

**INTENSIVE MUSIC THERAPY PROCESS WITH A MALE ADULT
CLIENT DIAGNOSED WITH AUTISM**

Safa Solati
Master's Thesis
Music Therapy
Department of Music
28 January 2016
University of Jyväskylä

JYVÄSKYLÄN YLIOPISTO

Tiedekunta – Faculty Humanities	Laitos – Department Music Department
Tekijä – Author SAFA SOLATI	
Työn nimi – Title INTENSIVE MUSIC THERAPY PROCESS WITH A MALE ADULT CLIENT DIAGNOSED WITH AUTISM	
Oppiaine – Subject Music Therapy	Työn laji – Level Master’s Thesis
Aika – Month and year JANUARY 2016	Sivumäärä – Number of pages 74 PAGES (with appendices)
Tiivistelmä – Abstract Autism spectrum disorder (also called ASD) is the fastest growing disability. Research shows that music is a relational, emotional, and motivational medium that plays an essential role in field of music therapy, specifically for individuals with autism. This Master’s thesis aims at describing the intensive music therapy process with a 24 year-old Turkish-Cypriot male client diagnosed with ASD in a group setting concentrating on his four main areas of impairments (verbal/non verbal, social interaction, organization/perception and aspects of behavior) and how Creative Music Therapy affected such impaired areas. Results were in correspondence with previous studies about music therapy in treatment of individuals with ASD giving support to the notion that through the process of music therapy, the client was given the opportunity to actively participate in music-making within various and appropriate settings as music accommodated the client’s levels and abilities. The applied music therapy seemed to serve as an effective alternative and demonstrated the fact that informal, fun and functional uses of music at institutions such as the Irfan Nadir +18 rehabilitation center can benefit individuals with autism. The case of the client in this study also showed music’s contribution in helping people with autism to live a happier and more fulfilling life.	
Asiasanat – Keywords Autism Spectrum Disorder, Music Therapy and Autism, Case Study, Creative Music Therapy	
Säilytyspaikka – Depository	
Muita tietoja – Additional information	

Acknowledgements

First and foremost, I would like to thank the staff and all the researchers in the department of music psychology. While writing my thesis I always felt supported by my dear supervisor, Professor Jaakko Erkkilä.; thank you for the support, direction, feedback and discussions. I also thank the Vice Head of the Department, Esa Ala Ruona as well as University Researcher Marko Punkanen, my initial first supervisor, who guided me and helped me with obtaining data. The process of data collection for this thesis would not be possible without the help of my great friend, Ayşe Seven who was there for me to prepare everything for my arrival in Northern Cyprus and assisted me throughout 11 music therapy sessions as a translator and consultant at Irfan Nadir +18 Rehabilitation center. I felt very welcomed by the principal, Havva Oztenay and other staff during my work at the center. A great thanks also goes to my client “Gokhan” whom I believe chose me to be his voice and his parents for allowing me to use the collected data and mention his real name in thesis as I believe he would like to be known and heard by his real name. Above all, my sincere thanks and appreciation goes to my parents, Ali Solati and Parvin Solati who supported me emotionally and financially during hardships and difficulties I encountered in Finland. Without my parents I would not be able to finish this journey. I would like to thank my friends, new and old but specifically Riikka Karvonen as a great Finnish friend I met during my residence in Jyväskylä and I sincerely thank her for being there for me in happy and sad moments. I dedicate the last lines of these acknowledgements to my brother Omid Solati who was the only reason I accepted all the challenges to make this dream come true for both of us to spread the hope!

Dedication

It was a long journey my dear. When your body left me I said it to myself; “one day I will be your voice, not only yours, voice of many”. But it was not me who chose the path. You chose me. You were the only real HUMAN I got to know as a kid.

One accident and the brain injury that made you unable to walk, talk, or even move. You lied on your bed all your physical life but smiled. You smiled at people’s stupidity to waste life not knowing what it is all about. You smiled when you suffered. You smiled when you were in pain. You smiled when I held your hand in your last hours of earthly life. You lived life while others neglected every moment.

How beautifully your name suits you my dear. You are Omid, you are the HOPE that many lose in their life journey. When your body left me, you again lived in me, in my every day, in my every dream. You never stopped living. Even I lived for you to see such a day to stand proud that you are my brother and I succeeded to make your wish come true.

I still play music in memory of those moments when I sat next to you, played random keys on my small keyboard and said “hey Mom, look Omid likes it, he is listening to me and he wants to reach the keys!” I would hold your hand and we would play together. You were right my brother; “When words fail, music talks” and it surely talked for you. Music became your voice to send me your message!

When nobody believed in me, you did. When the world stood in front of me, you stood next to me. You showed me the way. My body continues living on this planet earth, until the day we re-unite and have a brother and sister duet!

CONTENTS

- 1 Introduction..... 1
 - 1.1 Research Aim.....1
 - 1.2 Need for the Study.....1
 - 1.3 Rationale 2
 - 1.4 Autism Spectrum Disorder.....2
 - 1.5 Autism and Music Therapy.....4
 - 1.6 Areas of Impairments.....6
 - 1.6.1 Verbal and Nonverbal Communication.....6
 - 1.6.2 Social Interaction.....8
 - 1.6.3 Organization and Perception.....8
 - 1.6.4 Aspects of Behavior.....9
 - 1.7 Summary of Introduction.....10
- 2 Clinical Approach.....11
 - 2.1 Creative Music Therapy.....11
 - 2.2 Starting Point.....12
 - 2.2.1 Observations outside Therapy Sessions.....12
 - 2.3 Aims of Gokhan's Therapy.....13
 - 2.4 Methods used in Therapy.....13
 - 2.5 Session structure.....15
- 3 Methodology.....18
 - 3.1 Case study.....18
 - 3.2 Research Questions.....18
 - 3.3 The Participant.....19
 - 3.4 The Research site.....19
 - 3.5 Confidentiality.....20
 - 3.6 Time Period of the Study.....20
 - 3.7 Data Collection.....20
 - 3.8 Trustworthiness.....21
 - 3.9 Qualitative Data Analysis.....22
 - 3.9.1 Use of Quantitative Techniques.....24
 - 3.9.2 Content Analysis on Four Main Categories.....26
 - 3.9.2.1 Category 1.....27
 - 3.9.2.2 Category 2.....32
 - 3.9.2.3 Category 3.....37
 - 3.9.2.4 Category 4.....39
- 4 Results and Conclusions41
 - 4.1 Therapeutic Codes and Occurrences41

4.2 The Total and Proportional duration.....	42
4.3 Summary of Results	45
5 Discussion.....	46
5.1 About Methodology.....	46
5.2 About Results.....	46
5.3 Limitations.....	50
5.4 Reliability and validity.....	50
5.5 Ethical Considerations.....	52
5.5.1 Planning the Study.....	52
5.5.2 Voluntary Status.....	52
5.5.3 Treating Gokhan Well.....	52
5.6 Propositions for Future Studies.....	53
References.....	
Appendices	
Appendix 1- Consents From All Group Participants	
Appendix 2- Approval letter from Ministry of Labor and Social security in Northern Cyprus	
Appendix 3- Consent to Use the Client’s Real Name in Research	

1 INTRODUCTION

Music therapy as a new discipline has been influenced by humanistic psychology, psychoanalytic thinking and behaviourism (Krakou & Sanderson, 2006). Bruscia (1998) has defined music therapy as “a systematic process of intervention wherein the therapist helps the client to promote health, using music experiences and the relationships that develop through them as a dynamic force of change” (pp.22). Nowadays there is evidence that music is an effective therapy approach that can be used for individuals diagnosed with autism spectrum disorder (ASD). However, there is still a lack of supporting empirical research (Accordino, Comer & Heller, 2007). In general, up to date, the past and present music therapy research concerning autism consists of narrative case studies and clinical observations (Fang, 2009). Scientific testing with more controlled paradigms to determine the effective influence of music in achieving specific outcomes in clients with autism is the path less examined. Still, taking the variations within the autism spectrum into consideration, empirical research is a challenge in matter of involvement, responsibility and liability of human participants as it was for my study. However, in this study I attempted to expand the knowledge in this field through a combination of both qualitative and quantitative techniques.

1.1 Research Aim

The purpose of my study is to observe, describe, and analyze the condition of the target client in the beginning and the end of an intensive music therapy intervention. Also, this study aimed at finding similarities with other reported studies so that it can complement previous findings to help music therapists in the use of better and more effective musical techniques and interventions. Likewise, it is meant to raise the awareness of institutions and rehabilitation centres to use music therapy with population diagnosed with autism.

1.2 Need for the Study

Knowledge in the field of music therapy for autism has only been focused on qualitative or narrative studies. Therefore, it seems appropriate to build new knowledge by combining qualitative methods with the use of quantitative techniques to develop a clearer picture of this topic.

Moreover, this study is geographically important as there has not been a study done in the same area (Northern Cyprus). This study can be valuable knowledge in the field of music therapy connected with autism. I will present the case of my client with autism to allow his voice to be heard and to reflect the importance of using music in rehabilitation centers to help individuals with autism.

1.3 Rationale

Music has been proven to be an engaging stimulus for people with autism (Aldridge, 2013). However, Aldridge (2013) reports that since autism is a “spectrum” disorder, stressing the differences between individuals, “no specific method or approach works for all individuals” (pp.25). Therefore, every case study can yield new knowledge in this field.

In my music therapy experience with individuals diagnosed with different developmental disabilities, specifically with those diagnosed with autism, it has already become apparent that music holds valuable properties that can be beneficial to them. There is evidence that individuals with autism who do not respond to speech often respond to music and have consistently shown a sensitivity and attentiveness to music (Darrow & Armstrong, 1999). In fact, Darrow and Armstrong (1999) state that music is what they respond more frequently and appropriately to than any other auditory stimulus and further explain that individuals with autism not only enjoy music but also often demonstrate a high level of musical ability, special responsiveness and interest in musical stimuli. Therefore, I believe the use of music as therapy can highly benefit this population. When arguing the case that music therapy could be used to improve the impaired areas in autism, it is essential to explain the following terms.

1.4 Autism Spectrum Disorder

The client in this case study, Gokhan has been diagnosed with autism spectrum disorder (ASD). “Autism” is classified both as a neurological and developmental disability or disorder that is typically seen during the first three years of life which results in the manifestation of delayed and restricted social, behavioral and communication skills (Fombonne 2005, pp.282). Autism is reported by Aldridge (2013) as the fastest growing disability with a prevalence of approximately 13 in every 10,000 births, and it is believed to be the second most prevalent

neurodevelopment disorder among children. This disorder has been reported five times more common in boys than in girls (Aldridge, 2013).

Some reports by Velasquez-Manoff (2012) claim that comparing with the year 1984, in which 1 out of 2,500 children were diagnosed with autism, this rate increased to 1 or 2 in every 1000 in 1997, and 1 in 150 in 2007 which indicates a very rapid increase of this disorder. Still, there are lower rates reported from many developing countries, while overall global rates point out an increase in autism. This is because in developed countries communities are often more aware of the disorder and children with autism are increasingly provided with health services (Velasquez-Manoff, 2012). These mentioned factors, make detecting autism in developed countries much easier than in developing countries

It is worth of mentioning that the word "autism," has its roots in the Greek word "autos," that means "self" and describes conditions in which a person is removed from social interaction becoming an isolated self (Scott, Clark, & Brady, 2000). ASD is nowadays known as a disorder with physiological and neurological causes (Scott, Clark, and Brady, 2000). In 1919, the term "autism" was used by Eugen Bleuler, a Swiss psychiatrist, in conjunction with schizophrenia in adults (Fang, 2009). Bleuler defined autism "as a transitional phase where an individual loses perception, isolating themselves and transcending into a divergent perception of reality experienced by people with schizophrenia" (Scott, Clark, and Brady, 2000, pp.49). The previously mentioned definition caused many people wrongly think that autism in children was a sign of schizophrenia.

In general, today's knowledge about ASD is mainly through Kanner's and Asperger's studies that took a deeper glimpse into the broad range of this disorder (Scott, Clark, & Brady, 2000). Although Kanner had not been the first to introduce the term "Autism" in relation to disabilities, he is known for his dedication and a large amount of attention to the population with autism and their communication deficits (Aldridge, 2013, pp.24-33). Moreover, Kanner is well-known as the pioneer to differentiate between autism and schizophrenia through the specific behaviors noticed in his case studies that were different than schizophrenia and mental retardation (Scott, Clark, & Brady, 2000). However, American Psychiatric Association (2000) has reported that there is a possibility for autistic and schizoid traits to coexist in individuals. It is further stated by Fang (2009) that children with autism had developed

schizophrenia in older ages, and individuals with schizoid personality disorder displayed various autistic traits such as having no close friends and being socially anxious.

Regarding the possible reasons of above mentioned co-existence of autistic and schizoid traits, Esterberg (2007) has provided two possible reasons; first, autism and schizophrenia share some of the same affected genes and second, some prone genes in these spectrums are often inherited together which indicates certain genes influence both autism and schizophrenia (Esterberg, 2007).

Hill and Frith (2003) have reported evidence regarding specific brain differences between children with autism and typical children. This further supports for existing structural abnormalities in the brains of people with autism which makes the autistic brain on average larger and heavier than the normal brain. This increased size of the brain is not evident at birth but from two to four years making autism impossible to be diagnosed at birth (Fang, 2009). The mentioned statement is followed by Hill and Frith (2003) proposal about the underlying cause of autism;

“Autism is a failure of normal synapse pruning during the developmental process. Pruning eliminates faulty connections and optimizes coordinated neural functioning; In fact, a lack of pruning in autism may lead to increase in brain size and poor functioning of certain neural circuits.” (pp.283)

Still, a challenge has remained in relating the observed brain abnormalities to mental functions, and although medical research is currently investigating possible causes such as genetic mutations, viruses, immunizations and toxic chemicals, still the main cause of autism is unclear (Allgood, 2005). However, Allgood (2005) has stated that there are many therapeutic options for autism while causes aren't known yet, and the potentials of individuals with autism can be enhanced by early diagnosis and interventions to improve their quality of life.

1.5 Music Therapy and Autism

Music was only used as therapy for adults in psychiatric settings when music therapy first emerged as a discipline. Fortunately, very soon the value of music became known in the

treatment of children with special needs and many music therapists began to work with people with autism (Peters, 1987).

Peters (1987) has stated that an activity can be called music therapy if it contains five elements:

1. Be prescribed to help a specific behavior or condition,
2. Involve the use of music or music activities,
3. Be directed or supervised by specifically trained personnel,
4. Be received by a client,
5. Have a definite therapeutic goal.

In the matter of music having a therapeutic goal, I agree with Särkämö et al. (2013) when mentioning music as “a unique form of communication that just like spoken language, has roots that reach deep into our very selves and into our brains” (pp.181). Regarding the use of music with autism Edgerton (1994) has stated that:

“Music is a relational, emotional, and motivational medium that plays an essential role in the field of music therapy, specifically for individuals with autism. Music can stimulate “interpersonal relatedness” by employing a well-measured systematic intervention if it is purposefully created and applied in certain cases for clients.” (pp. 33-34)

There have been studies stating that the person’s musical and non-musical behavior can be affected by applying such techniques in music therapy which create a predictable, supportive and empathic musical structure to attract and engage in the process (Wigram & Gold, 2006). Kim, Wigram and Gold (2009) have further explained that the music created by the therapist can be experienced and perceived by the client with autism as related to their own expression. Music can possibly motivate the client to respond, join in and initiate further musical interaction with the music therapist, which mainly happens through multimodal and non-verbal contexts that involve vocal and instrumental exchanges, eye contact, facial expressions, movement and gestures (Kim, Wigram & Gold, 2009). In music therapy involving individuals diagnosed with autism Armstrong (1999) has mentioned that;

“There is a general agreement about music’s effectiveness as a positive stimulus for individuals with autism. As impairments such as speech and communication, social interaction, and sensory perception challenge individuals with autism in their daily lives, they create two worlds; theirs and ours. Since these individuals positively respond to music and often demonstrate a high musical talent, music can be a bridge between these two very different worlds.” (pp.16)

The main goal of using music as therapy according to Aldridge (2013) is to assist the individual with autism to relate appropriately and successfully with those around them in order to function in a society. The following pages explore other concepts related to the current study.

1.6 Areas of Impairments

According to Allgood (2005) the casual mechanisms underlying autism are yet to be discovered but it is a fact that “this neurological disorder impacts brain function and behavior regardless of any social, racial, or ethnic group” (pp.92). The severity of impairments in Individuals with autism varies; these individuals demonstrate limited communication and reciprocal social interaction, restricted interests, obsessive, repetitive or stereotyped behavior (Frith, 2003, p.281). Studies have shown that usually these impairments and behaviors are apparent and can be diagnosed by the age of three (Fombonne 2005).

It is because of the broad spectrum of individuals’ labelled as autistic that Autism is called a spectrum disorder (Adamek & Darrow, 2005). Adamek and Darrow (2005) have also noted that Individuals with autism vary in the severity of the autistic symptoms, intellectual level and development of communicative speech, which result in every single individual with autism displaying unique characteristics. In the following pages, I will discuss each area of impairment in more detail.

1.6.1 Verbal and Nonverbal Communication

One of the most debatable areas related to autism is communication that is the biggest challenge for this population. Communication is defined by Scott, Clark and Brady (2000) as “the process of sharing information and ideas from one person to another which involves three stages; encoding, transmitting, and decoding of messages” (pp.50). These three stages are somewhat distorted by ASD.

Language development deficit is one of the symptoms that can be diagnosed in individuals with autism along with deficits in means-end behaviors, verbal, gestural, and motor imitative skills, spontaneous speech, initiation of contact with others, intentional communicative behaviors/vocalizations, communicative functions, social communication skills, and prosodic development (Edgerton, 1994). One study suggests that the mentioned deficits can be improved through specific music therapy techniques such as singing and making music with percussion instruments such as bells, drums, sound blocks and shakers (Gross, Linden & Ostermann, 2010). Also, songs can be specifically composed to relate with the client's interests and favorite topics so that a client can practice the articulation of specific speech sounds and improve word discrimination skills (Peters, 1987). It is further suggested by Peters (1987) that call and response activities can develop imitation skills first through singing and playing instruments, then in speech. Vocal and physical communicative responses can also be evoked through instrumental playing and singing.

Comparing with normal people, Individuals with autism have difficulty in developing communication. Fang (2009) has mentioned that verbal communication abilities in individuals with autism differ; some cannot speak at all, have a delay in development, or are fluent but suffer from inflexible speech. In the case of individuals with autism difficulties in starting and maintaining conversations is evident and rigidity and very concrete use of language can also be noticed (Scott, Clrak & Brady, 2000). Regarding the nonverbal communication, Aldridge (2013) states that music can serve as a medium for individuals with autism to express themselves without the difficulty of attempting to speak, and music can be the bridge between their nonverbal world and our threatening world of words. As every individual is different, no one method or approach will work for every person. Thus, a music therapist must be knowledgeable and creative in planning intervention strategies that address the individual needs, abilities, and interests of each person (Aldridge, 2013).

Communicative areas in the brain linked to speech, language, and socially acquired nonverbal codes such as body language; eye-contact, and touch are affected by ASD (Fang, 2009). Individuals with autism lack nonverbal communication skills, that cause them having difficulty in interpreting nonverbal cues, and acquiring social customs learned by typical individuals through acculturation (Scott, Clrak & Brady, 2000). Peters (1987) mentions that since individuals with autism are unable to express themselves verbally, music can function as

a bridge for positively expressing moods, attitudes, and feelings. In fact, non-verbal communicative elements in music acquire value when using music in working with people with autism since “when words alone fail; an individual with autism can communicate and establish a relationship through music” (Peters, 1987, pp.50).

1.6.2 Social Interaction

It is in this area that a person with autism is most severely impaired. Individuals with autism prefer to be by themselves, unlike most typical individuals who try to interact with other children, adults or peers (Fang, 2009). As Scott, Clark and Brady (2000) have mentioned, it is commonly observed that they are often unaware of others in their surroundings. Fang (2009) explains that even though some children and adults seek out to make friends, a lack of understanding in how to make friends or sustain the relationship once it is established challenges individuals with autism. According to the American Psychiatric Association (2000), it is hardly observed in individuals with autism to use eye contact in interaction. Scott, Clark and Brady (2000) further state that it is very common to observe limited use of facial expressions that show the individual not being aware of social cues and not showing affection. In some cases these individuals are not emotionally expressive, do not show facial expressions of different emotions and do not usually enjoy being held or hugged (Scott, Clark & Brady, 2000). According to age and the severity of autism, impairments in social interaction vary greatly which results in “being unable to understand the social reciprocity, nuances and conventions of social interaction needed in a friendship” (Fang, 2009, pp.21).

In a research done by Edgerton (1994) music therapy is mentioned to be positively affecting the individuals with autism leading them to improve their social skills, verbal and nonverbal communication skills, emotional interaction and make changes in their behaviours. The music therapist can establish a meaningful relationship with the client by applying musical elements such as rhythmic patterns, dynamics of expression, temporal beat, pitch range and melodic contour in music making process (Edgerton, 1994).

1.6.3 Organization and Perception

Brown (1994) suggests that in autism one of the most important aspects is having difficulty in making sense of their surrounding world. It is because of this complexity in perception that

people with autism demonstrate an obsessive inflexible reliance on routines to help them survive in an unpredictable, frightening world (Brown, 1994). This is why it is very common to observe individuals with autism being resistant to change. Fang (2009) clarifies this characteristic in an example of chair arrangements in a classroom, that if small changes happen in the order of chairs, a person with autism will have difficulty tolerating those changes, which eventually will cause them distress. The order and structure in sounds and rhythm assist individuals with autism to organize their perceptions of the perceived chaotic world and to create a structured and safe experience (Fang, 2009)

Regarding perception in individuals with autism, the general idea is that, attention to features in the environment is not at all oblivious and these individuals are able to attend to stimuli adequately for successful performance on certain tasks (Green, Fein, Joy & Waterhouse, 1995). However, Green, Fein, Joy and Waterhouse (1995) have discussed that people with autism exhibit abnormal responses toward environmental stimuli and they have over selective attention span. For example, the individual can pay attention and respond to only one of several given cues. In fact, people with autism attend to stimuli that are mostly less characteristically social. This is rooted in an over-activation of brainstem mechanisms of arousal. Thus, to avoid social stimuli, the person uses this adaptive mechanism of not attending all existing stimuli for purposes of de-arousal (Green, Fein, Joy & Waterhouse, 1995).

Since structure and organization is a fundamental need for people with autism, “creating a structured setting in the use of music provides predictable experiences that promote positive behaviours” (Darrow & Armstrong, 1999. pp.18). By using a standard format, familiar music and activities in a therapy session, music can be presented in a clear and predictable way that allows individuals with autism to grasp onto the comfort of a consistent routine; thus decreasing inappropriate behavior provoked by anxiety and confusion (Aldridge, 2013).

1.6.4 Aspects of Behavior

The behaviour of individuals with autism can be categorized as “self-injurious behaviour, stereotypic behaviour and hyper- or hyposensitivity” (Aldridge, 2013, pp.215). Focusing mainly on the last category Fang (2009) suggest that, one can scream, jump, walk or run

around as a reaction to the noise of a vacuum cleaner when hyper-sensitive to sound but a hyposensitive to sound can appear deaf to the same noise.

Green, Fein, Joy and Waterhouse (1995) suggest that hyper-sensitivity or hypo-sensitivity can affect the attention span in individuals with autism. These people's difficulties in sustaining attention on imposed tasks could be attributed partly to a developmental delay and partly to the motivational contingencies of a task rather than to a primary impairment in the ability to sustain attention. They may have the ability to maintain attention on a task that is motivating to them, but the cause of exhibiting very low ability in sustaining attention on a task also can be over or under stimulation (Green, Fein, Joy & Waterhouse, 1995). Aldridge (2013) further explains that understanding the unique sensory processing style of a person with autism is a necessary part of a therapeutical intervention. It is important to provide a simple environment in case of tasks that require attention for a longer period, for example, a quiet one, instead of a noisy over-stimulating place (Aldridge, 2013). As Green, Fein, Joy and Waterhouse (1995) have mentioned, an individual with autism is able to stay attentive for longer period of time if they are enjoying the value that another person is adding to the activity (e.g. playing, and singing). A good quality interaction will hold one's attention for longer because they want to share attention, they can enjoy the emotional connection, and if given time and space they have a desire to interact and communicate their ideas. These types of interactions can eventually also lead to the person wanting to learn certain tasks (Green, Fein, Joy and Waterhouse, 1995).

1.7 Summary of introduction

Music creates a great connection between a therapist and a client. The characteristics of music make it able to reach individuals diagnosed with autism in ways that other stimuli and interventions cannot. Additionally, these people often find music pleasurable and can succeed in its practice. The structured use of music in music therapy can help them to develop and practice social and behavioural skills that are needed to function successfully in a society. Music gives people with autism, especially those who are of the nonverbal type, an opportunity to communicate and express themselves appropriately. In some cases, music may be the one thing that helps them live a more fulfilling life.

2 CLINICAL APPROACH

2.1 Creative Music Therapy

The main focus of this chapter is on creative music therapy approach since not all approaches are relevant to music therapy and autism. This chapter due to logistic limitations is not going to cover every possible method.

Creative Music Therapy approach was first developed by Nordoff and Robbins, which aimed at “developing contact with the client within the context of a musical experience through improvisation and exploration” (pp.368). Their technique, Creative Music Therapy, emphasizes the creation of musical improvisations that serve as a nonverbal means of communication between the therapist and the client (Nordoff & Robbins, 2007). I agree with Nordoff and Robbins when stating “within every human being, there is an innate responsiveness to music, and within every personality one can reach a music person” (Wigram, Pedersen, & Bonde, 2002. pp.15).

Improvisational music therapy is widely used in the treatment of individuals with autism, and has gained growing recognition as an effective intervention that improves social engagement, spontaneous self-expression and emotional communication for individuals with a wide range of developmental disorders (Wigram & Gold, 2006). There is a general agreement that “individuals with autism learn best in structured environments and a high degree of structure is an essential element in treatment plans of individuals with autism” (Edgerton, 1994, pp.33).

Hence, I followed Darrow and Armstrong (1999, p.17) suggestion to set the first goal as working on creating a supportive musical and emotional environment that would accept and enhance my client’s responses. The next step I took was to build a relationship through musical interaction that can occur during improvisations for instance by using various percussion instruments, therefore gradually helping in the acquisition of verbal and mostly nonverbal skills. For me it was not easy to reach this goal by generalizing learned social skills in intensive music therapy sessions to activities outside music therapy sessions. However, it was possible to apply learned social skills in certain activities to other activities within the same music therapy process. For example, the objective of learning to share an instrument such as the guitar with the music therapist was generalized to learning to share a drum. This

sharing process mainly involves social interaction and I believe I could help to reinforce Gokhan's interaction with me.

2.2 Starting point

Before I met Gokhan, I was given little information about his overall history at the rehabilitation center, which I tried to keep limited as I first wanted to create my own ideas about him without being much affected by others' accounts. He was fluent in Turkish and English language but hardly willing to verbally communicate. Since 2011 up to date he has been a regular member of the center.

Gokhan's main symptoms of autism were as follows;

- Avoiding eye contact and wanting to be alone.
- Having trouble understanding other people's feelings or talking about his own feelings.
- Having delayed or irrelevant speech.
- Giving unrelated answers to questions.
- Having schizoid traits
- Having obsessive interests.
- Hyper-sensitivity to sound

2.2.1 Observations outside Therapy Sessions

There was a cafeteria called "Down Café" inside the center where people and staff would spend their break times. After each music therapy session, I found the opportunity to engage in free activities at the center to observe Gokhan's behavior more in depth.

Gokhan used to seat usually isolated from others, or to walk around by himself. He used to talk to himself as later I discovered that he had an imaginary world in which he would

normally talk to some people he used to see (Schizoid traits). He usually was not interested in verbal communication unless he would need something. Sometimes he would show interest in sharing and talking about what he was seeing but other times he would be completely distant.

Gokhan usually used to show interest in anything related to outer space, stars, planets and the cosmos. I soon realized that he would sometimes communicate through pictures. Once I found him alone in a staff's office, reviewing magazines and circling the pictures he liked. There were times during my first days at the center, outside the sessions, that I would try to ask for his permission to seat next to him without disturbing him or talking to him. At first, his answer was usually negative and he would walk or run away. But gradually I noticed changes in his behavior towards me, as in my last days at the center he allowed me to take a picture with him and in our last music therapy session he agreed to give me a hug and said goodbye. These observations outside the therapy sessions later helped to reach an in-depth understanding during the analysis process of the collected data from video-recorded material.

2.3 Aim of Gokhan's therapy

The primary aim of the therapy in case of Gokhan was to give him enough space, time and support to find his comfort zone, where he could see himself a part of the group. The path to this goal was to gradually work towards improving his relationship first with me and then group members.

Considering Gokhan's diagnosis, the research interest of the applied therapy was to observe the possible effects of music therapy on his areas of impairments categorized as; Verbal/Nonverbal communication, social interaction, organization/perception and aspects of behavior.

2.4 Methods Used in therapy

The reason music therapy is considered different from other types of therapies is that it highly relies on music as the most important medium for improving the client's health (Fang, 2009). I followed the suggestion given by Bruscia (1998) to give Gokhan "the opportunity to get involved in a music experience of some kind; listening to, creating, and improvising, as the main aspects of music therapy" (p.22).

Fang (2009) has mentioned that music therapy methods can be described as either *active* or *receptive*. In creative music therapy, I utilized the therapeutic aspect of music served as a nonverbal means of communication between me and my client (Fang, 2009). Since my client was not very verbally expressive, the emphasis was on the active method, including active musical engagement in music making and improvisations. Following the mentioned method, I first attempted to work on creating a supportive musical and emotional environment that could accept and embrace Gokhan's responses and in the process build a relationship through musical interaction (see Darrow & Armstrong 1999, pp. 17). For example, through group musical improvisations, I aimed to recognize the presence of group members including the target client and creating a carefully encouraged communicative relationship that would gradually help the acquisition of verbal and non verbal skills.

Semi-structured improvisation was another important part of each session, to develop communication and social interaction through shared music-making. I applied Nordoff-Robbins (2007) music therapy approach that emphasizes interactive elements of communication (e.g., turn-taking, call and response and reciprocal exchange). Also, in joint improvisation on guitar, I pursued Aldridge (2013) design in the musical structure to leave space for Gokhan's contributions such as playing short phrases followed by pauses, which would result in evoking his attention and response. Improvisation provided the opportunity for spontaneity and playful exchange, also motivating communication by allowing Gokhan to explore and express his interests. I tried to respond immediately to my client's musical expression, and place it in a meaningful context. An example of this is by using turn taking technique in which group members (including me) would seat in a circle where each member would be given an opportunity to take a turn and lead the improvisation.

The structured musical interventions allowed for one-on-one interaction between Gokhan and me. It was of high importance that during all of the interactive activities we did not stumble on the language barrier. Although all songs and activities were written and arranged in accordance to the main language of the group (Turkish), with Gokhan, I could easily communicate and sing in English.

Singing was also another method used as an effective way to imprint the rhythm, and to help Gokhan to develop and improve his communicational skills, verbal expression and trigger his

readiness to communicate (see Peters, 1987, p.41). In the first session, there was an open discussion about each group member's favorite songs that they would wish to sing. Singing along with a playback (i.e., *karaoke*) was only included in the 11th session.

In general, by following Aldridge (2013) idea of "portraying a musical image of a client through their body language and facial expressions", I also attempted to note Gokhan's body language (e.g., eye contact), facial expression (e.g., smiling), and movements (e.g., jumping) to match his emotional state and create a musical portrait of him (pp.132).

2.5 Session structure

Aldridge (2013) has stated that in a group setting musical activities can help with social interactions and a positive, enjoyable musical activity can motivate and engage individuals with autism to join the group activities and interact with others. This process was constructed by the therapeutic approach known as *musical attunement* that calls for "different musical and empathic techniques targeting the individual's responsiveness, characteristics and needs" (pp.217). As Kim, Wigram and Gold (2009) suggest this approach "is an intuitive and moment-by-moment process, sensitively tuning into, elaborating and regulating the individual's behavioral and emotional expressions through musical engagement" (pp.390).

I pursued Peters (1987) idea that recommends using music and musical activities to establish contact with my client and later during the process, to work on building the therapeutic relationship with him to improve his level of functioning through involvement in carefully structured musical experiences. Peters (1987) further explains that;

"The music and musical activities must be carefully selected based on the therapist's knowledge of the effects of music on client's behavior, strengths/weaknesses, and therapeutic goals such as the development of motor, emotional, academic, communication, and social skills." (pp. 7-8).

In the intensive nature of these music therapy sessions, central techniques included songs, structured musical interventions, free improvisation, and singing. In each session, the first half of the session was dedicated to musical activities and the second half was for semi-free improvisation. Since there is a general agreement that individuals with autism learn best and show most positive changes in structured environments, I kept the setting of sessions similar

throughout all sessions to familiarize Gokhan in particular with the activities throughout the process (see Edgerton, 1994, pp.33).

Each session consisted of;

- Hello song;
- Play and response musical activities (“Ready for music” song, “Right- left” song , guitar or drum one-on-one client and therapist)
- Free activity (E.g., Karaoke)
- Semi-structured musical improvisation (E.g., silence & chaos, turn taking).
- goodbye song

I utilized Peters (1987) five main categories regarding music activities that have been proven effective to help individuals with autism gain non-musical skills. In the first category Peters (1987) mentions music “as a carrier of information”, so I composed and used special songs to include information that Gokhan was trying to learn and memorize by presenting factual information in song lyrics or a sequence of events (pp.9). For example, in “Right-left” song, I handed two mallets to Gokhan while I was seating in front of him, holding two sound-blocks. The song goes as follows; *right and left, right and left Gokhan is playing, right and left, right and left Gokhan is playing, music* (This is a translation from Turkish to English). Here the client’s task was to cross his hands and play the right sound-block with his left hand and the left sound-block with his right hand following the song. I would sing the song three times, from slowest to the fastest considering the client’s ability. This technique is proven to work very well with those with autism, because it helps the individual to understand and react to instructions put into music (see Peters, 1987, pp.41).

In the second category Peters (1987) mentions music as “a mean to reinforce or motivate individuals with autism, because they find music pleasurable” (pp.10). Thus, I tried to reinforce Gokhan’s positive skills and behaviors through participating in musical activities. For instance in the “Ready for music” song, I would sing the song with a guitar as follows: *if you’re ready for music, clap, clap, clap. If you’re ready for music, touch your head, touch your head. If you’re ready for music, touch your knee, touch your knee. If you’re ready for music, jump, jump, jump* (Turkish to English translation) and Gokhan would respond to the

tasks included in the song. This song worked remarkably well when Gokhan reacted to loud noises by jumping. It helped to replace that behavior with positive bodily movements and to encourage participation in activities that contributed to improving social and motor functions as well (see Adamek & Darrow, 2005).

In the third category, music is noted by Peters (1987) to serve as “a background for learning” (pp.41). Therefore, I used recorded music to be the background in the singing activity (*karaoke*) to mask unwanted sounds and to establish a specific mood to facilitate learning; improve concentration and attention span.

The fourth category introduces music as “a functional, physical structure for a learning activity” (Peters, 1987, pp.41). Using rhythm in all purposefully composed songs helped to accompany speech, encouraging verbalization with appropriate pacing. Finally, the fifth category mentions music role as “a reflection of the client’s progress towards the therapeutic goals and their level of functioning” that I made this possible by examining Gokhan’s interactions with myself and musical material (Peters, 1987, pp.41).

The setting of each session aimed at improving the group in certain aspects of behavior, social skills, attention span, and speech: useful verbal communication, motor and sensory skills, and cognitive functioning.

3 METHODOLOGY

3.1 The Case study

This study employed a qualitative case study design. Baxter and Jack (2008) support the implementation of case study designs as they suggest:

“Qualitative case study methodology provides tools for researchers to study complex phenomena within their contexts. When the approach is applied correctly, it becomes a valuable method for health science research to develop theory, evaluate programs, and develop interventions.” (pp.544).

For this topic, there are numerous reasons why the case study strategy seems to be the most appropriate method to analyze the data. As Peters (1987) stated, music and musical activities should be carefully selected based on the effects of music on every person’s behavior, strengths and weakness, and therapeutic goals such as the development of motor, academic, communication, social, or emotional skills. Therefore, it is important for this study to examine closely and truly understand the effects of such therapeutic situations on the target client because not every occurrence in a therapeutic setting can be generalized. Moreover, the target client’s experience of the music therapy in this study was unique to itself and cannot be replicated.

The study aimed at providing further understanding into the phenomenon of music therapy, its benefits and practical uses for the population with autism. The study did not aim at manipulating the behavior of the target client, but rather examining the client in the setting as he naturally was.

3.2 Research Questions

In this study, music was used functionally, to answer the following questions:

1. Does creative music therapy help the client under study to improve Verbal/Non-Verbal communication, and social interaction?
2. Does music therapy contribute to help the client with organization and perception?

3. How does music therapy help the client to show improvements in certain aspects of behavior?

I focused on answering the questions through the analysis of video recordings and my written notes generated from my observations that helped me gain different perspectives about the client. I tried to explore how music could serve as a non-threatening tool in which my client could learn and develop necessary skills through the therapeutic use of music in activities and improvisations to interact and function successfully with other members in the group and me.

3.3 The participant

The participant of this study was an adult male client diagnosed with autism spectrum disorder. He was a member of the Irfan Nadir +18 Rehabilitation Center in Famagusta, Northern Cyprus, and aged twenty-four at the time of the intervention. Having Turkish-Cypriot parents, Gokhan, was the only one among the group fluent in English, since he was born and raised in the U.K and moved back to Northern Cyprus at the age of 17. Not having the language barrier with the client was one of the most important aspects contributing to my decision of finding Gokhan suitable for this study. In the following pages, I will further describe the detailed process of selecting the participant.

3.4 Research site

I chose Irfan Nadir +18 rehabilitation center as my research site because I had heard about the center during my Bachelor studies in psychology at Eastern Mediterranean University. This center provides daily activities such as the use of computers, cooking, handy crafts and writing to assist and improve the members' everyday activities. I applied to the center to collect data for study purposes and in June of 2013 I received an approval letter from the Ministry of labor and social security in Northern Cyprus to complete an internship at the center between August and September of the same year. My job was to provide music therapy for a total of 12 members of the center whose parents had shown interest and given consent to participate in the sessions. It was the first time this center had the opportunity to have music therapy for its members. The language was the only difficulty of having my internship at the center. To solve this issue, one of the staff members assisted me to translate parts of the

sessions from English to Turkish although I was somewhat familiar with the Turkish language.

3.5 Confidentiality

In order to collect data from the target client, all participants' parents in the same group filled out consent forms agreeing to have each session video recorded (see appendices 1 and 2). Written Permission was given by the principal of the center and the client's parents to use the video-recorded material of all 11 sessions for study purposes. Also, Gokhan's parents gave permission to use his real name for the written report.

3.6 Time Period of the Study

This study was conducted during a very intensive two-week period beginning on August 19th and ending on September 3rd of 2013.

3.7 Data Collection

Prior to the commence of the therapy, my primary interest was to investigate the possible effects of music therapy on improving communication skills in individuals with developmental disabilities and their interaction with me as the therapist. I was given short descriptions of all 12 clients interested in participating in music therapy sessions that provided me with the first hints to select the suitable client for this study. I had two separate groups; each consisted of six members. The target client, Gokhan was the only client with autism and for gathering data I solely focused on his case in the context of being a member of one group.

There were a total of 11 music therapy sessions (11 hours) for the group that were held at the center every day, except weekends. The music therapy sessions were all held in the biggest classroom at the center to give enough room and comfort for the group. Two digital cameras were in two different corners of the room to have a better view of the target client from two different angles. I took into consideration and made sure that the video-recordings were framed so that they could capture the target client's entire body or a substantial part of it, which would allow observing his bodily movements, facial expressions, and eye contact with the therapist.

At the end of each day, I watched the recording of the session and took some initial notes. The transcribing procedure occurred after the music therapy sessions had ended. In one hour session, by considering six members in the group, I dedicated 10 minutes direct client/therapist contact with Gokhan during musical activities and improvisations. Thus, from 11 hours of video-recorded material, I had an estimated total of 110 minutes video material to later go through. All of this data was then carefully transcribed for further analysis over the course of several months.

3.8 Trustworthiness

While starting to analyze the data, it is important to examine the trustworthiness of every phase of the process, including the “preparation, organization, and reporting of results” (Elo et. al.2014, pp.1). It is of great importance to mention several aspects that contributed to the trustworthiness of this study. In the preparation phase, I followed Elo et al. (2014) that suggested a deductive content analysis for a structured data collection, because the data of this study consisted of two video footages from sessions one and 11 in which the same structured music therapy interventions and improvisations were repeated and the setting of the sessions allowed very limited room for unexpected incidences. Since the target client was not very verbally expressive, the conversations within the chosen sessions were short and not spontaneous. This made the discussions within the sessions quite predictable. The client would only verbally respond or express himself to me if he was asked a question or if he would need something. Still, there was a surprising behaviour which was jumping although it did not interfere with the whole context of deductive data collection and in fact became a part of study process.

Given (2008) reports that qualitative content analysis is “virtually synonymous to purposive sampling” (pp.697). The sample of this case study was purposeful and through criterion sampling, a type of purposive sampling, I managed to select the right participant for this study. This way of sampling involves searching for a case or an individual who meets a certain criterion, which in case of this study was having a certain disorder; autism spectrum disorder. As suggested by Aldridge (2013) autism in boys is four times more often than in girls. Therefore, having a male participant could also better address the research aim and shed light on the topic of music therapy with autism.

In order to select the most significant two sessions that represented the beginning and end of the therapy process, I applied extreme case sampling suggested by Given (2008) that looks for “the purest or most clear-cut instance of a phenomenon”(pp.697). In this case study, I was interested in studying a session that the client performed exceptionally poor (session 1) and a session that he did exceptionally well (session 11). The decision regarding the selected sessions was made through the use of quantitative techniques (See Page 25). Extreme case sampling helped to keep the concentration on the most significant improvements in the client’s condition in order to provide an overview of the possible effects of applied therapy on the client’s impaired areas.

In the organization phase, the credibility of the data has been emphasized (Elo et al.2014). In order to ensure the credibility while analyzing the data, I tried to follow Elo et al. (2014) as suggest, “a researcher is responsible for the analysis and others carefully follow-up on the whole analysis process and categorization” (pp. 5). This therapy process was arranged in a different country from where I lived and studied, and the group members including the target client were diagnosed with different developmental and neurological disabilities. A personal challenge, careful planning was indispensable. Before traveling to Northern Cyprus, I prepared a very structured plan to use for all therapy sessions. During my organizational phase, my thesis supervisor provided me with enough guidance regarding the data analysis, selection of the codes, interpretations, and concepts. Having constant contact and discussion with him added to the project a critical eye ensuring the credibility of my claims (Hsieh & Shannon, 2005).

3.9 Qualitative Data Analysis

This study employed a qualitative content analysis methodology utilizing quantitative techniques. My goal was to provide an in-depth video analysis of two important music therapy sessions (1st and 11th) representing the beginning and the end of a music therapy process with the client. According to Krippendorff (2013) content analysis is:

“The manifest and latent content of a body of communicated material (written, verbal or visual communication messages) through classification, tabulation and evaluation of its key symbols and themes in order to ascertain its meaning and probable effects.” (pp.1)

The data used for the qualitative content analysis was transcriptions and written notes of the chosen sessions. I was concerned with analyzing the context of one-on-one client/therapist musical interventions, improvisations, and verbal/ nonverbal interaction excerpts within the therapy and identifying meaning from the beginning and end of the process. I wanted to take what happened in those two sessions with the client and determine whether music therapy intervention had an effect on the four main areas of impairments.

The analysis process began with transcribing and coding all video data with the help of existing literature. I applied a directed content analysis approach as Hsieh & Shannon (2005) have described. This approach is generally used when “existing theory or prior research exists about a phenomenon but is incomplete or would benefit from further description” (pp.1281).

As expressed by Hsieh & Shannon (2005):

“The goal of a directed approach to content analysis is to validate or extend conceptually a theoretical framework or theory. Existing theory or research can help focus the research question. It can provide predictions about the variables of interest or about the relationships among variables, thus helping to determine the initial coding scheme or relationships between codes. This has been referred to as deductive category application.” (pp.1281)

I will describe every step of the process to clarify the analysis process, which led to the results. Initially, I watched all videos from 11 sessions, transcribed and took notes from each video from different phases of the sessions specifically concentrating on the target client, such as when there were one-on-one direct therapist/client interactions during structured musical activities, when there were facial or bodily expressions, and when there was verbal and non-verbal communication from the client’s side.

Then, for the second time I solely watched the session one and 11, concentrating on exploring what happened in the beginning and the end of music therapy process. I began to transcribe all of the dialogues and verbal communication sections in the chosen videos. Since there are preselected theoretical frameworks regarding the impaired areas (See page 6) their related elements and a therapeutic approach (Musical attunements- see page 16) being consciously used during the therapy with autism, I followed Hsieh & Shannon (2005) coding strategy in directed content analysis to begin coding immediately with the predetermined codes (see page 6). I began to highlight and apply codes to different situations such as when the client gave

relevant verbal answers to my questions, responded to certain musical tasks, showed certain aspects of non-verbal communication (e.g., eye contact, smiling) or when he changed an instrument.

Since the client's verbal communication was very limited and not spontaneous, I coded all of the dialogues and his exact verbal responses under the code *useful speech*. Once all of the sessions were coded, I considered four main areas of impairment; verbal/ non verbal communication (Category 1), social interaction (Category 2), organization and perception (Category 3) and aspects of behavior (Category 4) as the main categories related to study questions. Later I looked at related elements of each impaired area to determine which codes should belong together in each category. During this process I found certain codes significant and eliminated other irrelevant codes. The mentioned significance was measured through the use of quantitative techniques.

3.9.1 Use of Quantitative Techniques

The use of numbers alone did not make this study a “mixed methods”. Erkkilä (2015) has stated that “music therapy is a complex field” and further recommended that the use of quantitative techniques can help produce a better and more profound understanding of the possible effects of the music therapy intervention, as in this study on the target client's areas of impairments (pp.11). Emphasizing on the qualitative aspect of this study, I agree with Platt (1966) when he states:

“Today we preach that science is not science unless it is quantitative. Measurements and equations are supposed to sharpen thinking, but, in my observation, they more often tend to make the thinking non-causal and fuzzy. They tend to become the object of scientific manipulation instead of auxiliary tests of crucial inferences.” (pp.347)

“In other words, you can catch phenomena in a logical box or a mathematical box. The logical box is coarse but strong. The mathematical box is fine grained but flimsy. The mathematical box is a beautiful way of wrapping up a problem, but it will not hold the phenomena unless they have been caught in a logical box to begin with.” (pp. 351-352).

In this case study, there were numerous reasons why I utilized quantitative techniques. Firstly, they could give precision to statements about the frequency and amount of the nine main

codes necessarily complementary to qualitative information rather than substituting for it (Maxwell, 2010). The second reason was that I thought the quantitative techniques could better clarify what happened in the chosen music therapy sessions instead of only relying on an interpretive process. Still, the numbers could not replace the actual description of answers to study questions but could provide a supplementary type of support for the conclusions since only a partial part of the whole data was presented as evidence. Finally, numbers were employed to make the final report appear more precise, rigorous, and scientific, without playing any real role in the logic of the study and thus misrepresenting the actual basis for the conclusions (Maxwell, 2010). In following paragraphs, I will explain the quantitative techniques used in this case study.

The first quantitative technique I utilized within the data set was to calculate the frequency of codes. I mainly analyzed the repetition of every code within each of the chosen sessions. I speculated that if there were a code that occurred less frequently in the first and more often in the last session, it could have been of great importance. I continued concentrating on the client's main symptoms and elements relevant to four impaired areas. Therefore, I closely investigated the context of the codes to identify to what category each code belongs. Regarding the context of codes, I continued taking notes, recognized nine main codes and then started to categorize each code (See Table 1).

TABLE 1: *Areas of impairments and main codes*

Category 1	Category 2
<ul style="list-style-type: none"> - Useful speech - Musical responsiveness - Eye contact 	<ul style="list-style-type: none"> - Repetitive use of instruments
Category 3	Category 4
<ul style="list-style-type: none"> - Co-operative behavior - Schizoid traits - Facial expression (Smiling) 	<ul style="list-style-type: none"> - Hyper-sensitivity to sound <ul style="list-style-type: none"> o Jumping - Attention span

This process provided a clear picture to conceptualize the data and make connections between codes and four main categories. Below in the Figure 1 is the pictorial description of the analytic categories, codes and the relationship found between them.

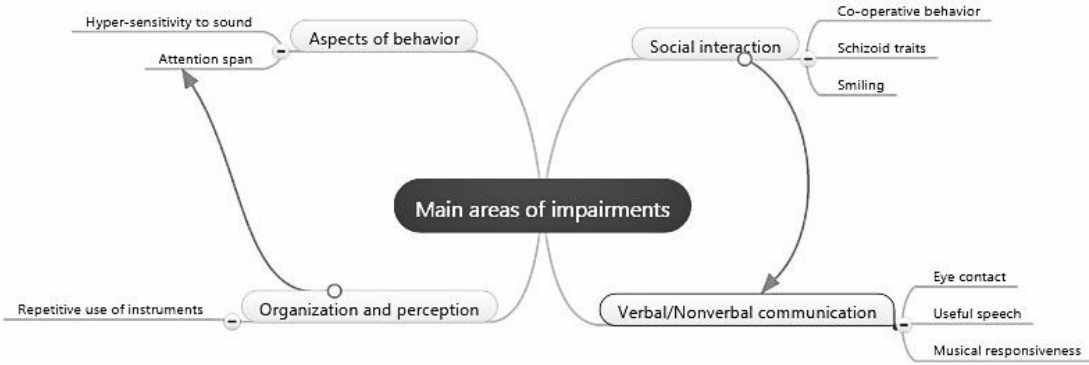


Figure 1. The analytic categories, codes and the relationships between them.

The second quantitative technique I applied was to calculate total duration (sec) for each code in 10 minutes of direct client/therapist interaction within an hour during a session. Then, I divided the nine main codes into positive and negative sets of codes by considering the increase or reduction of each code in session 11 comparing with session one. At this point, I measured the observed percentage of each code in the chosen sessions. The outcomes of the utilized quantitative techniques are included in the Results and Discussion chapter.

3.9.2 Content Analysis on Four Main Categories

Considering the areas of impairments in autism spectrum disorder a total of nine codes processed in the therapy were categorized into four main categories (TABLE 1). The deep therapeutic value of these codes was proven by considering Gokhan’s symptoms and exhibiting them frequently or rarely in the therapy process.

In the following pages, I will explain what each code means and give examples of the context where these were observed in the beginning and how they showed changes and improvements

in the last music therapy session. Since the client in this study was almost non-verbal I generated field notes from my observations that included my feelings and interpretations worthy of reporting to provide a complete description of every code under study (see Gall, Gall & Borg, 1999). As most of the codes were observed in a nonverbal context, I will give examples of moments a certain code was observed in a form of written notes.

3.9.2.1 Category 1

In Gokhan's case, the codes under verbal/nonverbal communication category were eye contact, musical responsiveness and useful speech (TABLE 1). I will explore, explain and elaborate the occurrences of these mentioned codes in the following pages.

1st session

Eye contact - Gokhan would rarely make eye contact with me. Usually, he would have his head down avoiding eye contact. In this session eye contact occurred through different parts of the session nine times (TABLE 2, see page 42). The first actual but short direct eye contact moments with me were when he heard his own name in the "Hello song". Below is the related excerpt;

I started singing to every group member the "Hello song", and it was Gokhan's turn. I sang to him "My name is Safa and what is your name?" There were two short eye contact moments with short pauses and then he quietly said his name; "Gokhan". Even if very short, eye contact in the starting point of the therapy process was of great value.

I observed direct eye contact from Gokhan again at the end of the session when every member was asked to tell their favorite song they would wish to sing for the last session. The written note below is related to the session's excerpt;

I looked directly at Gokhan and asked; "so what's your favorite song?" He had a short eye contact but no answer. I gave him few seconds and asked again. "Gokhan what kinds of music do you like?"....there was again a short eye contact but no answer. I thought he might need more time to answer me, so I asked others as well to be quieter and then I asked for the third time; "I want to know what kind of music you like?"Gokhan had a short eye contact with me and responded; Rap.... I like Rap.

The initial impression was that using the client's name "Gokhan" in the songs strongly affected the client to have eye contact with me as the therapist. As well, being mentioned and noticed as a part of the group helped to create client/therapist direct eye contact in the beginning and at the end of the first session.

11th session

Eye contact – In the last session, the amount of eye contacts remarkably increased to 53 times (TABLE 2, see page 42). One of the most important observations was that Gokhan not only kept eye contact with me but also showed more awareness about my presence as a part of the group. Here is a written note of an excerpt;

I was preparing to start the session with the "Hello song" as the routine of our sessions, the client was looking at me and my guitar several times implying that he was waiting for the song to begin. During the "Hello song" while I was singing to Gokhan, he had full direct eye contact with me until I moved on to the next person in the group circle.

Another moment of eye contact occurred during the end of group improvisation when Gokhan kept eye contact with me in the group discussion. Below is the written note of the excerpt;

The theme of the group improvisation as all members agreed was travelling to space to "pick stars". We imagined that our instruments were our spaceships taking us to the space. At the end of the improvisation I had an open talk to all group members. In Gokhan's turn I asked; "Did you also pick stars Gokhan?" He kept eye contact with me as soon as he heard his name but answered; "No, that's so silly". I asked; "So what did you do when we were all in the space?" he was still looking at me and responded; "I travelled to Mars's moon". Following that I asked; "So you went somewhere far away from us?"... Yes, he said. "OK! I am curious to know how many moons Mars has Gokhan?" I asked... He looked at me again and said; "Of course only one". He was looking at me with very assuring look into his eyes.

Gokhan had frequent eye contact with me until the end of our conversation and his interest in space-related matters seemed to positively affect therapist/client direct eye contact. In the last session, one other observation that I found very important was that eye contacts were more along with engaging in session's activities, specifically verbal interaction. The duration of each eye contact was longer with smaller intervals in between which could also indicate Gokhan's stronger mental and physical presence and engagement in the session's activities.

1st session

Useful speech- In session one, the number of verbal expressions was 14 times in which generally Gokhan would give Yes or No or very short answers and only when asked a question. The spontaneous verbal expressions were mostly irrelevant, but there were important signs in this session that showed if he was given certain time and space he was able to communicate and give relevant yet short answers to my questions. But following examples illustrate Gokhan's irrelevant verbal expressions;

I sang the ending part of the "Hello song" in Turkish mentioning everyone in our group circle; "Hi, hi, everyone, it's nice that you are here"... Gokhan suddenly and loudly said in Turkish: "They are outside, I want to go out". I asked while still playing chords on guitar: "Who's waiting for you there?" There was no response from him and he was looking down on his knees.

The above conversation gave me the impression that although he gave irrelevant and later no answer to the asked questions still seemed that he aimed at communicating with me. What Gokhan said was inferred as giving information about a topic although unrelated to the content of the group conversation. The written note below demonstrates one direct relevant yet Yes/No response from the client;

While playing some chords on guitar I spoke with Gokhan saying; "I was told you also speak fluent English, is that right?" "Yes", he responded. I was very happy to get his fast response and I said; "this is great, so we can talk in English from now on, it will be easier". "Yes", he responded again!

The following written note refers to the conversation during the session's group improvisation when I noted the first response in form of a short sentence;

I asked Gokhan to take the lead of the group improvisation and if he was ready to start. His answer was; "Yes". "Ok then, before you start just tell me what instrument you are holding, what's its name?" I asked. He responded; "Drum... it's a drum".

Besides noticing Gokhan using a short sentence, the above conversation indicated his knowledge and interest in music.

At the end of the session we had an open discussion about everyone's favorite song they would wish to sing in our last session, below is a note of my conversation with Gokhan;

I looked directly at him and asked; “so what’s your favorite song?” He had a short eye contact but no answer. I gave him few seconds and asked again. “Gokhan what kinds of music do you like?”...there was again a short eye contact but no answer. I thought he might need more time to answer me, so I asked others as well to be quieter and then I asked for the third time; “I want to know what kind of music you like?” Gokhan had a short eye contact with me and responded; Rap... I like Rap. “Can you tell me the name of the song”, I asked. “Not now”, he said. “Do you want to think about it and tell me later?” I asked. “Yes” he said. The translator told Gokhan at this point if he would wish to sing his favorite Turkish song (Emre Aydin- soğuk Adalar). He responded; “Yes”.

11th session

Useful speech – In session 11, the number of verbal expressions increased to 16 and the most significant improvement observed in the client’s verbal expressions was the length and duration of his useful speech and that his Yes/No answers turned into short sentences throughout the intensive everyday therapy sessions. One important episode was when Gokhan sang his favorite song. Earlier in the first session it was discussed and planned to have karaoke for group members in the last session. Gokhan’s chosen song was a Turkish song by Emre Aydin- soğuk Adalar. Below is the English translation of the song’s lyrics;

Here is cold, cold rooms... only those who sleep alone can understand my mood. These rooms are cold, no matter how many blankets you put on you; you can still feel the cold. Time has stopped, I couldn’t say anything, You wanted to leave and you left on the same sky, you were a separate sun , tell me at least, are you ok? I’m cold, cold rooms, you’re gone. What’s the point if I’ll wrap myself in few blankets? Here’s cold, cold rooms. I have hit the bottom. Only those who sleep alone can understand me...

Gokhan easily sang along with the song word by word and knew the lyrics by heart. The following written note is about the related excerpt;

Gokhan had very strong expressions [strong and louder tone of voice] while singing the part “Here is cold, cold rooms”. I believe the client not only verbally expressed himself to me but also to the entire group. His singing and pronunciations were almost clear and understandable. Gokhan’s selection of this specific song and having memorized the lyrics showed his deep connection to the song which obviously allowed him to express himself through the song. When he sang the part “Here is cold, cold rooms” for the third time he suddenly asked to leave the room and go to the toilet which indicated that the song was a very strong emotional stimulus for him.

This observation was highly valuable since it showed that if used properly, Gokhan's favorite songs could be an enhancer of his verbal communication. I believe it was a wise decision to have karaoke in the last session as the effects of such strong exposure to emotional stimulations might have been difficult to handle for the client in the beginning of the therapy process.

1st session

Musical responsiveness- I studied Gokhan's musical responsiveness towards myself through play/response activities; "right-left" song, "ready for music" song and one-on-one client/therapist music playing. Also, I carefully took note of Gokhan's musical responses to tasks involved during group improvisations such as playing faster or slower with their instruments. The client showed a very considerable amount of engagement in musical activities and already gave 41 correct responses to musical tasks (TABLE 2, see page 42). The written note below refers to the "ready for music song" and the client's musical responsiveness;

We started the play/response part with "Ready for music" song and Gokhan was willing to take part, respond and follow the musical routines. I started playing along with guitar singing; "if you're ready for music, clap, clap, clap... touch your knee... touch your head... jump, jump jump"! Although Gokhan only responded with clapping in every part of the task, still his response was highly valuable.

The above example could represent the client's willingness to follow, respond to musical tasks which emphasized the role of music for the client as a communication bridge. Another example can be given from one-on-one guitar activity. Below is the written note of the excerpt;

I sat in front of Gokhan holding the guitar in between of us, instructing him to play the strings three times after my turn. I also said that he would have enough time to do the task and then I would play after him and would repeat this process three times. In the first round of our guitar interactive music playing, the client only played the strings once. I encouraged him to hit the strings two more times but he didn't. The second round he again hit the strings once and in the third round he did not play at all.

In this guitar activity with Gokhan, his way of playing on guitar was arbitrary but having him engaged already in the first session was promissory of improvements in future sessions.

11th session

Musical responsiveness – in the last session, the client’s responsiveness in musical activities was significantly higher and quicker with 97 correct responses (TABLE 2, see page 42). For example, in comparison to the first session, during “Ready for music song”, Gokhan demonstrated a very elevated level of responsiveness toward different steps of the activity;

It was the last time for the play/response activity so I started playing some chords and asked everyone in the group if they remember the game and know what to do. I asked everyone to stand up. Gokhan stood up like others. I started singing; “if you’re ready for music, clap, clap, clap... touch your knee... touch your head... And... jump, jump jump! It was amazing to see the client following all the steps correctly and accordingly with the song.

Another example was during the “one-on-one client/therapist” music playing on guitar. The example below illustrates the client’s musical responsiveness;

As the routine of the sessions, again I sat in front of Gokhan for our last guitar one-on-one client/therapist music playing. The client was already familiar with his task as he had exercised it in other sessions as well. So, his task was to hit the strings three times after my turn and we would repeat this process three times. In all three rounds of the exercise Gokhan hit the strings three times accordingly.

The client’s responses were accordingly instant and accurate towards the mentioned tasks. This was not the case in the beginning of the process where Gokhan’s responses were displaced and not according to the order of tasks. The duration that the client was engaged in guitar turn taking activity was also remarkably continuous and precise.

3.9.2.2 Category 2

The codes that fell under this category were co-operative behavior, schizoid traits, and smiling. The following paragraphs explain these codes more in depth.

1st session

Co-operative behavior - During all improvisations I carefully observed the client’s cooperativeness within the group. In the first session, the number of times the client showed

co-operation with me and other group members was only four times (TABLE 2, see page 42). The observations showed that Gokhan did not spontaneously take part in activities along with others in the group and mostly preferred to be by himself. The written note below can illustrate his initiative behaviors during group improvisation;

The theme of the session's group improvisation was creating silence and chaos. I gave the instructions that I would start leading the group circle and whenever I would say fast; play as fast you can and when I would slow; play as slow as you can and when I would say stop we all stop together. There were interesting observations about Gokhan during this improvisation; he was not very involved in playing music. There were short episodes when he tapped on the drum. I did not observe many changes in the pace of his music playing, not following the instructions to play fast or slow accordingly. More interestingly, there was one episode when he started playing and tapping on the drum right after the whole group stopped! There were only two moments in which Gokhan played faster along with others when I asked the group to play as fast as they can, and two moments he stopped when I led the group to stop all at the same time.

The above mentioned observations implied that although the client wanted to engage in music playing, express himself and take role through tapping the drum, he was waiting for the whole group to stop so that he could play alone. This observation could also be interpreted that Gokhan probably felt unheard, unable to hear his own playing or wanted to make others listen to him playing alone which in general showed Gokhan's limited willingness to co-operate in tasks included in group improvisation.

11th session

Co-operative behavior – As the routine of all the other sessions, silence/chaos was included in the group improvisation. Comparing to the first session, there were 8 times that Gokhan showed co-operated within the group (TABLE 2, see page 42). Below is the written note of the excerpt;

The theme of the last session's group improvisation was "picking stars", using musical instruments to travel to space and collect stars. I told everyone; "imagine each of your instruments is a part of a spaceship that they should play together to take us to the space". At this point the group was familiar with the routine of silence/chaos in the improvisation. So, I introduced the idea of playing slowly and gradually fastening the pace of music playing and stop as a sign of arriving in space. I instructed everyone to close their eyes as they preferred. Except Gokhan, the rest of the group had their eyes

closed. First I asked every member to play alone with their instruments to check if we were all ready to travel to space. Then I instructed everyone to play together very slowly. Playing first very slowly with bells stick, the client showed that he was following the instructions. As I instructed the group to gradually play faster, he also played faster. Then as instructed, Gokhan along with others played as fast as possible. I counted; “3, 2, 1, Stop!” Gokhan stopped playing together with others.

This episode of the session clearly could point out the improvement in Gokhan’s co-operative behavior. Moreover, it demonstrated that he found his role and interest in taking part in group improvisations and more importantly seeing himself as a part of the group.

However, there was one important observation about Gokhan that although he played along with others to travel to outer space he chose to do something different from the rest of the group, while “picking stars”. Below is the related excerpt;

We all imagined travelling back to the earth following the same routine of playing slowly in the beginning faster and gradually slowing down and stopping when we arrived on the earth. In Gokhan’s turn I asked if he also picked stars, he answered; “No, that’s so silly”. I asked; “so what did you do when we were all in the space?” he responded; “I travelled to Mars’ moon”. Following that I asked; “So you went somewhere far away from us?”... Yes, he said. “OK! I am curious to know how many moons Mars has Gokhan?” I asked...“Of course only one”, he answered.

My feeling regarding the mentioned conversation with Gokhan was that he still wanted to separate himself from the group through his imagination.

1st session

Schizoid traits – In the beginning of music therapy process, the client was not showing high interest in communicating and interacting within the group. There were obvious signs from the first session that he had his own self created world in which he would see things or people (usually referred to as Aliens or Ninjas) who he used to speak with. This behavior was observed six times from the client in the first session (TABLE 3, see page 43). If not called, asked or mentioned directly, Gokhan would not react, respond or take part in activities during the session. The written note below is related to the episode where I was singing the “Hello song”;

I sang the ending part of the “Hello song” in Turkish mentioning everyone in our group circle; “Hi, hi, everyone, it’s nice that you are here”... Gokhan suddenly and loudly said in Turkish: “They are outside, I want to go out”. I asked while still playing chords on guitar: “Who’s waiting for you there?” There was no response from him and he was looking down on his knees.

During later sessions he was referring to those he was seeing or talking to as Ninjas and/or Aliens coming after him and he was mostly speaking to one or more than one during the sessions.

I was going around the circle for play/response activity; “right-left song” to give every member their turn. Gokhan was whispering to himself the whole time. Later during this activity he started jumping around the room saying loudly in English; “No, No, Fire... Look now they’re all dead”, seemingly he was having a conversation with one or more than one person. When it was Gokhan’s turn during right/left song activity, before starting the task I asked him; “who were you talking to Gokhan?”... “Aliens, they came inside” He responded.

These observations were helpful since through the client’s interests and his inner world, I found a good path to communicate with him and try to connect him to the real world. For example, the theme of some group musical improvisations later during sessions became “travelling to space”. Those improvisations revealed that the client can to interact with the real world if the topics of his interests through music.

11th session

Schizoid traits – In the last session, one of the most remarkable improvements in the client’s condition was that he was completely aware, present and engaged in the session’s activities. He did not demonstrate any schizoid behavior (TABLE 3, see page 43). His awareness to his surrounding environment could be seen by his instant verbal/non verbal and musical/non musical responses to different activities. For instance, Gokhan’s concentration on the song he was singing in Karaoke part of the session and his ability to sing the lyrics by heart also proved that he was present in the moment and not into his inner world.

1st session

Facial expression (Smiling) -The client’s facial expressions were neutral and there were no smiling during this session (TABLE 2, see page 42). So later through the therapy process,

smiling became the only important facial expressions observed as positive indicative of nonverbal communication. Below is the written note about my observations;

During the first session Gokhan never smiled and his facial expressions were neutral without any sign of other facial expressions such as anger, or sadness, etc. it raised my curiosity to see if I observe any changes in his facial expressions toward myself during play/response activities, the one-on-one therapist/client music interventions and group improvisations.

11th session

Facial expression (Smiling) – Comparing to the first session, Gokhan’s expression of smiling while playing and engaging in music extremely improved and there were four times that Gokhan smiled in the last session (TABLE 2, see page 42). Following written note is about my observations of the last session and the client’s expression of smiling;

I observed expression of smiling carefully throughout the process and in the last session the client was smiling very often with long duration while being engaged in play/response activities; ready for music song, right/left song and guitar turn taking. Observation of smiling was very important that could show client’s motivation and enjoyment while engaging in the session’s activities.

Another written note from my observations follows;

As the routine of every session, in play/response part, I sang the right/left song for the last time. Gokhan looked at me and smiled waiting for me to give him the two mallets and he crossed his hands without me asking. As usual I sang the song three times, from slowest to the fastest. The client was smiling while hitting the sound blocks with the mallets during this activity, very remarkable change comparing with the first session.

Another example was during the “Ready for music” song as part of the play/response activities. The example below illustrates the expression of smiling in the client;

During “ready for music” song, Gokhan started smiling in his turn when I was singing “clap, clap, clap” and clapped along. As well when I reached to the point “jump, jump, jump” the client was again smiling while jumping.

The significant improvement of Gokhan in expression of smiling could be interpreted as his interest to interact and emotionally express himself which I believe it was established through the use of music as well as the presence of me as the therapist interacting with him.

3.9.2.3 Category 3

The codes that fell under this category were attention span and repetitive use of instruments. The following paragraphs explain these codes more in detail.

1st session

Attention span – In the first session, I observed the client often as distracted and into his own world. Yet when given a specific task, he showed that to some extent he was able to pay attention to the structure and follow the activity. There were a total of nine times when Gokhan was attentive during session activities (TABLE 2). One of the episodes that the client demonstrated a moderate level of attention was during the one-on-one therapist/client guitar playing. Below is the written note of the related excerpt;

I sat in front of Gokhan holding the guitar in between of us, instructing him to play the strings three times after my turn. I also said that he would have enough time to do the task and then I would play after him and would repeat this process three times. In our guitar interactive music playing, in the first round, the client only played the strings once. I encouraged him to hit the strings two more times but he didn't. The second round he again hit the strings once and in the third round he did not play at all.

During “Ready for music” activity, Gokhan was not very attentive either. The client's responses were displaced and not according to the order of tasks. The written note below can illustrate how the client gave attention to the tasks required in activities;

During the play/response, “Ready for music” song, although Gokhan was willing to take part and respond to the musical routines; among the tasks required in the song as clapping, touching the knee, touching the head and jumping, he only responded with clapping but still his attentiveness was highly valuable.

Unlike the other activities Gokhan demonstrated high level of attention during “Right-left” song, below is the written note of the excerpt;

During “Right-left” song, Gokhan’s task was to cross his hands and play the right block with the left mallet and the left block with the right mallet. I instructed the client to cross his hands, but first he started hitting the sounds blocks with mallets without crossing his hands. But eventually he crossed his hands and while I was singing the song, he followed the task required in the song accordingly to hit the correct sound block and he mostly didn’t miss hitting the blocks on the right moment. I would repeat singing the song three times from slowest to the fastest. But In the third round Gokhan didn’t continue.

Session 11

Attention span - The observations clearly indicated that Gokhan was more concentrated and attentive on different tasks during the last session and there were 18 times when he was paying close attention to the required tasks in musical activities or improvisations (TABLE 2). Below is a written note of the excerpt;

Gokhan was very attentive during “right-left” song. As the routine of the activity I sat in front of the client holding the blocks in my hands as Gokhan’s task was to cross his hands and play the right block with the left mallet and the left block with the right mallet. This process as usual was repeated three times starting from slowest to the fastest. The client was highly concentrated and showed a considerable level of attention to the task by following the task rules accordingly.

Session 1

Repetitive use of instruments – Through the process I found this aspect of the client’s behavior worthy of investigation since he used to show specific attention and interest to a very specific instrument; the three sound blocks and two mallets. Below is the excerpt that clarifies Gokhan’s preference and the number of times he selected the same instrument.

The main idea of group improvisation, I first instructed that each member would take turn to start playing first and the rest of the group would join in afterwards. Every time we would stop for the next member to start I would encourage every member to try a different instrument or exchange them. In the first round Gokhan picked the drum. He was the second member leading the circle, and he changed the drum with the sound blocks. When we all stopped for the next member to start, I asked; “would you like to change your instrument Gokhan?” His response was “No”. I asked the same question in three different pauses in our group improvisation and his answer was negative again.

Session 11

Repetitive use of instruments – In the last session, it was very important to observe that Gokhan decided to try new instruments, below excerpt illustrates;

There were the same instructions for our last improvisation that every time one member takes the lead of the circle and starts and other members join in afterwards. In every pause for the next member to start I asked everyone if they wanted to change their instruments, I asked it generally and didn't mention any specific name. Gokhan reached towards the guitar and picked it up and sat back. Later he started hitting the strings and also knocking on the guitar box creating different sounds. Again when we all stopped and it was another member's turn to start I asked if they wanted to try or change their instruments and amazingly I observed that Gokhan picked up bell stick and started shaking it right away. However, in his own turn he reached and picked the same favorite sound blocks again!

3.9.2.4 Category 4

The code falling under this category was hyper-sensitivity to sound. One of the issues discussed before starting the music therapy process was that the client could not tolerate the loud sounds, and excessive noises could disturb him so that he might not be willing to participate in music therapy sessions if loud sounds and noises are involved. I was even warned that Gokhan might suddenly leave the session if bothered by noises. Below excerpts can clarify the changes observed in the client.

Session 1

Hyper-sensitivity to sound – in the first session, we used percussions (drums, tambourine, sound blocks, shakers and bells sticks) to create variety of (fast, slow, loud and mellow) sounds in improvisation. This setting helped to reveal useful information about the client:

Gokhan expressed his hyper-sensitivity to sound through jumping. It was very common during the session whenever the sounds of drumming would exceed a certain level he would jump or walk around the room. But if the sound seemed tolerable to him, he showed willingness to join and play along with the group and when asked he was asked to faster and louder but if louder than what he could tolerate he would stand and jump around the room again. One of the most important observations of this session was that although jumping around time to time, Gokhan

stayed inside the classroom the whole session that I could imply that he was still finding something enjoyable in the group setting although the loud sounds were not very pleasant to him.

11th session

Hyper-sensitivity to sound – Unlike the prediction of staff that Gokhan might not want to participate in the music therapy sessions because of loud noises, he willingly attended all the sessions and in the last session he demonstrated remarkable improvements;

During the session activities and group improvisation Gokhan was normally seated and if asked he would stand up to do the activities such as “ready for music” task. There were very few times for short amount of time that he jumped or walked around the room. This was a very important observation that showed he had been able to manage and tolerate the sounds and adapt to the sessions’ setting.

Below is another example;

Following the session’s structure it was time for right/left song. In Gokhan’s turn I sat in front of him and gave him the instruction; “OK Gokhan, we will have these two sound blocks and two mallets, what you will do is to cross your hands, play the left block with your right hand and the right block with your left hand ok?” ... OK, he responded but his head was down, no eye contact and very neutral facial expression. I sang; “right and left and right and left, we’re playing...right and left and right and left we’re playing... music”. I repeated singing three times, from slowest to the fastest; Gokhan followed the task but did not have any facial expression during this task. But this task was one of the only tasks that Gokhan performed very well from the first session onward.

These observations were important since it seemed that Gokhan didn’t feel the urge to suddenly start walking or jumping around the room and he was willingly seated and concentrated on the musical task.

4 RESULTS AND CONCLUSIONS

4.1 Therapeutic Codes and Occurrences

This study was based on two (1st & 11th) of eleven intensive music therapy sessions. Six codes showed an increase (TABLE. 2) while the other three remaining codes occurred less in the last session compared with session one (TABLE. 3). Accordingly, these main nine codes were divided into two sets of positive and negative codes.

TABLE 2. POSITIVE SET OF CODES

Occurrences	Useful speech	Musical responsiveness	Smiling	Eye contact	Co-operative behavior	Attention span
Session 1	14	41	0	9	4	9
Session 11	16	97	4	53	8	18

In the first column is the observation of “useful speech”. In the first session, Gokhan had short, Yes/No, yet meaningful relevant answers towards my questions 14 times, while the number of observations was 16 in the last session.

The second column describes the occurrence of the code “musical responsiveness”. The number of observations was 41 in the beginning of the therapy, and it increased to 97 in the last session.

The third column shows the occurrence of the code “smiling”. The observation of this code was zero in the beginning and four in the end.

In the fourth, fifth and sixth columns, the number of observations in the 1st and 11th session is shown as well, and all show an increase in numbers in the last session.

The interpretation of the Table is that the increased number of observations in all six codes refers to improvement in the client’s condition throughout the music therapy intervention and

referring to the code “Musical responsiveness”, high occurrence of this code alone can indicate the effectiveness of music on the client’s main impaired areas.

TABLE 3. NEGATIVE SET OF CODES

Occurrences	Schizoid traits	Hyper-sensitivity to sound	Repetitive use of instruments
1 st session	6	3	3
11 th session	0	1	1

In the first column is the observation of Schizoid traits. In the first session, Gokhan, showed certain schizoid traits (e.g., talking to himself or other imaginative person and whispering) six times, while the number of observations was zero in the last session.

The second column describes the occurrence of the code “Hyper-sensitivity to sound”. The number of observations was three times in the first session while it decreased to two in the last session.

The third column is about the occurrence of the code “Repetitive use of instruments”. The observation of this code was three in the beginning and one in the end.

The conclusion of the mentioned Table is that the decreased number of observation in these three codes also refers to improvement in the client’s condition in the course of the music therapy intervention.

4.2 Total and Proportional Duration

To further elaborate on the Tables 2 and 3, the total duration and the proportion for each code in both positive and negative sets were calculated for total of 10 minutes of direct client/therapist contact in the chosen sessions. In the Tables 4 and 5 below, the positive and negative sets of codes, total duration and percentage of each code are shown to make a comparison between the first and 11th sessions.

TABLE 4. SET OF POSITIVE CODES: Total Duration (sec) and Percentages.

POSITIVE CODES	Total duration		Total percentage	
	Session 1	Session 11	Session 1	Session 11
Eye contact	28.616	116.59	4.76	19.43
Smiling	0	43.748	0	7.29
Attention span	74.355	87.901	12.39	14.65
Useful speech	29.908	183.987	4.98	30.66
Musical responsiveness	61.821	69.012	10.3	11.5
Co-operative behavior	33.674	35.717	5.61	5.95

TABLE 5. SET OF NEGATIVE CODES: Total Duration (sec) and Percentages.

NEGATIVE CODES	Total duration		Total percentage	
	Session 1	Session 11	Session 1	Session 11
Repetitive use of instruments	66.319	26.391	11.05	4.39
Schizoid traits	103.613	0	17.26	0
Hyper-sensitivity to sound	70.561	49.676	11.76	8.27

As shown in Table 4, all codes in this set had an increase comparing to the first session. Conversely, in Table 5 the total percentage of codes in the negative set of codes decreased in the last session. The Figures 2, 3, 4, and 5 presented in the pages 45 and 46 pictorially describe and draw a comparison of each code under certain category between first and 11th sessions to answer the study questions.

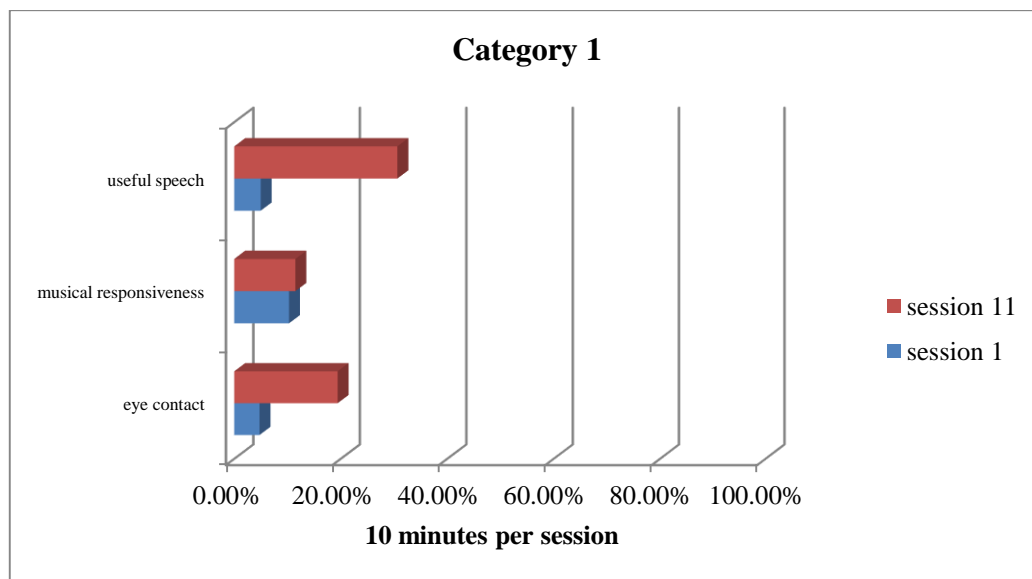


FIGURE 2: Pictorial description of the codes in Verbal/Non verbal category.

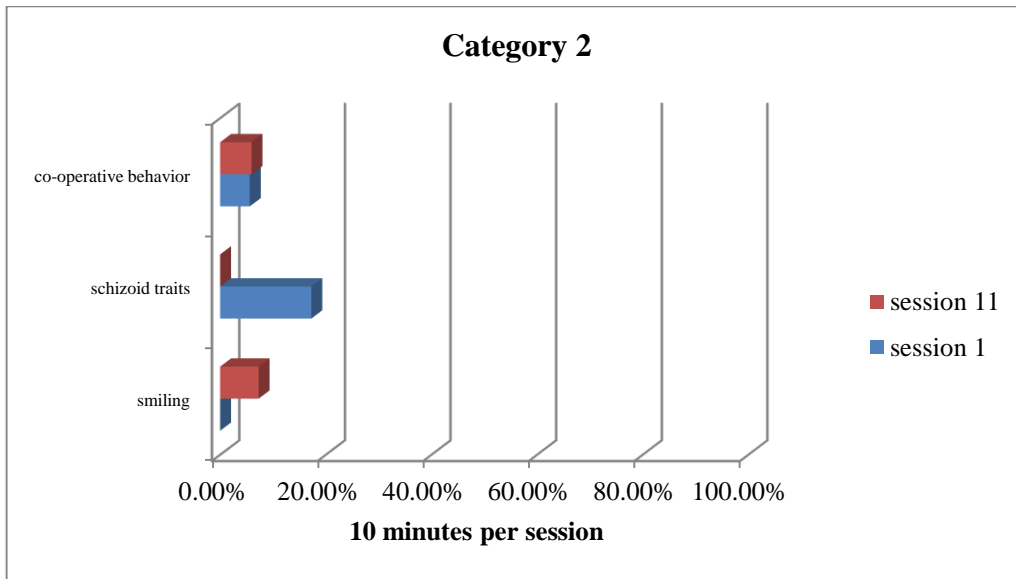


FIGURE 3: Pictorial description of the codes in Social interaction category.

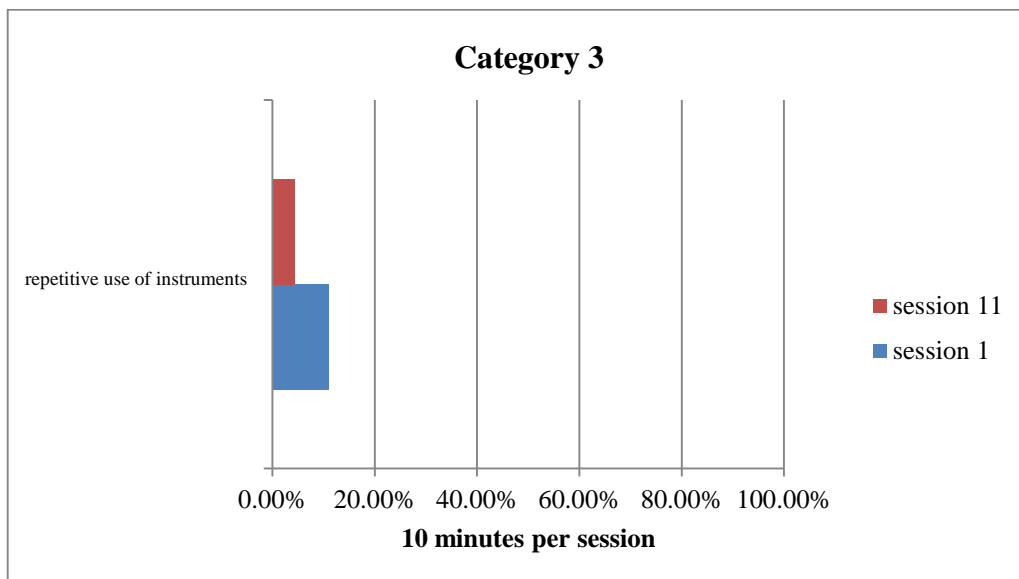


FIGURE 4: Pictorial description of the codes in Organization and perception category.

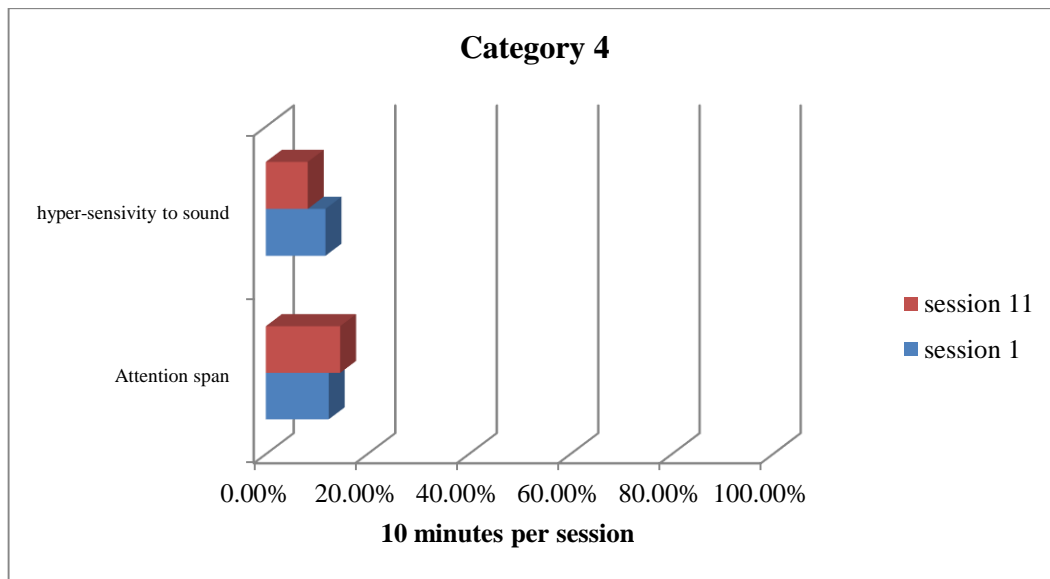


FIGURE 5: Pictorial description of the codes in Aspects of behavior category.

The overall interpretation of the above tables and Figures illustrate an improvement of the target client condition in session 11 compared to the first session. Moreover, the previously described results of qualitative content analysis on four main areas of impairments and recognized codes (see page 27), also shows that music therapy intervention was beneficial for the client's main impaired areas: verbal-nonverbal communication, social interaction, organization and perception and aspects of behavior.

4. 2 Summary of results

It can perhaps be concluded that this intensive music therapy intervention though it seemed to be beneficial for the target client in many ways, was not enough for Gokhan. This therapy process helped him discovering that music can be a meaningful and strong bridge to his inner world to help him communicate with his surrounding world. The purposeful use of music could also enhance Gokhan's verbal communication and as Aldridge (2013) states, music could serve as a medium for my client to express himself without the difficulty of attempting to speak. For instance, the client's favorite topics can be put into songs or his favorite songs can be used as a routine to help him verbalize his thoughts and feelings to the staff and other members at the center. I believe this is also very much what happened in Gokhan's therapy. This therapy process could be seen as a good beginning rather than an all encompassing treatment in itself.

5. DISCUSSION

5.1 About Methodology

It was challenging but as well interesting for me to conduct a case study since I was not familiar with this method as I had done only quantitative research in the field of psychology. Therefore, I tried to combine my new knowledge in qualitative data analysis with the use of quantitative techniques. Another challenge was the massive amount of video-recorded data from the sessions. In order to ease the analysis process, I dedicated my focus only to the beginning and the end of the therapy process with my client. Although I transcribed all 11 sessions, it highly helped to concentrate on a smaller amount of data for an in-depth analysis. In earlier steps of determining my method of analysis I encountered some difficulties but the chosen method of analysis was the most logical and easiest to follow, that made processing the selected amount of data easier as well.

As a researcher, a new viewpoint of doing scientific research was to involve myself affecting the variables being observed. Being present in the process helped me to have first-hand knowledge. However, too much involvement in the process psychologically challenged me to maintain an objective role as a researcher. Providentially, the structured setting of all 11 sessions reduced the aspect of unpredictability for both myself as the therapist and the client. The repetition of same routines in musical activities and improvisations lowered the probability of self-affecting the process and the quantitative techniques used enhanced the precision of the results. Counting occurrence and duration of the main nine codes turned out being informative. If only following my notes without systematic counting of occurrences of the codes, there would be a chance that I would have ended up making an inaccurate and inadequate conclusion about beginning and ending of the therapy process as well as how the music therapy intervention affected the four main areas of impairments in my client. Through systematic analyses of the data, I learned how important it is as a researcher to not only lean on subjective memory.

5.2 About the Results

The aim of this study was to describe the beginning and the end of an intensive music therapy process with a client diagnosed with autism spectrum disorder to explore the possible effects of the applied music therapy intervention on his four main areas of impairments. These questions must be reconsidered when thinking about the results of this study:

1. Does creative music therapy help the client under study to improve in Verbal/Non-Verbal communication, and social interaction?
2. Does music therapy contribute to help the client with organization and perception?
3. How does music therapy help the client to show improvements in certain aspects of behavior?

Since the main areas of impairments and their contributing characteristics in autism have already been studied in previous studies (Peters, 1987), It became easier to define categories and their relevant codes by considering Gokhan's symptoms (Table 1, see page 26). The main nine codes in this study were all described in the theoretical part to be common (Scott, Clark & Brady, 2000) in individuals with autism. Moreover, as the use of Creative Music Therapy has already been proven the most effective approach for clients with autism (Wigram, Peterson & Bonde, 2002), I utilized this approach in my music therapy sessions and focused on analyzing the data of the beginning to compare it with the end of the process exploring whether I would find the same results with my client with help of qualitative content analysis with a directive approach method presented by Hsieh and Shannon (2005).

The result seemed to be that Gokhan had benefit from very structured interventions normally used in Creative Music Therapy. The methods used in therapy such as composed songs, musical activities, improvisations, and singing karaoke seemed to affect the client's impaired areas positively (for definition of methods see page 14). The client's active *musical responsiveness* in musical activities and his *co-operative behavior* during group improvisations could indicate the important role of music in affecting and altering the way the client verbally; *useful speech* and non-verbally; *eye contact, smiling*, communicated with me as the therapist. As well, measuring Gokhan's *attention span* to certain tasks during each session could also prove his interest in musical activities that served as strong motivating stimuli that reduced his *hyper-sensitivity to sound* that he would express by jumping around the room. In the first session, Gokhan showed certain *schizoid traits* such as speaking and whispering to himself or someone in his imagination which could indicate the client's disconnection to his surrounding environment. His verbal responses during the session were limited to Yes or No answers while in the last session those schizoid traits were nonexistent and the client's verbal communication had a remarkable improvement. This also could be interpreted as Gokhan's stronger relationship with me as the therapist that was built

throughout the therapy process. Moreover, Gokhan was interested in only one instrument in the beginning of the therapy as a sign of being resistant towards change. However, the results of the last session showed that the client had more flexibility towards changing and experimenting different instruments.

As Aldridge (2013) states that musical activities in a group setting can help individuals with autism with social interactions to motivate and engage them to join the group activities, Gokhan was also able to develop and improve his verbal/nonverbal communication and social interaction with me as the therapist through the use of interactive play and response, one-one-one client-therapist musical activities and improvisations (pp.217). Also, the composed songs that were purposefully composed could help develop imitation skills through playing instruments, or bodily responses as well as speech skills. Gokhan's physical communicative responses could be evoked mostly through instrumental playing and play/response activities. Singing that was part of the last session could also reveal that it was possible for the client to express himself verbally as well through his favorite song (Peters, 1987, pp.83).

I found close relationship among defined codes in social interaction and verbal/nonverbal communication categories (see Figure 1, pp 17). In the last session, the more the client improved in interaction and engagement in the sessions' activities the less he exhibited schizoid traits such as whispering, whistling and talking to himself. Gokhan was more aware of his surrounding and the routine of the session that was obvious in his co-operative behavior within the session. While engaging in musical activities or group improvisations, he would verbally or musically respond, keep eye contact and smile more often that could be assumed as finding music as an enjoyable as well as an effective element (See Figure 2 & 3, pp 45).

The client in this study showed considerable resistance towards change in the beginning of therapy process that could be observed through his interest in using a specific instrument in sessions. As Brown (1994) has explained, this inflexibility towards change helps them survive in an unpredictable, frightening environment (p.15). The course of the musical improvisations provided Gokhan time and space with the opportunity to try exchange and explore different instruments that in the last session resulted in being flexible to choose and play with guitar and bells stick that he never used in other sessions. These mentioned observations could

indicate the client's improvement in organization and perception area as well (See Figure 4, pp. 46).

Another outcome of this case study that would answer the third study question was about the improvements observed in Gokhan's hyper-sensitivity to sound that he would express by jumping around the room and was very intense with longer duration in the beginning of therapy process but declined in the last session (See Figure 5, pp. 46). I observed this aspect of Gokhan's behavior mostly during group improvisations to loud sounds of drumming. I tried to understand his unique sensory processing style utilized to direct the hyper-sensitivity of the client toward a more positive meaningful response (Aldrige, 2013, pp.215). For example, in the "ready for music" song I added a task that would require Gokhan to jump in response to the song that might have helped the client be less hyper-sensitive to sound and eventually more tolerant towards different sounds. Also, according to the result (Table 5, pp 44), I assumed that gradually Gokhan found an enjoyable element in music that increased his tolerance towards loud drumming sounds that seemed to be very intolerable in the first session. Also, comparing to the first session, he was more attentive to musical activities and improvisations. This higher concentration on the musical tasks could as well contribute to the decline observed in his hypersensitivity to sound (See Figure 4 & 5, pp 46)

According to my observations, Gokhan's hyper-sensitivity to sound also affected his attention span to not be able to sustain his attention on certain tasks and as Green, Fein, Joy and Waterhouse, (1995) have stated this happens because of under or over stimulation (pp.161). So, to help Gokhan sustain his attention I kept the room least noisy as possible and tried to give him time and space in order to become familiar with the sessions' structure. I believe there was also a close connection between his improved flexibility towards the change of instruments and his increased attention span that could demonstrate his involvement and concentration in musical activities and music making (See Figure 1, pp. 17). His interest in exploring new instruments in the last session showed the stronger relationship of Gokhan with music that was made during the therapy process.

5.3 Limitations

It was of high importance to consider the limitations of this study while reporting the results of this research. This therapy process was very short (two weeks) but could be seen as a good beginning of something for the client rather than a treatment as itself. Still this study produced thought-provoking results worth of reporting. If the number of sessions could be more than 11 everyday sessions, there would have been more opportunity to build stronger relationship with my client through spending more time for the engagement in therapy. I believe there would be increased opportunities for Gokhan to verbally communicate and interact with me and be given more challenges to have a greater insight. The group was also not homogenous, and Gokhan was the only client diagnosed with autism. It would be better to have a group with the same diagnosis to conduct the study for the whole group as in that case the results could be better generalized that the therapy had positive outcomes. Another limitation was my decision as the researcher only to concentrate on two sessions (1st & 11th) for qualitative content analysis by applying extreme case sampling suggested by Given (2008) that looks for “the purest or most clear-cut instance of a phenomenon” (pp.697). I was mainly interested in studying a session that the client did exceptionally poor (session 1) and a session that he did exceptionally well (session 11) which may not have been enough to explain the real outcome of this study.

5.4 Reliability and Validity

validity can be described as how well one study results can be truthful and to what degree results are well-grounded, justifiable, relevant and meaningful (Cook & Beckman, 2006). This study was intended to describe and compare the beginning and the end of an intensive music therapy process with Gokhan and investigate whether music therapy intervention had positive effects on his four main areas of impairments. At least these two sessions (1st & 11th) were studied and analyzed in depth, which means that this study would have some level of validity. The results of this study would be more valid if all 11 sessions were deeply studied. Choosing the two most important was challenging since after the therapy process was over, I solely relied on my observations from video-recordings and transcriptions of all sessions in order to make the decision only to analyze the beginning and the end of therapy process. Fortunately, Gokhan had a gradual improvement from the first to the last session, and there were not any unexpectedly good or bad sessions in the middle process. So, the application of certain quantitative techniques could ensure that comparing

to the first session, in the last session there was a considerable improvement in the client's condition through the applied music therapy intervention. Moreover, it should be taken into consideration that the results of a case study are always subjective, which may diminish the level of validity and truthfulness of the results. What made the results of this study a little more trustful was the usage of quantitative techniques along with qualitative content analysis method presented by Krippendorff (2013). The quantitative data from sessions one and 11 together with transcribed and coded data of the therapy sessions helped not to have the information solely based on my subjective memories and interpretations of the situation.

Reliability of a study can be defined as the reproducibility or consistency of scores from one study to another. Being a necessary, but insufficient component of validity, reliability means that "if an instrument does not yield reliable scores, it does not permit valid interpretations either" (Cook & Beckman, 2006). Golafshani (2003) has explained that reliability in qualitative research, as this study represents, aims at evaluating quality in a study to explain instead of generating understanding, which is how it is often understood in quantitative context; "to understand a situation that would otherwise be confusing" (pp.597-607).

In accordance to how Golafshani (2003) has defined reliability in qualitative context, this study can be seen reliable. Moreover, the quantitative data used in this study may also increase the reliability to some level. I made my best effort to describe and compare the situation in the beginning and the end of music therapy process with my client to help people understand how music therapy can be effective on my client's four main areas of impairments. I highly hope that readers who have no previous knowledge about music therapy would also understand what music therapy is, and can be utilized with the population with autism after reading my thesis. In relation to the original definition of reliability in meaning of reproducibility or consistency of scores from one study to another is that there have been numerous studies about music therapy and autism and how positively can affect this population to improve their impaired areas such as the study done by Fang (2009) and the results of this study seem to be in line with the results already found by (Finnigan & Starr, 2010; Fang, 2009; Accordino, Comer & Heller, 2007; Farmer, 2003). Still, since every person diagnosed with autism spectrum disorder is different, every case study can yield new knowledge in the field of music therapy with autism.

5.5 Ethical Considerations

In this study, I took an ethical code for psychology and related fields into consideration emphasizing three principles: 1) planning a study well 2) voluntary status of respondents, and 3) treating each respondent well (Goodwin, 1995). In the following paragraphs I describe the principles.

5.5.1 Planning the Study

I prepared a study plan before starting the therapy process with Gokhan. This study plan was also presented to the Principal of Irfan Nadir +18 Rehabilitation Center in written form for getting the permit for conducting a case study with the primary goal of exploring the effects of music therapy on communication and social skills of a suitable client. Since I was informed about the target clients I would have at the center, I had made a pre-planned structure for music therapy sessions and as well consulted with the translator who knew Gokhan very closely and would assist me during the therapy process. Still I left room for some possible changes as proceeding with my target client.

5.5.2 Voluntary Status

Considering Gokhan's diagnosis, an agreement paper (see appendices) signed by his parent was required for his participation and collection of video material before starting a therapy process through which I made sure that nobody could blame me or the center of involuntarily participation of Gokhan in the study. Also, I was very happy that Gokhan himself enjoyed being part of all 11 sessions.

5.5.3 Treating Gokhan well

I certainly hope I treated Gokhan well and equally as other group members who were not part of this study. At least it seemed to me that Gokhan liked the way he was treated in the therapy. Although I must admit that sometimes I felt bad since the structured setting of the sessions would force me to stop Gokhan's musical engagement and playing in order to provide an equal amount of time and attention to all members in the group. Also, I had to finish each session right on time because I had to prepare the room again for another group.

Those were the moments I doubted myself whether I treated my group members including Gokhan well or not.

5.6 Proposition for future studies

This study was a case study focusing only on one client diagnosed with autism spectrum disorder in a non-homogenous group setting. For future research it would be interesting to conduct the research with a homogenous group in which all clients have the same diagnosis. I believe the results of a music therapy process with a group of individuals diagnosed with autism would yield more reliable results. The intensive everyday (two weeks) process of this therapy was very beneficial to build up relationship with Gokhan in order to enhance his social skills and I strongly recommend it for a longer period of time in future studies as well. It would be interesting to see if and how the process would change and develop further given more sessions. This case study made an in-depth content analysis of only two (1st & 11th) sessions. Future studies could consider analyzing all the data collected from music therapy sessions. Furthermore, the current study was only concerning a male client diagnosed with autism. It is also important to examine how the applied interventions could benefit and affect female clients with autism. Therefore, one step further in the field of music therapy with autism would be to conduct group music therapy concerning a group of female and male clients.

References

- Aarons, M., & Gittens, T. (1992). *Handbook of Autism. Educational Psychology in Practice*. Retrieved from <http://www.tandfonline.com/doi/pdf/10.1080/0266736920080209>
- Accordino, R., Comer, R., & Heller, W. B. (2007). Searching for music's potential: A critical examination of research on music therapy with individuals with autism. *Research in Autism Spectrum Disorders, 1*, 101–115. doi:10.1016/j.rasd.2006.08.002
- Adamek, M., & Darrow, A. A. (2005). *Music in Special Education* (Silver Spring: the American Music Therapy Association, 2005), 23.
- Aldridge, D. (2013). *Early Childhood Music Therapy and Autism Spectrum Disorder*. London: Jessica Kinsley publishers
- Allgood, N. (2005). "Parent's Perceptions of Family-based Group Music Therapy for Children with Autism Spectrum Disorders," *Music Therapy Perspectives 23*, no. 2: 92.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR)*. Text (Vol. 1). doi:10.1176/appi.books.9780890423349
- Baxter, P., Susan Jack, & Jack, S. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report Volume, 13*(4), 544–559. doi:10.2174/1874434600802010058
- Birks, M., Chapman, Y., & Francis, K. (2008). Memoing in qualitative research: Probing data and processes. *Journal of Research in Nursing, 13*, 68–75. doi:10.1177/1744987107081254
- Brotons, M. (1994). Effects of Performing conditions on Music Performance Anxiety and Performance Quality. *Journal of Music Therapy, XXXI*(1), 63–81. doi:10.1093/jmt/31.1.63
- Brown, S. (1994). Autism and Music Therapy- Is Change Possible, and Why Music? *Journal of British Music Therapy 8*, no. 1, 15.
- Bruscia, K., E. (1998). *Defining Music Therapy*. Barcelona Publishers.

- Burbach, J. P. H., & van der Zwaag, B. (2009). Contact in genetics of autism and schizophrenia. *Trends in Neurosciences*, 32, 69–72.
- Chapman, J. S. (1961). The changing epidemiology of tuberculosis. *Missouri Medicine*, 58, 1123–1125.
- Cook, D. & Beckman, T., (2006). *Current Concepts in Validity and Reliability for Psychometric Instruments: Theory and Application*. From: The American Journal of Medicine (2006) 119, 166.e7-166.e16 . Division of General Internal Medicine, Mayo Clinic College of Medicine, Rochester, Minn.
- Courchesne, E., Pierce, K., Schumann, C. M., Redcay, E., Buckwalter, J. a, Kennedy, D. P., & Morgan, J. (2007). Mapping early brain development in autism. *Neuron*, 56, 399–413. doi:10.1016/j.neuron.2007.10.016
- Creswell, J., & Clark, V. (2007). *Designing and conducting mixed-methods research*. Thousand Oaks, CA: Sage. *The Sage handbook of qualitative research*. Retrieved from <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Mixed+Methods+Research#3\nhttp://onlinelibrary.wiley.com/doi/10.1111/j.1753-6405.2007.00097.x/full>
- Darrow, A., & Armstrong, T. (1999). Research on music and autism implications for music educators. *Update: Applications of Research in Music Education*, 18, 15–20. doi:10.1177/875512339901800103
- Degmečić, D., Požgain, I., Filaković, P., Degmeci, D., & Pozgain, I. (2005). Music as Therapy. *International Review of the Aesthetics and Sociology of Music*, 36(2), 287–300.
- Edgerton, C., L. (1994). The effects of improvisational music therapy on communicative behaviors of autistic children. *Journal of Music Therapy* xxi (1), 31-62
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K. & Kyngäs, H. (2014). Qualitative Content Analysis: A Focus on Trustworthiness. *SAGE Open*, 4, 1-10. doi: 10.1177/2158244014522633
- Erkkilä, J. (2015). Mixed methods research in music therapy. *The oxford handbook of music therapy*. doi:10.1093/oxfordhb/9780199639755.013.12

- Esterberg, M. (2007). Assessing knowledge of schizophrenia: development and psychometric properties of a brief, multiple-choice knowledge test for use across various samples. 151(1-2):87-95[http://www.psy-journal.com/article/S0165-1781\(06\)00172-7/pdf](http://www.psy-journal.com/article/S0165-1781(06)00172-7/pdf)
- Fang, E. R. (2009). Music in the lives of two children with autism : a case study. *Health (San Francisco)*.
- Farmer, K. J. (2003). The Effect of Music vs . Nonmusic Paired with Gestures on Spontaneous Verbal and Nonverbal Communication Skills of Children with Autism Ages 1-5.
- Finnigan, E., & Starr, E. (2010). Increasing social responsiveness in a child with autism. A comparison of music and non-music interventions. *Autism : The International Journal of Research and Practice*, 14, 321–348. doi:10.1177/1362361309357747
- Fombonne, E. (2005). The changing epidemiology of autism. *Journal of Applied Research in Intellectual Disabilities*, 18, 281–294
- Gall, M. D., Gall, J. P., & Borg, W. R. (1999). Applying educational research: A practical guide (4th ed.). White Plains, NY: Addison Wesley Longman, Inc.
- Given, L. M. (2008a). *The Sage Encyclopedia of Qualitative Research Methods*. The MIT Press. doi:10.4135/9781412963909
- Given, L. M. (2008b). *The Sage Encyclopedia of Qualitative Research Methods*. The MIT Press. doi:10.4135/9781412963909
- Golafshani, N. (2003). *Understanding Reliability and Validity in Qualitative Research*. In The Qualitative Report Voilume 8, Number 4, December 2003, pp 597-607. University of Toronto, Toronto, Ontario, Canada. Retrieved from <http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf>
- Gold, C., Wigram, T., & Elefant, C. (2006). Music therapy for autistic spectrum disorder. *Cochrane Database of Systematic Reviews (Online)*, (1), CD004381. doi:10.1002/14651858.CD004381.pub2

- Goodwin, J. (1995). *Research in Psychology. Methods and Design*. John Wiley & Sons, Inc. New York. pp. 350-351
- Green, L., Fein, J., & Waterhouse, L. (1995). Cognitive functioning in autism: An overview. Retrieved on February 10, 2015 from <http://defiant.ssc.uwo.ca/undergraduate/psych2410a/Green,%20Fein,%20Joy,%20&%20Waterhouse%201995.pdf>
- Gross, W., Linden, U., & Ostermann, T. (2010). Effects of music therapy in the treatment of children with delayed speech development - results of a pilot study. *BMC Complementary and Alternative Medicine*, 10(2001), 39. doi:10.1186/1472-6882-10-39
- Hill, E. L., & Frith, U. (2003). Understanding autism: insights from mind and brain. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, 358(1430), 281–289. doi:10.1098/rstb.2002.1209
- Holck, U. (2011). Music Therapy Research – Children with an Autism Spectrum Disorder, 8(2), 27–35.
- Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277–1288. doi:10.1177/1049732305276687
- Kim, J., Wigram, T., & Gold, C. (2008). The effects of improvisational music therapy on joint attention behaviors in autistic children: A randomized controlled study. *Journal of Autism and Developmental Disorders*, 38, 1758–1766. doi:10.1007/s10803-008-0566-6
- Kim, J., Wigram, T., & Gold, C. (2009). Emotional, motivational and interpersonal responsiveness of children with autism in improvisational music therapy. *Autism : The International Journal of Research and Practice*, 13, 389–409. doi:10.1177/1362361309105660
- Krakou, V., & Sanderson, P. (2006). *Art Therapies: A Research-based Map on the Field*. Church Livingstone.U.K.
- Krippendorff, K. (2013). *Content Analysis: An introduction to Its Methodology*. California. SAGE Publications Inc.

- LaGasse, a B. (2014). Effects of a Music Therapy Group Intervention on Enhancing Social Skills in Children with Autism. *Journal of Music Therapy*, 00(00), 1–26. doi:10.1093/jmt/thu012
- Leech, N. L., & Onwuegbuzie, A. J. (2009). A typology of mixed methods research designs. *Quality and Quantity*, 43, 265–275. doi:10.1007/s11135-007-9105-3
- Leech, N. L., & Onwuegbuzie, A. J. (2010). Guidelines for conducting and reporting mixed research in the field of counseling and beyond. *Journal Of Counseling & Development*, 88, 61–70. doi:10.1002/j.1556-6678.2010.tb00151.x
- Maxwell, J. a. (2010). Using Numbers in Qualitative Research. *Qualitative Inquiry*, 16(6), 475–482. doi:10.1177/1077800410364740
- Mendl, R. W. S. (1924). Music and the mind. *Musical Quarterly*, 10, 107–119. doi:10.1093/mq/X.1.107
- Music, N., Perspectives, T., Index, I., Periodicals, M., & Text, F. (2005). Parents ' Perceptions of Family-Based Group Music Therapy for Children with Autism Spectrum Disorders.
- Nordoff, P., Robbins, C. (1977). *Creative Music Therapy*. New York: John Day.
- Madaule, P. (2003). The voice of the child behind autism. 9(4), 1–16.
- Palys, T. (2008). Purposive Sampling 1. *The SAGE Encyclopedia of Qualitative Research Methods*, 2, 698–699. doi:10.1109/IPDPS.2011.210
- Peters, J. *Music Therapy: An Introduction* (Springfield: Charles C.Thomas Publisher, 1987), 50.
- Platt, J. (1966). Strong inference. *Science*, 146, 347-353.
- Reschke-Hernández, A. E. (2011). History of music therapy treatment interventions for children with autism. *Journal of Music Therapy*, 48, 169–207. doi:10.1093/jmt/48.2.169
- Respondent ' s Exhibit I. (n.d.). *Sciences-New York*.

- Russo, N. M., Skoe, E., Trommer, B., Nicol, T., Zecker, S., Bradlow, a., & Kraus, N. (2008). Deficient brainstem encoding of pitch in children with Autism Spectrum Disorders. *Clinical Neurophysiology*, *119*, 1720–1731. doi:10.1016/j.clinph.2008.01.108
- Saraceno, B., Saxena, S. and Maulik, P. K. (2002) Mental Health Problems in Refugees, in *Psychiatry in Society* (eds N. Sartorius, W. Gaebel, J. J. López-Ibor and M. Maj), John Wiley & Sons, Ltd, Chichester, UK. doi: 10.1002/0470846488.ch8
- Särkämö, T., Tervaniemi, M., & Huotilainen, M. (2013). Sound - Perception - Performance. In *Current Research in Systematic Musicology 1* (Vol. 1, pp. 181–194). doi:10.1007/978-3-319-00107-4
- Scott, J., Clark, C., & Michael Brady, *Students with Autism* (San Diego: Singular Publishing Group, Inc., 2000), 52.
- Spek, A. a., & Wouters, S. G. M. (2010). Autism and schizophrenia in high functioning adults: Behavioral differences and overlap. *Research in Autism Spectrum Disorders*, *4*(4), 709–717. doi:10.1016/j.rasd.2010.01.009
- Velasquez-Manoff, M. (2012, August 25). An Immune Disorder at the Root of Autism. Retrieved from http://www.nytimes.com/2012/08/26/opinion/sunday/immune-disorders-and-autism.html?_r=0
- Volkmar, F. R., & Klin, A. (2005). Issues in the Classification of Autism and Related Conditions. In *Handbook of Autism and Pervasive Developmental Disorders* (Vol. 1, pp. 5–41). Retrieved from <http://ezproxy.gsu.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=200505077001&loginpage=Login.asp&site=ehost-live&scope=site>
- Wigram, T., Pedersen, I., & Bonde, L. (2002). *A Comprehensive Guide to Music Therapy*. London: Jessica Kingsley Publishers.
- Wigram, T., & Gold, C. (2006). Music therapy in the assessment and treatment of autistic spectrum disorder: clinical application and research evidence. *Child: Care, Health and Development*, *32*, 535–542. doi:10.1111/j.1365-2214.2006.00615.x

Appendix 1- Consents From All Group Participants

UNIVERSITY OF JYVÄSKYLÄ

DEPARTMENT OF MUSIC
MUSIC THERAPY CLINIC
FOR RESEARCH AND TRAINING



INFORMED CONSENT FOR RECORDING AND RESEARCH


At the Music Therapy Clinic for Research and Training (MTCRT), Department of Music, University of Jyväskylä, clinical music therapy is practiced, as well as relevant scientific research and training in music therapy. Therapy sessions are audio- and videorecorded for making clinical notes and for collecting data for scientific research. All recorded materials are stored as patient records, which are kept in the confidential archive following the rules of the Ministry of Social Affairs and Health. The recordings can be used for teaching and as research material for developing clinical activities and studying music therapy in research projects. In this case, the recordings can only be used within the clinic by employees, music therapy students, researchers and other parties who are in co-operation with the MTCRT. All of the before mentioned persons are under the obligation to maintain secrecy, the data is handled strictly confidential.

In research projects at MTCRT the common research interests are related to interaction within music therapy, clinical improvisation, and assessment and evaluation in music therapy. Clinical teaching is focused on clinical competence, therapeutic approaches and methods, and professional clinical practices. Associate professor Esa Ala-Ruona, and professor Jaakko Erkkilä are responsible for the materials that are used for teaching and for research. When the audio and/or video material is converted into other formats (for example transcribed into written document), the agreement, as it is described in this document, will still be in effect.

Material which enables the identification of individuals will not be published. Any other use of recordings is specifically agreed upon in writing with all parties concerned. Collected information and material will not be used to harm or demean a client/patient or other related persons, nor will it be used to violate the client's/patient's interests. These interests are protected by the Act on the Status and Rights of Patients. Personal information will not be disclosed to third parties.

I, the undersigned, agree that the research and the therapeutic visit to the Music Therapy Clinic for Research and Training at the Department of Music, University of Jyväskylä are recorded and used as described above. I have received information on what I am committing myself to and I have the right to cancel this agreement at any time.

Date and place


Client's/guardian's signature and
Name in block letters: Hussein - Ulgun Sadn
Phone number: 05338639514

Date and place

Therapist's signature and
Name in block letters:
Phone number:

For more information:
Dr. Esa Ala-Ruona
music therapist, psychotherapist
esa.ala-ruona@jyu.fi
p. 040-8054297

Dr. Jaakko Erkkilä
music therapist, psychotherapist
jaakko.erkkila@jyu.fi
p. 0400-542395



INFORMED CONSENT FOR RECORDING AND RESEARCH

At the Music Therapy Clinic for Research and Training (MTCRT), Department of Music, University of Jyväskylä, clinical music therapy is practiced, as well as relevant scientific research and training in music therapy. Therapy sessions are audio- and videorecorded for making clinical notes and for collecting data for scientific research. All recorded materials are stored as patient records, which are kept in the confidential archive following the rules of the Ministry of Social Affairs and Health. The recordings can be used for teaching and as research material for developing clinical activities and studying music therapy in research projects. In this case, the recordings can only be used within the clinic by employees, music therapy students, researchers and other parties who are in co-operation with the MTCRT. All of the before mentioned persons are under the obligation to maintain secrecy, the data is handled strictly confidential.

In research projects at MTCRT the common research interests are related to interaction within music therapy, clinical improvisation, and assessment and evaluation in music therapy. Clinical teaching is focused on clinical competence, therapeutic approaches and methods, and professional clinical practices. Associate professor Esa Ala-Ruona, and professor Jaakko Erkkilä are responsible for the materials that are used for teaching and for research. When the audio and/or video material is converted into other formats (for example transcribed into written document), the agreement, as it is described in this document, will still be in effect.

Material which enables the identification of individuals will not be published. Any other use of recordings is specifically agreed upon in writing with all parties concerned. Collected information and material will not be used to harm or demean a client/patient or other related persons, nor will it be used to violate the client's/patient's interests. These interests are protected by the Act on the Status and Rights of Patients. Personal information will not be disclosed to third parties.

I, the undersigned, agree that the research and the therapeutic visit to the Music Therapy Clinic for Research and Training at the Department of Music, University of Jyväskylä are recorded and used as described above. I have received information on what I am committing myself to and I have the right to cancel this agreement at any time.

Date and place

25.7.2013
Date and place

For more information:
Dr. Esa Ala-Ruona
music therapist, psychotherapist
esa.ala-ruona@jyu.fi
p. 040-8054297

Ayşe Capkin
• Client's/guardian's signature and
Name in block letters:
Phone number:

0533 845 7951
Therapist's signature and
Name in block letters:
Phone number:

Dr. Jaakko Erkkilä
music therapist, psychotherapist
jaakko.erkkila@jyu.fi
p. 0400-542395



INFORMED CONSENT FOR RECORDING AND RESEARCH

At the Music Therapy Clinic for Research and Training (MTCRT), Department of Music, University of Jyväskylä, clinical music therapy is practiced, as well as relevant scientific research and training in music therapy. Therapy sessions are audio- and videorecorded for making clinical notes and for collecting data for scientific research. All recorded materials are stored as patient records, which are kept in the confidential archive following the rules of the Ministry of Social Affairs and Health. The recordings can be used for teaching and as research material for developing clinical activities and studying music therapy in research projects. In this case, the recordings can only be used within the clinic by employees, music therapy students, researchers and other parties who are in co-operation with the MTCRT. All of the before mentioned persons are under the obligation to maintain secrecy, the data is handled strictly confidential.

In research projects at MTCRT the common research interests are related to interaction within music therapy, clinical improvisation, and assessment and evaluation in music therapy. Clinical teaching is focused on clinical competence, therapeutic approaches and methods, and professional clinical practices. Associate professor Esa Ala-Ruona, and professor Jaakko Erkkilä are responsible for the materials that are used for teaching and for research. When the audio and/or video material is converted into other formats (for example transcribed into written document), the agreement, as it is described in this document, will still be in effect.

Material which enables the identification of individuals will not be published. Any other use of recordings is specifically agreed upon in writing with all parties concerned. Collected information and material will not be used to harm or demean a client/patient or other related persons, nor will it be used to violate the client's/patient's interests. These interests are protected by the Act on the Status and Rights of Patients. Personal information will not be disclosed to third parties.

I, the undersigned, agree that the research and the therapeutic visit to the Music Therapy Clinic for Research and Training at the Department of Music, University of Jyväskylä are recorded and used as described above. I have received information on what I am committing myself to and I have the right to cancel this agreement at any time.

Date and place

26 - 7 - 2013

Cuma

Client's/guardian's signature and

Name in block letters:

Phone number:

Aydogdu Atay

3666 854
0533 861 6802

Date and place

Therapist's signature and

Name in block letters:

Phone number:

For more information:

Dr. Esa Ala-Ruona
music therapist, psychotherapist
esa.ala-ruona@jyu.fi
p. 040-8054297Dr. Jaakko Erkkilä
music therapist, psychotherapist
jaakko.erkkila@jyu.fi
p. 0400-542395



INFORMED CONSENT FOR RECORDING AND RESEARCH

At the Music Therapy Clinic for Research and Training (MTCRT), Department of Music, University of Jyväskylä, clinical music therapy is practiced, as well as relevant scientific research and training in music therapy. Therapy sessions are audio- and videorecorded for making clinical notes and for collecting data for scientific research. All recorded materials are stored as patient records, which are kept in the confidential archive following the rules of the Ministry of Social Affairs and Health. The recordings can be used for teaching and as research material for developing clinical activities and studying music therapy in research projects. In this case, the recordings can only be used within the clinic by employees, music therapy students, researchers and other parties who are in co-operation with the MTCRT. All of the before mentioned persons are under the obligation to maintain secrecy, the data is handled strictly confidential.

In research projects at MTCRT the common research interests are related to interaction within music therapy, clinical improvisation, and assessment and evaluation in music therapy. Clinical teaching is focused on clinical competence, therapeutic approaches and methods, and professional clinical practices. Associate professor Esa Ala-Ruona, and professor Jaakko Erkkilä are responsible for the materials that are used for teaching and for research. When the audio and/or video material is converted into other formats (for example transcribed into written document), the agreement, as it is described in this document, will still be in effect.

Material which enables the identification of individuals will not be published. Any other use of recordings is specifically agreed upon in writing with all parties concerned. Collected information and material will not be used to harm or demean a client/patient or other related persons, nor will it be used to violate the client's/patient's interests. These interests are protected by the Act on the Status and Rights of Patients. Personal information will not be disclosed to third parties.

I, the undersigned, agree that the research and the therapeutic visit to the Music Therapy Clinic for Research and Training at the Department of Music, University of Jyväskylä are recorded and used as described above. I have received information on what I am committing myself to and I have the right to cancel this agreement at any time.

Date and place

Client's/guardian's signature and

Name in block letters:

Phone number:

8895766

Kazun Jilkae
[Handwritten signature]

Date and place

Therapist's signature and

Name in block letters:

Phone number:

For more information:
Dr. Esa Ala-Ruona
music therapist, psychotherapist
esa.ala-ruona@jyu.fi
p. 040-8054297

Dr. Jaakko Erkkilä
music therapist, psychotherapist
jaakko.erkkila@jyu.fi
p. 0400-542395



INFORMED CONSENT FOR RECORDING AND RESEARCH

At the Music Therapy Clinic for Research and Training (MTCRT), Department of Music, University of Jyväskylä, clinical music therapy is practiced, as well as relevant scientific research and training in music therapy. Therapy sessions are audio- and videorecorded for making clinical notes and for collecting data for scientific research. All recorded materials are stored as patient records, which are kept in the confidential archive following the rules of the Ministry of Social Affairs and Health. The recordings can be used for teaching and as research material for developing clinical activities and studying music therapy in research projects. In this case, the recordings can only be used within the clinic by employees, music therapy students, researchers and other parties who are in co-operation with the MTCRT. All of the before mentioned persons are under the obligation to maintain secrecy, the data is handled strictly confidential.

In research projects at MTCRT the common research interests are related to interaction within music therapy, clinical improvisation, and assessment and evaluation in music therapy. Clinical teaching is focused on clinical competence, therapeutic approaches and methods, and professional clinical practices. Associate professor Esa Ala-Ruona, and professor Jaakko Erkkilä are responsible for the materials that are used for teaching and for research. When the audio and/or video material is converted into other formats (for example transcribed into written document), the agreement, as it is described in this document, will still be in effect.

Material which enables the identification of individuals will not be published. Any other use of recordings is specifically agreed upon in writing with all parties concerned. Collected information and material will not be used to harm or demean a client/patient or other related persons, nor will it be used to violate the client's/patient's interests. These interests are protected by the Act on the Status and Rights of Patients. Personal information will not be disclosed to third parties.

I, the undersigned, agree that the research and the therapeutic visit to the Music Therapy Clinic for Research and Training at the Department of Music, University of Jyväskylä are recorded and used as described above. I have received information on what I am committing myself to and I have the right to cancel this agreement at any time.

Date and place

Date and place

26.7.2013

For more information:
Dr. Esa Ala-Ruona
music therapist, psychotherapist
esa.ala-ruona@jyu.fi
p. 040-8054297

Client's/ guardian's signature and

Name in block letters:

Phone number:

ISZEYIRBORAN
HANIFE BORAN

Therapist's signature and

Name in block letters:

Phone number:

ISZEYIRBORAN
HANIFE BORAN
0533848667

Dr. Jaakko Erkkilä
music therapist, psychotherapist
jaakko.erkkila@jyu.fi
p. 0400-542395



INFORMED CONSENT FOR RECORDING AND RESEARCH

At the Music Therapy Clinic for Research and Training (MTCRT), Department of Music, University of Jyväskylä, clinical music therapy is practiced, as well as relevant scientific research and training in music therapy. Therapy sessions are audio- and videorecorded for making clinical notes and for collecting data for scientific research. All recorded materials are stored as patient records, which are kept in the confidential archive following the rules of the Ministry of Social Affairs and Health. The recordings can be used for teaching and as research material for developing clinical activities and studying music therapy in research projects. In this case, the recordings can only be used within the clinic by employees, music therapy students, researchers and other parties who are in co-operation with the MTCRT. All of the before mentioned persons are under the obligation to maintain secrecy, the data is handled strictly confidential.

In research projects at MTCRT the common research interests are related to interaction within music therapy, clinical improvisation, and assessment and evaluation in music therapy. Clinical teaching is focused on clinical competence, therapeutic approaches and methods, and professional clinical practices. Associate professor Esa Ala-Ruona, and professor Jaakko Erkkilä are responsible for the materials that are used for teaching and for research. When the audio and/or video material is converted into other formats (for example transcribed into written document), the agreement, as it is described in this document, will still be in effect.

Material which enables the identification of individuals will not be published. Any other use of recordings is specifically agreed upon in writing with all parties concerned. Collected information and material will not be used to harm or demean a client/patient or other related persons, nor will it be used to violate the client's/patient's interests. These interests are protected by the Act on the Status and Rights of Patients. Personal information will not be disclosed to third parties.

I, the undersigned, agree that the research and the therapeutic visit to the Music Therapy Clinic for Research and Training at the Department of Music, University of Jyväskylä are recorded and used as described above. I have received information on what I am committing myself to and I have the right to cancel this agreement at any time.

Date and place



Client's/guardian's signature and

Name in block letters: *Adil Ozberkman*

Phone number: *05338646528*

Date and place

Therapist's signature and

Name in block letters:

Phone number:

For more information:
Dr. Esa Ala-Ruona
music therapist, psychotherapist
esa.ala-ruona@jyu.fi
p. 040-8054297

Dr. Jaakko Erkkilä
music therapist, psychotherapist
jaakko.erkkila@jyu.fi
p. 0400-542395

Appendix 2- Approval letter from Ministry of Labour and Social security in Northern Cyprus



Turkish Republic of Northern Cyprus Ministry of Labor and Social Security

Tel: +90392 228 46 89

Fax: +90392 228 72 79

Tarih: 25/06/2013

Administrative Officer of Labor and Social Security
Famagusta

Topic: Safa Solati's internship application at İrfan Nadir overage of 18 Disabled Rehabilitation Center.

Annex: Documents number is ; M225/-13 and 19/06/2013.

In response to your application ; We confirmed Safa Solati's internship application to work as a music therapist between the dates 15/08/2013 – 15/09/2013 at İrfan Nadir overage of 18 Disabled Rehabilitation Center.

Best regards..

..This is true copy the original documents Which I have seen.
thus, I stamp my official seat to certify the
truthness of the copy of this document.
Date: 07/07/2013
Emre Oras
CERTIFYING OFFICER
NOTARY PUBLIC



e.mail: emreoras@hotmail.com
Tel: +905338753368



KUZEY KIBRIS TÜRK CUMHURİYET
ÇALIŞMA VE SOSYAL GÜVENLİK BAKANLIĞI
SOSYAL HİZMETLER DAİRESİ MÜDÜRLÜĞÜ

1.7.2013
H. H.

Tel: 0392 228 46 89

Fax: 0392 228 72 79

Tarih: 25/06/2013

Sayı: SHD.0.00-307A-13/ŞG4

Kaza Sosyal Hizmetler Dairesi Şube Sorumlusu,
GAZİMAĞUSA

Konu: İrfan Nadir 18 Yaş Üstü Engelli Rehabilitasyon Merkezi'nde staj yapmak isteyen Safa Solati hk.

İlgi: M 255/13 sayılı ve 19/06/2013 tarihli yazınız.

İlgi yazınız gereğince, Müzik terapisti Safa Solati'nin İrfan Nadir 18 Yaş Üstü Engelli Rehabilitasyon Merkezi'nde 15/08/2013 - 15/09/2013 tarihleri arasında staj yapması uygun görülmüştür.

Saygılarımla bilgilerinizi rica ederim.


(Aydan BAŞKURT)
Sosyal Hizmetler Dairesi
Müdürü.

../MG.

Appendix 3- Consent to Use the Client's Real Name in Research



TRNC

MINISTRY OF INTERNAL AFFAIRS AND WORK

SOCIAL SERVICES

IRFAN NADİR ABOVE AGE 18 DISABLED REHABILITATION CENTER

CONSENT TO USE THE CLIENT'S REAL NAME IN RESEARCH

I...Ayla Cevik...

Hereby give consent that in the written thesis, the client's real name is mentioned. I confirm that I have received sufficient information about the research and agree to the aforementioned criteria.

Date...14.10.2015..

Signature..........