	She asks the client: "What happened to the happy song?"		

08:27 - 08:29	Bodylanguage / gestures	The client lifts his arms over his head, thus indicating, that the song is over		
08:29- 08:43	*Music client*	playing some final chord, taking turns		
08:29- 08:43	*Music MTh*	playing some final chord, taking turns		
08:43- 08:48	Client / talk	***"Now, we are done!"***		
08:48- 08:52	Music therapist / talk	The MTh asks the client, if they should play a quite song		
08:52- 08:57	Music client	The client plays a rather loud melody		
08:57- 09:02	Music MTh	The MTh repeats his melody but in a slower and very soft mode		
09:04-09:06	Client / talk	The client tells the MT: "***You just played my song***!"		
09:06- 09:07	Music therapist / talk	The MTh tells the boy, that he made a good point.		
09:07- 10:16	**Duet**	Starting with a bit of turn-taking but turning into a duet soon. The client repeats a certain pattern over and over again	piano	01:09
09:22- 09:27	*Music MTh*	The MTh changes the rhythm		
09:26- 09:29	Client / talk	The client tells the MTh, that was not what he played		
10:02- 10:05	Client / talk	The client says: "***That sounded nice***".		
10:15- 10:18	Client / talk	the client wants to try something out alone.		
10:18- 13:00	**Solo**	Solo - starting out with "his" pattern, with little pulse, the client proceeds to play a very slow melody on the lower part of the keyboard, keeping a constant pulse. Towards the end, he moves back to the "old" pattern, repeating the notes and ending with a trill.	piano	02:42
13:00- 13:11	Client / talk	The client moves the chair to the middle of the keyboard, saying that he would like to start anew.		

13:12- 13:49	Music client	the client explores the range of an octave, with a similar rhythmical pattern, as in the previous solo. At the end he goes down to a deep key	piano	00:37
13:49- 14:03	Client / talk	He asks the MTh to press the pedal and, when she wants to join on the djembe, he silences her, with a gesture		
14:03- 18:41	**Solo**	Long solo, where the client plays mainly the very deep keys in a slow, but steady rhythm. They talk a lot about the music in between (**62 bpm**)	piano	04:38
14:03- 14:06	Bodylanguage / gestures	Silencing the MTh with a gesture		
14:51- 14:59	Music therapist / talk	The MTh tells the boy, that the music sound very solitary, like and old ghost being totally alone and sad in an old castle		
15:00- 15:08	Client / talk	The client tells the MTh: "T*he ghost is evil and is hissing at everybody!*"		
15:17- 15:24	Client / talk	The client says: *the ghost is scaring people and is evil*		
15:27- 15:37	Music therapist / talk	The MTh suggest, that maybe it is time for a little boy to show up and befriend the ghost.		
15:36 - 15:42	Client / talk	But the client says it is a very evil ghost		
15:42- 15:46	Music therapist / talk	The MTh tells the client, that maybe the ghost is only acting evil, because he has no friends		
15:54- 15:57	Music therapist / talk	The MTh tells the client, that in such a case, one need to tell the ghost to go home into its own ghost world and leave the people alone		
18:41 - 18:44	Music therapist / talk	After the client finished with a deep cluster, the MTh said, it sounded like thunder to her		

18:45- 18:49	Client / talk	The client is telling her: "***This is the sound of everybody dying"...***		
18:50- 18:54	Music therapist / talk	The MTh says, this was a gruesome story		
18:54- 18:59	Client / talk	The client agrees, telling her that it was about a very evil ghost.		
19:00- 19:12	Music therapist / talk	The MTh tells the client he can choose between the xylophone and the steel drum		
19:12- 19:20	Client / talk	The client chooses the xylophone		
19:37- 26:52	**Duet**	In the beginning MT-led duet: client (xylophone) and MTh (piano). The client easily plays in pulse with the MTh, in the first half with little initiative and dynamic and rhythmic range, but responding more to the MThs ideas and gradually offering his own, this engaging in a lively duet, which he brings to a closure (**MThL** in the beginning and then **CL**)	xylophone, piano	07:15
19:38- 20:22	*Music MTh*	The MTh starts with a lively and dancing improvisation		
23:24- 23:32	Client / talk	The client walks to the steel drum and asks to play it. He wants the MTh to play the piano and he wants to start the song.		
23:33- 23:44	*Music client*	the client explores some rhythms on the rim of the steel drum		
23:43- 23:48	*Music MTh*	The MTh waits until there is an established pulse and then joins in		
23:44- 26:23	*Music client*	Client starts on the rim but goes inside the steel drum as well.		

26:23- 26:52	*Music MTh*	The MTh continues playing, while watching the client and then ending the song, as he comes closer		
26:23- 26:52	Bodylanguage / gestures	the client stops playing and uses the mallets as horns or long teeth, while swaying in the rhythm of the music		
26:51- 27:00	Music therapist / talk	MTh praises the client for the lovely music		
26:58- 27:00	Client / talk	The client tells the MTh, that the mallets resemble eyes. "***They look like eyes***!"		
27:08- 27:20	Music therapist / talk	the MTh tells the boy, that they will play the drums as the last instrument	djembes	
27:20- 27:25	Client / talk	the client tells the MTh again, that brown is his favourite colour		
27:26- 27:30	Music therapist / talk	The MTh asks about the client favourite dish, if it is gingerbread?		
27:29- 27:31	Client / talk	The client affirms, saying it's gingerbread and rice pudding		
27:33- 27:46	Music MTh	the MTh starts drumming "Rice pudding with cinnamon", "Rice pudding with butter!"		
27:42- 27:47	Music client	the client joins in		
27:48- 28:07	turn-taking	Playing "Rice pudding with butter" a couple of times		
28:07 - 28:34	**Duet**	They proceed into a little drum impro	djembes	00:24
28:34- 28:43	Client / talk	The client asks for the cat and mouse game, and the MTh should be the cat		
28:44- 30:11	**Duet**	Cat and mouse game	djembes	01:27
29:07- 29:22	Music therapist / talk	the MTh explains to the client, if she can see his fingers, this means that he is visible to the cat.		
29:19- 29:23	Client / talk	the client agrees		
29:23- 29:46	Music MTh	one more cat and mouse game. **MThL**		
29:51- 30:11	Music client	the last cat and mouse with reversed roles (***CL***)		

30:11- 30:23	Music therapist / talk	The MTh asks the client to repeat a particular amount of drumbeats		
30:23- 30:51	**turn-taking**	Taking turns with different drum-patterns (**MThL**)	djembes	00:28
30:41- 30:46	Music therapist / talk	MTh is praising the client for his rhythmical skills.		
30:47- 30:51	Music therapist / talk	The MTh asks the client to play a pattern with 5 beats for her		
30:52- 32:10	**turn-taking**	Client-led turn-taking (**CL**)	djembes	01:18
32:10- 32:17	Music therapist / talk	The MTh invites the client to play a farewell song with her at the piano.		
33:00- 34:39	**Duet**	Playing a goodbye song	piano	01:39
			3 instruments	

Session 7

Timecode	Category	Content	Instrument	Duration
00:42- 01:16	Music therapist / talk	The MTh is showing the client different instruments (as the rainmaker), asking the client if that would be a fitting sound		
01:21- 01:28	Music therapist / talk	The MTh tells the boy, they will start at the piano	piano	
01:26- 01:39	Client / talk	"*I am Slenderman!*" The client explains to the MTh, that his first name is Slender, his middle name is "man" and his family name is "Slenderman"		
01:28- 02:54	Music client	While they are talking, the client is "walking" his fingers over the piano keys		
01:56- 02:11	Music therapist / talk	The MTh giggles, since the client obviously made a joke		
02:13- 02:25	Music therapist / talk	The MTh asks, if the client is playing on his own keyboard when he is at home		
02:24- 02:34	Client / talk	The client says he hasn't been playing that much lately		

02:34- 02:43	Music therapist / talk	the MTh asks the client, if he has headphone, while playing		
02:44- 02:54	Client / talk	the client denies		
02:53- 02:55	Music therapist / talk	The MTh invites the client to take turns with small melodies		
02:55- 04:39	**turn-taking**	Taking turns with small melodic lines, with broad range of expression. The client is showing very good skills in following both the melodic and rhythmical line (**MThL**)	piano	01:44
04:39- 04:42	Music therapist / talk	the MTh suggest imitating each other		
04:39- 04:42	Client / talk	the client wants to switch places		
04:51- 06:19	turn-taking	client-led turn-taking, imitating each other's music. The client displays a wide range of expression, dynamics, and musical ideas (**MThL** and **CL**)	piano	01:28
06:19- 06:34	Music therapist / talk	the MTh says she really likes that melody		
06:19- 06:34	**Duet**	improvising together on a little melody, the client had introduced during turn-taking	piano	00:15
06:35- 06:45	Client / talk	the client asked to play a song, since there is Halloween		
06:44- 06:46	Music therapist / talk	the MTh suggest recording the song		
06:58- 08:06	**Duet**	*Halloween-duet*-recording. Client-led, with initial turn-taking, then moving into a clear duet. (**CL**) (**70 bpm**)	piano	01:08
08:08- 09:16	Duet	MTh and client listening to the recording		01:08
08:25- 08:29	Gaze	the client opens his eyes wide		
08:29 - 09:06	Bodylanguage / gestures	the client does a creepy dance, showing "scary" movements during the music		
09:17- 09:24	Music therapist / talk	The MTh says, she thinks that was a great song, asking the client what he thinks		
09:24- 09:29	Client / talk	The client agrees: "*It was a good song.*"		

09:31- 09:36	Client / talk	the client changes the sound on the piano, telling the MTh he wants to play on the upper side of the piano		
09:47- 09:52	Music therapist / talk	the MTh asks, if they should play a **dance-song**		
09:52- 12:43	**Duet**	Playing a dance groove with a bit of a reggae feeling. The client is mostly in perfect pulse with the music, adding new ideas, sometimes, wishing to play right in the same place, where the MTh is playing. he experiments and picks up ideas and joins the MTh in decreasing dynamics and tempo towards the end. (**MThL**)	piano	02:52
12:42 - 12:49	Music therapist / talk	The MTh asks the client, what he thinks about the music		
12:48- 12:51	Client / talk	the client says: "**It was good**."		
12:55 - 13:19	Client / talk	the client tries different settings on the piano and asks the MTh: "**Would you like me to play a dangerous song for you**?"		
13:18- 13:21	Music therapist / talk	The MTh agrees.		
13:25- 14:39	Solo	The client plays his "dangerous" song (very slow in the deep register, but with a steady pulse, piano is in a organ mode)	piano	01:14
13:53- 13:57	Music therapist / talk	The MTh tells the client; he should tell her when she should join in		
14:35- 14:38	Bodylanguage / gestures	the client signs the MTh, to join in		
14:39- 15:05	**Duet**	client-led duet (**CL**)	piano	00:26
15:03- 15:05	Bodylanguage / gestures	the client shows clearly, when the song is over, rising his hands in the air and clapping afterwards		
15:05- 15:08	Music therapist / talk	the MTh praises the client		
15:08- 15:10	Client / talk	the client changes the sound to Church organ		
15:12- 15:44	Music client	the client explores the piano in various ways		

15:44- 15:54	Client / talk	the client asks the MTh, if they could play a dangerous song		
15:54- 16:00	Music MTh	the MTh plays "Itsy bitsy spider" on the piano		
15:59- 16:02	Music therapist / talk	Asking the client, if he recognized the song		
16:03- 16:11	Music client	the client sings the beginning of the song: "*Itsy bitsy spider climbed up the waterspout.*"		
16:03- 16:11	Gaze	Client smiles, looking down at the piano		
16:10- 16:38	Music therapist / talk	The MTh praises the client and fetches a book with children songs, asking the client if he would like to sing more.		
16:37- 16:40	Client / talk	The client strictly declines! "*I do not want to do that*"		
16:41- 16:47	Music client	the client continues exploring the piano		
16:47- 16:54	Client / talk	He asks the MTh, if they could listen to a dangerous song on the piano.		
16:53- 17:05	Music therapist / talk	the MTh explains, that hey first must play a dangerous song, in order to record it and listen afterwards.		
17:11- 17:18	Client / talk	the client says, that it is what he wants.		
17:35- 18:57	**Solo**	The client plays the deep keys, and it becomes clear, that there already is a music in the background (accidentally, the former recording was played)	piano	01:22
18:58- 19:00	Music therapist / talk	The MTh explains, what just happened		
19:01- 19:06	Client / talk	laughing		
19:01- 19:06	Music therapist / talk	laughing		
19:01- 19:06	Bodylanguage / gestures	the client nods and claps his hands in excitement		
19:31- 20:12	Client / talk	the client climbs on the chair talking to the MT about dangerous songs		
20:14- 20:24	Music therapist / talk	the MTh suggest a last song, but asks for a soft and quiet song, maybe on the steel drum		
20:22- 20:24	Client / talk	the client decides, he would rather play the xylophone		

20:27- 24:10	**Duet**	Duet with xylophone (client) and piano (MT) - (**CL**)	xylophone; piano	03:43
20:38- 20:49	Client / talk	after they just started, the client changes the position of the xylophone so that the higher notes are at his left hand, because the letters on the xylophone were on their head		
20:55- 20:59	Client / talk	he is telling the MTh, that she should start		
21:04- 21:28	Bodylanguage / gestures	As soon as the client joins in, he also starts dancing to the music		
21:34- 21:46	*Music client*	playing intricate rhythmical patterns		
22:38- 22:49	Bodylanguage / gestures	starts dancing again		
23:34- 23:41	*Music client*	introducing glissandi in his play		
23:40- 23:47	Bodylanguage / gestures	starting to dance again		
24:03- 24:11	*Music MTh*	MTh plays 3 times a fake ending, lifting her hands high and looking at the client		
24:03- 24:11	*Music client*	joining the MTh all 3 times with the fake ending.		
24:11- 24:17	Client / talk	smiles and looks very happy		
24:25- 24:29	Bodylanguage / gestures	the client waves the mallets in the air		
24:26- 24:34	Music therapist / talk	the MTh thanks the client for the music they shared		

2 instruments

Session 8

Timecode	Category	Content	Instrument	Duration
00:16- 00:20	Music therapist / talk	The MT sits next to the client	piano	
00:16- 00:20	Music client	the client plays a theme, that resembles the **JAWS** theme, but in the middle range of the piano and accelerates to trill		
00:20- 00:23	Music MTh	the MT repeats the client's theme		
00:24- 00:37	**turn-taking**	Spontaneous turn-taking	piano	00:07

00:37- 00:39	Music therapist / talk	The MT asks the client, if he feels good and energetic.		
00:39- 00:40	Client / talk	The client says, he slept well		
00:39- 00:40	Music client	The client plays with wave-like movements on the piano, using the entire palm of his hands, sometimes up to the elbow		
00:41- 03:32	**Duet**	Duo starting with making waves, afterwards proceeding to tranquil melody, with fine inserts from the client (**MThL**)	piano	02:51
01:07- 01:17	*Music MTh*	The MT starts playing an harmonic and melodic frame, attempting to guide the client away from his repetitive behaviour		
01:20- 01:33	*Music client*	The client switches to playing glissandi and soon after moves on to playing double tones with two hands, picking up on the music's pulse		
01:59- 02:37	*Music client*	The client slowly and chromatically moves down towards the MT's hands, in strict time with the MT's music		
03:04- 03:09	Music therapist / talk	When the client reaches the MT's right hand, she lifts it to enable the client to proceed with is chromatic descend		
03:30- 03:32	*Music client*	The client closes with a deep cluster		
03:30 - 03:32	Gaze	Looking straight into the MT's eyes		
03:30- 03:32	Bodylanguage / gestures	The client had to stand up, in order to be able to reach the lowest keys and thus stands in front of the MT		
03:32- 04:37	Music therapist / talk	The MT watches the client, commenting on the sounds, comparing them to thunder, waiting and listening in between. In the end she says: "***This was good***" in a very soft voice, making movements with her fingers, as if rain would fall.		

03:32- 04:37	**Solo**	Unusual solo: The client repeatedly presses a deep cluster in rather high dynamic range, with long brakes in between. Now and then he presses some of the keys in the middle range of the piano	piano	01:05
03:32- 04:37	Gaze	The client looks intensely towards the MT		
03:32- 04:37	Bodylanguage / gestures	The client stands with his back to the piano, facing the MT, bending forward every now and then		
04:40- 04:42	*Music client*	The client presses the deep cluster one last time.		
04:49- 04:55	Music therapist / talk	The MT asks the client, if he would like to play a *jaunty song* on the Xylophone		
04:50- 04:55	Bodylanguage / gestures	The client already was on his way to the xylophone, when the MT start talking		
05:07- 12:07	**Duet**	The starting a *jaunty song*. Long duet with xylophone (client) and piano (MTh) - during the duet there was a range of nonverbal communication, with the client displaying a long attention span) (**MThL** and **CL**)	xylophone, piano	07:00
05:18- 05:37	Client / talk	Client switches the instrument into the position he thinks is fitting.		
05:51- 06:18	*Music client*	the client plays single tones in time with the piano, he then taps the mallets against each other, thus producing a gentle percussive sound		
05:51- 06:18	*Music MTh*	the MT starts with a soft medium slow melody with chords		
06:33- 06:41	Client / talk	Asking the MT, if she thinks: "*Is this a good one?*"		
06:33- 06:41	*Music client*	the client starts playing faster and with a rhythmical pattern		

06:33- 06:41	Bodylanguage / gestures	Client puts his foot on the chair, laying his head on his knee		
06:41- 06:47	*Music MTh*	the MT immediately picks up on the client's idea, adjusting her music to it.		
06:55- 07:00	*Music client*	the client goes back to playing quatre notes		
06:55- 07:00	*Music MTh*	The MT plays also with the rhythmical change		
07:29- 07:38	*Music client*	The MT adds new rhythmical patterns, playing more vivid		
07:42- 07:50	*Music MTh*	To make sure, the client is still listening, she adds small glissandi		
07:51- 07:56	*Music client*	The client immediately responds with glissandi		
08:19- 08:25	*Music client*	The client discovers the different sounds he can produce, when banging against the instruments frame		
08:29- 08:36	*Music MTh*	The MTh plays short ascending scale-like melodies in staccato, with small pauses in between, waiting for the client's reaction		
08:50- 08:56	*Music client*	the client follows the MTh's breaks at the same pace.		
08:50- 08:56	*Music MTh*	The breaks are longer		
09:40- 09:49	*Music client*	the client repeats the theme		
09:40- 09:49	*Music MTh*	The MTh introduces new rhythmical patterns		
10:00- 10:15	*Music MTh*	The MTh shifts between accelerating and making ritardando, since the client stopped responding to her small changes and musical ideas		
10:40- 10:49	*Music client*	the client joins the MTh		
10:40- 10:49	*Music MTh*	Looking at the client, the MT plays more atonal and with no pulse		
10:58 - 11:10	*Music MTh*	The MTh plays chords with a clear pulse again		
10:58- 11:10	*Music client*	The client plays a slow melody		

11:38- 12:07	*Music MTh*	The MTh plays a closing chord progressions, with small pauses, waiting for the client, to eventually engage again, and then finishing the improvisation		
11:38- 12:07	Bodylanguage / gestures	The client silently plays with the mallets, not actively paying attention to the music		
12:09- 12:21	Client / talk	The MTh moves toward the client, asking him, if he would like to play the drums		
12:27- 12:34	Music client	the client walks toward the steel drum, telling the MTh, that he just wants to play a bit on the instrument.		
12:34- 12:45	Music client	The client plays vividly at the steel drums	Steel drums	00:11
12:34- 12:45	Music MTh	The MTh stomps a steady beat with her feet.		
12:45- 17:00	**Duet**	Joining into a duet with the client; MTh playing the piano (**CL**)	steel drums, piano	04:15
13:11- 13:20	*Music client*	The client starts playing all the notes of the steel drum in a row, repeating them continuously		
13:11 - 13:20	*Music MTh*	The MTh repeats the notes with her right hand, while playing a steady fifth' change in the left, adding a melody in the right, after finishing the repetition of the clients melody		
13:39-13:47	*Music client*	maintaining the ascendant row in repeat		
13:39- 13:47	Bodylanguage / gestures	moving his body to the music		
14:20- 14:26	*Music client*	playing his percussive rhythm on the instrument's rim		
14:27- 16:29	Bodylanguage / gestures	Walks around the steel drum		
15:09- 15:16	*Music MTh*	The MTh plays staccato with faster note values, but maintaining the basic tempo		
16:32- 16:37	*Music client*	The client plays something like a drum roll on the rim		
16:32- 16:37	*Music MTh*	The MTh accelerates as well		

16:42- 16:58	*Music client*	Taking turns in closing the improvisation		
16:42- 16:58	*Music MTh*	Taking turns in closing the improvisation		
16:58-17:02	Client / talk	The client asks the MTh: "***Can you sing what I am playing?***"		
17:01- 17:42	**turn-taking**	Starting a funny turn-taking game, since the client, first plays very soft and then unexpectedly gets louder or stops. (**CL**)	xylophone, voice	00:41
17:43 -21:17	**turn-taking**	Taking turns also in storytelling a bout the evil ghost	djembe	03:35
17:43- 17:50	Client / talk	The client fetches the djembe, telling the MThs, that this is what his spooky figure likes		
17:47- 17:55	Music therapist / talk	The MThs asks the boy, what he loves playing		
17:47- 17:55	*Music MTh*	Playing the drum with a steady pattern		
17:58 - 18:03	Client / talk	The client replies, that he likes the drums		
18:02- 18:06	Music therapist / talk	the MTh says, that that is a good fit, since everybody will enjoy the playing		
18:06- 18:13	Client / talk	To which the client replies, "***the creepy figure has killed Mads***!"...		
18:12- 18:16	Music therapist / talk	The MTh tells the client, what a pity that is for Mads		
18:12- 18:16	*Music MTh*	Scratching the drum skin		
18:16- 18:29	*Music client*	playing together with fast but gentle patterns		
18:16- 18:29	*Music MTh*	playing together with fast but gentle patterns		
18:29- 18:52	Music therapist / talk	The MTh pretends to call on Mads spirit, to come back into his body, using a husky voice		
18:29- 18:52	*Music client*	Scratching and sweeping over the skin of the djembe		
18:39- 18:45	Client / talk	the client joins into the game, pretending to be the creepy creature, that took Mads		

18:52- 19:07	Music therapist / talk	the MTh explains and demonstrates, how such a taking back of the body could work		
19:06- 19:10	Client / talk	The client insists, that this wouldn't be possible, since he was killed		
19:10 - 19:14	Music therapist / talk	The MTh asks the client, if he hadn't heard of situation, where one supposed dead, came back to live.		
19:14- 19:17	Client / talk	The client said, he had never heard of such a thing		
19:17- 19:21	Music therapist / talk	The MTh says, they will just do all that is possible.		
19:21- 19:22	Client / talk	To which the client replies, that he is still this scary creature		
19:23 - 19:25	Music therapist / talk	The MTh asks the client if he could repeat a drum-pattern after her		
19:25- 19:26	Client / talk	The client answered: "Ab, ab!"		
19:26- 19:31	*Music MTh*	The MTh plays a pattern, saying "ab-ab" in the same rhythm.		
19:31- 19:34	*Music client*	The client repeats the pattern, but doubles the last beat		
19:34- 19:36	*Music MTh*	the MTh plays a new pattern, using "ab" syllables again		
19:36 - 19:39	*Music client*	The client repeats and doubles the last beat again		
19:39- 19:45	*Music MTh*	the MTh quadruples the clients last beat 3 times		
19:45 - 19:48	*Music client*	the client manages to repeat the pattern, closing with 2 extra beats		
19:48- 20:10	turn-taking	taking turns with different patterns, the client always doubles the last beat		
20:12- 20:19	Music therapist / talk	the MTh praises the client, for developing this new pattern, by adding an extra beat to the last note		
20:20- 20:50	*Music MTh*	taking turns with different amounts of beats, without counting loud		

20:20- 20:50	*Music client*	taking turns with different amounts of beats, without counting loud		
20:45- 20:49	Client / talk	the client tells the MTh, that last one had 7 beats, which was correct		
20:58- 21:17	Unexpected (significant) events	the client is making some equilibristic moves on the chair and afterwards pretends to fall on the ground		
21:04- 21:11	Music therapist / talk	the MTh praises him for his excellent body control		
21:15- 21:25	Client / talk	The client is laying on the ground, where he discovers, that there is something green in the transparent box beneath the steel drum. He asks the MT to take the steel drum down, so he can check on his discovery.		
21:32- 21:40	Music therapist / talk	The MTh takes the steel drum down and invites the client to join her into drumming the rhythm of a poem, she found in the box.		
21:39- 22:30	Client / talk	The client is more interested in trying all the small instruments, that were hidden in the box.		
22:30- 22:36	Music MTh	The MTh recites the first verse, while playing the beat on the drum.	djembe	
22:36- 24:18	**turn-taking**	Taking turns, first with the poems verse and afterwards with some of the instruments the client had found. The MT is inviting the client to play with different dynamics by playing differently. The client joins her.	Djembe, shaker	01:42
24:18- 24:47	**Duet**	Duet with lemon-shaker and djembe.	Djembe, shaker	00:29
24:47 - 24:55	Client / talk	As a goodbye song, the client wishes for a ***dangerous snake song***, where he plays the snake with the lemon and the MT plays the piano		
24:59- 25:03	Client / talk	the client asks, that the MTh should also sing		
25:06- 25:15	Music MTh	the MTh started with a improvisation resembling Arabic snake music		

25:14- 25:18	Client / talk	the client stops her, asking for a "**good song**", more something to dance to		
25:18- 27:21	**Duet**	Snake song for voice, piano, and rattle-lemon. The MTh sings about what the snake is doing, while playing a befitting music, the client joins in every time, the snake is rattling with its tail. The song closes, with the snake going to sleep. (**CL**)	Piano, voice, rattle	02:03
27:25 - 27:39	Music therapist / talk	The MTh tells the client, they have to stop for today, since he signals, that he would like to continue. She thanks the client		

5 instruments

Session 9

Timecode	Category	Content	Instrument	Duration
01:50 - 02:40	music client	as soon as the client enters the room, he walks to the steeldrum and starts playing	steeldrum	
02:41 - 02:49	MTh / talk	The MTh asks him, if it is there where he wants to start		
02:49- 03:07	music MTh	the MTh started playing some quite chords, while listening to the client	steeldrum, piano	
03:00 - 03:08	client / talk	the client stops the MTh, telling her: "**It should be a happy song, a dance song**."		
03:11- 05:12	**Duet**	Happy dancing song (**CL** and **MThL**)	steel drum, piano	**02:01**
03:17- 03:28	*music client*	The client joins in, playing a little melody		
03:17- 03:28	*music MTh*	The MTh starts playing a vivid and dance-like frame.		
03:32- 03:38	body language / gestures	the client walks halfway around the steel drum.		

03:38- 03:57	*music client*	the client plays an ascending row, over again, each time starting with the deepest tone, he hesitates sometimes, since the amount of nine tones doesn't fit into the frame (4/ 4 beat), the MTh plays		
03:39- 04:39	unexpected (significant) events	a new way of handling a situation, that is not comfortable at first and moving from one repetitive pattern to something new.		
03:58- 04:11	*music MTh*	The MTh tries to mark the one more clearly, and catch up with the client, if he does not wait with one beat.		
03:58- 04:11	*music client*	therefore he slows down on half beat.		
04:11 - 04:17	*music MTh*	MTh adds some reggae beats.		
04:11- 04:17	body language / gestures	The client moves his body in time with the music		
04:20- 04:27	*music client*	the client suddenly plays a faster rhythm on the highest note and then keeps on with more complex patterns		
04:20- 04:27	*music MTh*	The MTh immediately responded to the new pattern.		
04:28- 04:35	*music client*	The client stops for some beats, than starts with one loud beat again and continues playing a melody		
04:28- 04:35	Gaze	Looking toward the MTh		
04:28- 04:35	body language / gestures	The client steps back from the instrument and looks toward the MTh		
05:01- 05:08	*music client*	towards the end the client plays double notes and ends the song.		
05:01- 05:08	Gaze	Looking toward the MTh		
05:01- 05:08	body language / gestures	very clear gesture to end the song.		
05:12- 05:14	MTh / talk	the MThs compliments the client and claps her hands.		

05:14- 05:19	client / talk	the client smiles and walks over to the table and picks the ukulele, telling the MTh, that this is what he wants to play.	ukulele	
05:28- 06:18	**Duet**	Tentative duet with the MTh providing a steady medium slow frame, and the client exploring the ukulele. (**CL**)	ukulele, piano	00:50
06:03- 06:06	*music client*	The client discovers how he can strum a rhythm		
06:06- 06:07	*music MTh*	The MTh adjusts to then new beat and tempo.		
06:18- 06:22	client / talk	the client stops and tells the MTh, this should be a different kind of song.		
06:22- 06:24	MTh / talk	the MTh agrees and switches to the djembe instead.		
06:25- 08:27	**Duet**	New duet with ukulele djembe and voice. (**CL**)	ukulele, djembe, voice	**02:02**
06:25- 06:47	*music MTh*	The MTh is picking up on the rhythm of the clients strumming and using them as a basis for her drumbeats and she sings a melody that fits the rang of the ukuleles strings, as played by the client		
06:25-08:20	*music client*	client strums the ukulele and somtimes fingerpicks single strings		
06:49- 06:54	*music MTh*	making artificial brakes, to encourage the client, to try something new.		
07:27 - 07:34	*music MTh*	decreasing dynamics.		
08:07 - 08:14	*music MTh*	Increasing dynamics		
08:07- 08:14	body language / gestures	the client rocks his body in time with the music.		
08:20- 08:27	*music client*	the client initiates a triple ending.		
08:20- 08:27	body language / gestures	clear gestures to support the triple ending.		
08:36- 08:41	MTh / talk	The MTh congratulates the client, and is asking him, if he would like to join on the drums		

08:36- 08:41	body language / gestures	The client walks smiling towards the MThs and when she mentions the drum, he starts making dance moves.		
08:42- 08:47	music MTh	The MTh starts drumming, while the client fetches an instrument.	Djembe	
08:47- 08:50	client / talk	the client returns with a little bongo drum and sets it next to his legs on the chair he is sitting.	bongo drum	
08:52- 08:56	music client	The clients starts exploring the bongo drums		
08:52- 08:56	MTh / talk	The MTh plays a steady rhythmical frame		
08:56- 09:02	music client	the client walks over and fetches a smaller drum, he lays the instrument down on the ground, sits on top and starts drumming.	small drum	
09:06- 09:33	**Duet**	Duet with the new drum	djembe, bongo drum	
09:34- 09:50	client / talk	The client takes the drum back and picks another with the same patterns on the outside, like the bongos (they are children drums, picturing scenes from the jungle)		
09:49 - 09:51	MTh / talk	The MTh takes the new drum.		
09:54- 10:00	client / talk	The clients says: "***This should be like a jungle song***"		
10:03 - 11:27	**Duet**	Jungle duet (**CL**)	bongo drum, small drum	**01:24**
10:04- 11:27	body language / gestures	the client often changes places and ways of playing, since the bongo drum does not fit or sound well on different places he chose.		
11:28- 11:30	MTh / talk	The MTh compliments the client.		
11:30- 11:36	client / talk	The client asks to play the piano, where he plays at the lower range and the MThs should take the higher.	piano	
11:39- 11:49	music client	the client starts playing a thoughtful melodic line.		
11:50 - 12:08	**Duet**	They are making funny sounds on the piano.	piano	00:18
12:08- 12:11	client / talk	the client stops, asking for the **JAWS** game.		

12:15- 12:19	MTh / talk	the MTh agrees to one time.		
12:22- 13:11	**Duet**	**JAWS**-attack (**CL**)	piano	00:49
13:13- 13:31	music client	Client plays "game over" cluster		
13:13- 13:31	client / talk	The client says: "***This is game-over***!"		
13:31- 13:40	MTh / talk	The MTh suggest playing: "***A hike in the fores***t" and asks the client where he would prefer to play.		
13:39- 13:41	client / talk	The client prefers the deep keys		
13:42- 13:45	MTh / talk	the MThs tells the client, that they will let go of the darkness of the deep sea, the Atlantic or the Pacific Ocean, and experience a new feeling in the woods.		
13:48- 17:32	**Duet**	Starting with "a hike in the forest". (at a certain point the client attempts to repeat a **JAWS** routin, but playing the same notes in the middle of the piano. The MTh keeps on playing and telling him about squirrels, and the client gradually changes the **JAW**-theme into something new)	piano	03:34
17:33- 17:35	client / talk	The client tells the MTh, he wants to play a song for her, where she should just listen		
17:38 - 17:48	music client	the client starts playing a slow melody.		
17:48- 17:51	client / talk	He stops and asks the MTh: ***"Let me play a song for you. Can we record it?"***		
17:51- 18:00	MTh / talk	The MTh wants to record, but accidentally starts one of the piano samples, with a Rachmaninoff excerpt.		
17:55- 18:00	client / talk	The client is impressed and laughs		
18:09- 18:12	MTh / talk	The MTh starts the recording again.		
18:12- 20:30	**Solo**	Amazing solo by the client.		02:18
18:12- 20:30	unexpected (significant) events	Unusual display of music and focus and storytelling in music.		

20:30- 20:33	MTh / talk	The MTh tells the client, she thinks that was an extremely beautiful song and asks him, if he would like to listen to it.		
20:36 - 20:38	client / talk	The client agrees.		
20:38- 23:01	**Solo**	Listening to the solo and adding some new melodies towards the end.	piano	02:18
20:43- 21:14	body language / gestures	the client listens very closely, looking down to his hands.		
20:51- 20:57	MTh / talk	The MTh asks the client, what he thinks.		
20:57- 21:00	client / talk	The client says: ***It's a fine song.***		
21:00 - 21:04	MTh / talk	When the MTh mentions that she thinks it sounded a bit sad,		
21:03-21:05	client / talk	The client says: "***Maybe a sad ghost***"		
21:23- 21:28	MTh / talk	the MTh says, it is fantastic.		
21:29- 21:31	client / talk	to which the client says yes to.		
22:07 - 22:54	*music client*	the client plays together with the recording.		
22:56- 23:02	MTh / talk	The MTh is over the moon, and thanks the client and tells him how impressed and touched she is by his music.		
			5 instruments	

Session 10

Timecode	Category	Content	Instrument	Duration
00:17- 00:22	MTh / talk	The MTh makes a guess but is wrong.		
00:22- 00:24	client / talk	The client says: "***I am Sauron-head***!"		
00:24- 00:29	body language / gestures	the client comes toward the MTh and leans with his back against her chest, showing her the mallets.		

00:24- 00:29	client / talk	***"Don't you think they look like eyes?"***		
00:29- 00:43	MTh / talk	The MTh agrees. She asks the client, where he wants to start, steel drum, piano, or xylophone.		
00:41- 00:44	MTh music	The MTh plays a small pattern on the djembe.	djembe	
00:44- 00:49	client / talk	The client says: "***You should play the piano***!"		
00:49- 00:54	**Solo**	The client tries a little drumroll on the steel drum.	steel drum	00:06
00:55- 00:58	MTh / talk	The MTh tells the client, that she liked his solo.		
00:58- 01:05	client / talk	the client walks to the piano and tells her, that he will play the deep keys.		
01:05- 04:13	**Duet**	Duet on the piano. The client starts with a little melody, which the MTh repeats.	piano	02:08
02:11- 02:15	MTh / talk	The MTh encourages the client to continue.		
02:18 - 02:31	*client music*	the client explores the piano, playing without pulse.		
02:31- 02:39	*MTh music*	The MTh, starts creating a harmonic a rhythmic frame, to support the client.		
02:40- 02:52	*client music*	the client does not engage in the proposed musical frame, instead playing short notes.		
02:52- 02:55	*MTh music*	the MTh joins him with short notes.		
02:58- 03:22	*client music*	the client goes on to do glissandi with his entire underarm.		
02:58- 03:22	*MTh music*	the MTh uses only her hands to respond with similar movements and sounds.		
03:23- 03:46	*MTh music*	She goes back to providing a harmonic frame with a distinct pulse.		
03:45- 03:47	client / talk	asks the MTH to stop playing and to listen.		
03:45- 03:47	body language / gestures	taking her hand down from the piano.		
03:46- 04:13	**Solo**	the client plays a very fast and impressive little solo.	piano	00:07

04:12- 04:15	body language / gestures	the client lifts his hands high in the air, to signal that the song is done.		
04:14- 04:17	MTh / talk	The MTh tells the client, that his music was quite impressive, asking him what it was about.		
04:19- 04:23	client / talk	The client says: "**That was Sonic**" (that is a hedgehog, a cartoon figure with enormous speed)		
04:23- 05:05	**Duet**	Duet (**CL**)	piano	00:41
04:23- 04:32	*client music*	The client starts playing again with a clear pulse and a certain urge.		
04:32- 05:05	*MTh music*	the MTH joins him into a little duet, where provides with some harmonies and a more transparent sound.		
05:15- 05:21	client music	the client asked the MTH to press the pedal for that specific sound, but she shouldn't play		
05:25- 08:08	**Solo**	New solo: Slow piece with medium range, clear pulse, with pauses in between in perfect time. Two low inserts and back to the middle, at the end a long cluster, waiting to disappear into silence. (60 bpm)	piano	02:43
05:59- 06:03	body language / gestures	Indicates to the MTh, not to join in		
08:06- 08:08	client / talk	saying: "**That was it**!"		
08:06- 08:08	Gaze	Looking and smiling at the MTh.		
08:06- 08:08	body language / gestures	Lifts his hands into the air.		
08:08- 08:11	MTh / talk	The MTh congratulates the client.		
08:12- 08:16	client / talk	the client asks if they can make a recording again.		
08:16- 08:21	MTh / talk	The MTh asks, if they should play something together, or if he wants her to play for him, and maybe add something to the music she is playing, or if he would prefer to play alone.		

08:30- 08:34	client / talk	the client says: he is the one, who plays, and that the MTh should not play at the same time.		
08:36- 08:40	MTh / talk	The MTh says, that is perfectly ok, and she would only hold the pedal down		
08:45- 10:30	**Solo**	Recorded solo. The client starts with the same **bmp** (60 bpm)as the piece before. Playing in the middle range, again very regular notes with pauses in between. after a while he plays in change with the deepest keys, towards the end he accelerates and finishes with a long cluster on the lowest keys, waiting for the sound to fade completely out.	piano	01:45
08:45- 10:30	body language / gestures	the client is very much focused on playing, listening after every tone, especially until the music fades out and afterwards lifting his arms, in sign, that the music is over.		
10:31- 12:16	Solo	Listening to the solo! Adding some staccato notes in the beginning.	piano	01:45
11:06- 11:11	body language / gestures	Caressing the MTh and making a scary face shortly after		
11:11- 11:17	client / talk	***"Can you see the white of my eyes?"***		
11:40- 11:55	client music	improvising to the recording		
11:57- 12:05	body language / gestures	Waiting for the music to end.		
12:06- 12:11	client / talk	Saying: "***Ha, ha, haha", look what I can***!		
12:06- 12:11	body language / gestures	The client stands up and jumps around, trying to climb up a door frame.		
12:19- 12:24	MTh / talk	The MTh grabbed a djembe and asks the client to take the other one	djembe	

Timecode	Category	Content	Instrument	Duration
12:28- 12:32	client / talk	He tells her, that he **LOVES brown**! (twice)		
12:35- 12:41	MTh / talk	The MThs shows her Djembe, saying that its colour is a sort of red brown, whereas the clients is a deep brown.		
12:46- 17:39	**turn-taking**	Taking turns with loads of talk and laughing. The client often adds an extra beat to tease the MTH. the play with syllables and beats, "missed" beats, pauses and voice. (MThL and **CL**)		
13:45- 13:56	client / talk	*"Can you hear I'm teasing you?"*		
17:41- 17:53	client / talk	Client asks for a *jungle song* on the jungle drums, and he fetches them.		
18:05 - 20:16	**Duet**	Jungle duet, with good pulse, involving also handclapping. (**CL**)	bongo drum, small drum	02:09
20:24- 20:38	MTh / talk	The MTh compliments the client and asks if he would like to join in a last little piano-xylophone duo.		
20:42- 21:11	client / talk	the client disassemble a part of the xylophone, realising that the parts have a different length.		
21:12- 21:24	MTh / talk	The MTH asks the client for last, little, and *soft song*.		
21:44- 23:42	**Duet**	Last duet, soft and dancing. The client plays soft ascending melodies.	xylophone, piano	01:58

6 instruments

Session 11

Timecode	Category	Content	Instrument	Duration
00:04- 00:25	client / talk	The client enters the room, talking about the fact, that he is a *dangerous cat*.		
00:17- 00:29	MTh / talk	The MTh makes sound of a frightened dog, after being "attacked" by the "cat".		

00:30- 00:40	client / talk	The client says, that "the cat" wants to play the deep keys.		
00:41- 00:48	MTh / talk	The MTh asks the client, if he has seen the video she had send to his parents, where he was playing music.		
00:47- 00:48	client / talk	The client denies it.		
00:49- 01:03	**turn-taking**	**CL** turn-taking	piano	00:12
00:51- 00:56	client music	the client plays a dotted rhythm.		
00:55- 00:56	MTh music	the MTh repeats the same pattern.		
00:56- 01:01	client music	The client plays to notes and accelerates them to a trill.		
00:59 - 01:03	MTh music	the MTh joins the client.		
01:06- 01:10	client / talk	The client asks if they could once more do their "**JAWS**" game.		
01:10- 01:12	MTh / talk	The MTH agrees, telling him it will be the last time.		
01:12- 02:27	**Duet**	A long "**JAWS**" duet.	piano	01:15
02:27- 02:33	MTh / talk	The MTh invites the client to take turns with playing.		
02:33- 03:15	turn-taking	Taking turns, with small melodies. The client keeps playing a soft cluster with the left, while playing a melody with the right.		
03:19- 03:26	client / talk	the client asks, if they could once again explore the different sound of the e-piano.		
03:26- 03:29	MTh / talk	The MTh agrees, since it is the last time.		
03:31- 03:54	**Duet**	Church-organ mode exploration (**CL**)	piano	00:24
03:51- 03:54	client / talk	The client asks the MTh, if she knows what a church is.		
03:55- 03:57	MTh / talk	The MTh tells the boy what she knows.		
04:09- 04:14	client / talk	The client asks the MTh to play a song together with him.		
04:18- 04:25	**Duet**	Trying to play together.	piano	00:07
04:23- 04:25	client / talk	The client stops and tells the MTh, he would rather play alone first		
04:27- 05:07	**Solo**	Very *church-like solo*	piano	00:40

05:06- 05:08	MTh / talk	The MTh compliments the client.		
05:08 - 05:10	client / talk	The client wants to try another mode.		
05:13- 05:14	MTh / talk	The MTh asks the client, if they should take turns or play together, but he does not reply.		
05:14- 06:29	**Duet**	The client starts with a new piece, after a short while, the MTh joins in by following the client with her voice, adding some extra dynamics.	piano, voice	01:15
06:28- 06:30	*client music*	Client plays a dotted rhythm.		
06:30- 06:56	**Duet**	Little duet with a new sound.	piano	00:26
06:55- 06:56	body language / gestures	The client gestures the MTh to stop playing		
06:56- 06:58	client / talk	Change of sound again		
06:58- 07:48	**turn-taking**	Experimenting with the different sounds. (**CL**)	piano	00:50
07:53- 09:24	**Solo**	The client is playing a last solo in a slow and quite way. He finishes the song with heartbeat (hitting the keys, with no sound on).	piano	01:31
09:25 - 09:38	MTh / talk	The MThs asks the client to choose an instrument for a duet.		
09:40- 10:03	client / talk	The client takes a very long time to make up his mind, and decides on steel drum.		
10:07- 10:14	MTh / talk	The MTh tells the client, he should start, and she will follow.		
10:17- 14:33	**Duet**	Duet with steel drum and piano	steel drum, piano	04:16
10:24- 10:42	*client music*	The client plays mostly on the rim		
10:25- 10:57	*MTh music*	The MTh provides a stable rhythmic and harmonic frame, to help the client playing in time.		
10:43- 10:59	*client music*	The client plays different scales in a 9-beat		
11:59- 12:05	*client music*	The client plays in time, moving his body to the rhythm.		

12:07 - 12:31	*client music*	Walking around the steel drum, while playing more divers rhythms.		
13:01- 13:11	*client music*	Playing again on the rim.		
13:36- 13:43	body language / gestures	Jumps and dances to the music.		
14:26- 14:31	Unexpected (significant) events	the steel drum almost fell.		
14:38- 14:46	**Solo**	The client finishes the song alone.	steel drum, piano	00:08
14:49- 14:54	client / talk	the client holds the mallets to his mouth, asking the MTh: "***Don't they resemble killer-snails***?"		
14:58- 15:01	MTh / talk	The MTh agrees.		
15:10- 15:15	MTh / talk	The MTh fetches the two djembes, telling the client that she really feels like playing drums together with the client.	djembe	
15:15- 16:42	**turn-taking**	MTh invites the client to take turns on the djembes. The client is focused on the "***eyes***" (**MThL**)	djembe, mallets	
15:18- 16:43	*client music*	The client goes on playing on all kind of surfaces with the mallets, repeating, that they look like eyes. He walks to the MTh showing her the head of the mallets, repeating again, that they ***resemble eyeballs***.	all surfaces	
15:18- 16:43	*MTh music*	The MTh plays a steady beat, without reacting on the "eye-issue", when the client almost drops the mallets, she reacts with the drumming, afterwards reassuming the same drum pattern.		
16:34- 16:42	client music	the client starts banging the mallets against each other in the rhythm of the drumbeat.		
16:35 - 16:42	body language / gestures	The client starts picking up the rhythm of the drumbeats, moving in time, walking to the drums after a while		

16:42- 17:28	**Duet**	Joining into a vivid duet with the MTh, with pauses and breaks towards the end. It is the client who concludes the duet. (**MThL**)	djembe	00:46
17:30- 17:34	MTh / talk	The MTh proposes to take turns.		
17:36- 19:29	**turn-taking**	Taking turns with various patterns and having fun. (**CL** and **MThL**)	djembe	01:43
19:33- 20:09	**Duet**	Moving into a little duet. (**CL**)	djembe	00:36
20:22 - 21:02	MTh / talk	The MTh asks the client, if he would like to play the xylophone.		
20:40- 20:47	Unexpected (significant) events	The client is pretending to stab the MTh with the mallets.		
21:02- 21:06	MTh / talk	the MT shows the client, how the mallets can be used the other way round, producing a different sound colour.		
21:13 - 22:47	**Duet**	Starting a little duet with xylophone and djembe, the client uses the mallets both ways and finding additional ways to use them.	xylophone, djembe	01:34
22:20- 22:41	body language / gestures	the client often dances to the music.		
22:52 - 22:59	MTh / talk	The MTh compliments the boy, asking him, what he thinks.		
22:58- 23:02	client / talk	The client answers: ***That was a good one!***		
23:08- 23:26	client / talk	The client lays all 4 mallets on the table, saying it would resemble a spider.		
23:27- 23:40	MTh / talk	The MTh invites the client to a last duet on the piano.		
23:44- 23:49	client / talk	The client says he wants to play a turbo song first.		
23:50- 24:00	**Solo**	Solo ***turbo song***.	piano	00:10
24:00- 24:05	client / talk	The client asks for a turbo song with the MTh, stating that he will say when the song is over.		

24:13 - 24:22	**Duet**	Turbo duet, where the client calls out loud ***"Done!"*** at the end.	piano	00:09
24:29- 24:32	MTh / talk	The MTh tells the boy, that now it is time for a quieter song.		
24:35 - 28:07	Duet	Piano duet, quiet and mellow (**MThL** and **CL**)	piano	03:32
24:35- 25:22	*client music*	client plays waves using his entire underarm.		
25:30- 25:47	*client music*	engages with small little melodies, saying they are walking men.		
25:42- 25:49	MTh / talk	The MT praises the client for his lovely ideas.		
27:50- 28:05	body language / gestures	The client "walks" on the MTH's arm.		
28:10- 28:19	MTh / talk	The MTh asks the client, how he liked the song.		
28:10- 28:19	body language / gestures	The client "walks" on the MTh's head		
28:26- 28:33	client / talk	The client says, the man is invisible.		
28:32 - 28:35	MTh / talk	The MTh joins his pretend-play.		
28:43- 28:50	MTh / talk	the MTh thanks the client for the day and the music they shared.		