Bachelor's thesis

Degree program in nursing

Nursing

2015

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HOW MUSIC AFFECTS PEOPLE

– Music listening event at Salo’s Clubhouse

TURUN AMMATTIKORKEAKOULU
TURKU UNIVERSITY OF APPLIED SCIENCES

BACHELOR´S THESIS | ABSTRACT

TURKU UNIVERSITY OF APPLIED SCIENCES

Degree program in nursing| Nurse

December 2014 | 64

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Abstract

Music has been used for therapy since the antiquity. However, its effects remain still unclear. Therefore the aim of this project was to investigate the effects of music on people with mental health problems and compare its effects among existing studies, using literature review. The effects of music were investigated while holding a music listening session in a mental health institution. After a one hour listening session the participants filled out a questionnaire. The effects of music were evaluated based on results of the questionnaire and behaviour interpretation. The results were interpreted qualitatively. Results revealed, that music has an emotionally impact on people. Feelings can be altered by music. However, its effects are perceived differently among people. This project supports previous studies that demonstrated the benefits of music in health care. It is recommended that mental health institutions use music as a therapeutic method among clients nevertheless the full potential of music needs to be further investigated.

KEYWORDS:

Music, Health Care, Music Therapy, Mental Health, Music Listening, Singing, Songwriting, Dancing, Songs, Mind, Body, Emotions, Consciousness, Reminiscence, Alternative Therapy

OPINNÄYTETYÖ (AMK) | TIIVISTELMÄ

TURUN AMMATTIKORKEAKOULU

Hoitotyön koulutusohjelma | Sairaanhoitaja

Joulukuu 2014 | 64

Ohjaajat Heikki Ellilä & Irmeli Leino

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KUINKA MUSIIKKI VAIKUTTAA IHMISIIN

Tiivistelmä

Musiikkia on käytetty terapiamuotona antiikin ajoista lähtien, vaikka sen vaikutukset ovat edelleen osittain hämärän peitossa. Sen vuoksi tämän projektin tavoite oli tutkia musiikin vaikutusta mielenterveysongelmista kärsiviin ihmisiin ja verrata tuloksia jo olemassa oleviin tutkimuksiin kirjallisuuskatsauksen avulla. Musiikin vaikutuksia tutkittiin musiikinkuuntelutuokion aikana mielenterveyskuntoutujille tarkoitetussa organisaatiossa. Tunnin pituisen musiikinkuuntelutuokion jälkeen osallistujat täyttivät kyselylomakkeen, ja musiikin vaikutukset arvioitiin niissä olevien vastausten perusteella. Vaikutusten arvioinnissa hyödynnettiin myös tulkintaa osallistujien käyttäytymisestä kuuntelutuokion aikana. Tulokset tulkittiin kvalitatiivisesti ja ne paljastivat, että musiikilla on tunteellinen vaikutus ihmisiin. Musiikilla voidaan muuttaa myös tunnetiloja, vaikka ihmiset kokevat kuitenkin musiikin vaikutukset eri tavoin. Tämä projekti tukee edellisiä tutkimuksia, jotka osoittavat musiikin käytön hyödyllisyyttä hoitotyössä. Musiikin käyttämistä terapeuttisena menetelmänä mielenterveysjärjestöissä voidaan suositella, vaikka sen täyden hyödyn selvittämiseen tarvitaan vielä tutkimuksia.

AVAINSANAT:

Musiikki, Terveydenhuolto, Musiikkiterapia, Mielenterveys, Musiikin kuuntelu, Laulaminen, Säveltäminen, Tanssiminen, Kappaleet, Mieli, Keho, Tunteet, Tietoisuus, Muistelu, Vaihtoehtoinen hoito

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1 INTRODUCTION

Nowadays there has been an increasing interest in the therapeutic potential of music. The therapeutic use of music goes back to the antiquity and there is evidence that demonstrates the existence of music 10.000 BC. In that time, people attributed magical powers to sounds, which were perceived to be able to control the spirit and to create and sustain life. Music was used to control mental health problems of many ancient kings. In the 1830´s, it was proclaimed that music influences the circulation of blood and alternates the blood pressure. In 1859, Florence Nightingale recognized the potential of music in caring for the sick. (Biley 1999, 668.)

Music therapy is defined as, an interpersonal process in which the therapist uses music and all of its facets to help patients improve, restore and maintain health. Music therapy can be delivered over a range of time periods from a few weeks to several years. In addition, the intensity of treatment varies from daily to weekly or monthly sessions. People can be seen in groups or individually or they may drop in to an open group. (Maratos et al. 2009.) Music therapy can also be determined as a humane interaction. The purpose of the usage of music in therapy is to activate, maintain or promote individual or group's psychic working. The main part of music therapy is in the interaction and communication between people. (Lehtonen 1996, 12.)

Music both symbolizes and describes life but also embodies and expresses life. Music gives to its creator, listener and person who experiences it an opportunity to different kind of landscapes of mind. In the musical expression, there is a presence of people's own selfhood and their way to express themselves. Music is also a way to think, to interact with others and to communicate. (Lilja-Viherlampi 2011, 5.) Furthermore, music is connected to our whole personality because it affects our conscious and unconscious parts of selfhood at the same time. It looks like music communicates spontaneously and without obstacles of the preconscious, the unconscious and the physical world of experience, as well as with conscious parts of the humane way of experience. (Lehtonen 1996, 15.)

People spend high amounts of time and money listening to music. The global recorded music market is estimated to be worth around US$ 17,6 billion. People listen to music for a wide variety of different reasons. Furthermore, the constant change in technology also changes the ways people listen to music. The functions of music are primarily emotional, whilst the social functions of music are of secondary importance. (Lonsdale et al. 2011.)

Furthermore, in cultures around the world music is associated with numerous life events including religious gatherings, social occasions, concerts, graduations, weddings, christenings and funerals. (Eells 2014). Subjective experience which arises when people listen to music depends on, for example the taste of music, emotional state, state of mental alertness, age and cultural background (Lilja-Viherlampi 2011, 40). For many people, music is an important part of their daily life. Some rely on music to get them through the morning and others turn up a favorite playlist to stay motivated during a workout. Music is often linked to mood. A certain song can make people feel happy, sad, energetic, or relaxed. Researchers recognized also that music may trigger unwanted memories, evoking upset or anger (Eells 2014).

There are four different types of experience in music: improvising, composing, listening and re-creating or performing (Bruscia 1998, 29). Because the authors project is concentrated on music listening, it is focused on the experiences which especially listening can cause. According to Bruscia (1998), a person responds to the music listening experience verbally, silently or in another modality. Also there are various aspects of music, in which music listening experience will focus on; such as physical, intellectual, spiritual, emotional, or aesthetic aspects. Possible clinical goals of the experience can be to evoke specific body responses, evoke affective states and experiences, promote receptivity, stimulate or relax the person, develop auditory and/or motor skills, explore ideas and thoughts of others, evoke imagery and fantasies, stimulate peak and spiritual experiences and facilitate reminiscence and regression. (Bruscia 1998, 121-123).

The project´s questionnaire contained questions which were related to the feelings and thoughts of the people and in the project, goals could have been promoting people's receptivity and evoke specific body responses because people's reactions were observed, reminiscence was facilitated and the participants were stimulated and relaxed.

In this project, the different kind of effects music has on people will be discovered. Music is a safe and cheap alternative treatment method. It is essential to know how music influences people's physical and mental state. When these effects are known they can be used to treat more specific issues. It is important that nurse care with a "do no harm strategy" and it is essential to first try out the least invasive route – which in this case, is music. In different research articles music has been shown to be an appropriate and effective nursing intervention (Eells 2014).

2 LITERATURE REVIEW

2.1 The reasons behind listening to music

In a study in the United Kingdom, 300 undergraduate students filled out a questionnaire to describe why they listen to music. The results showed that music was an important factor in the student's everyday life. On average the participants reported that they spend around 3,66 hours per day listening to music. For most participants, music is used to alleviate negative feelings and for mood enhancement. Music is also used to identity development and to portray a social image to others. Furthermore, music is used for social interaction, to relieve boredom and to pass time. Music also helps in gaining information about other things. Music can also be helpful as a distraction method. (Lonsdale & North 2011.)

In a second study, 117 psychology students filled out a questionnaire to help compare music to other leisure activities. The results showed that the participants regarded music as the most important of their leisure activities. They also spend more time listening to music than for any other activity. Music and TV were mostly used for distraction. (Lonsdale & North 2011.)

In a third study, 189 psychology students wrote down in an open-ended questionnaire the reasons why they listened to music. The outcome was that most people used music for mood management and to manage their level of arousal. Music is used to enhance or optimize people´s emotional experiences. Participants often reported to listen to music that was felt to match their emotions at that time. In other cases, music is used as a background noise to avoid uncomfortable silences. Music also helps in reducing the feeling of loneliness and it enhances concentration. In a few cases, people are actively participating in music, for example while dancing, singing, writing songs or learning to play an instrument. For some people music is used to retrieve the past and reflect on memories. Participants are also using music in social activities and for distraction. (Lonsdale & North 2011.)

In a cross-section study, it was discovered that music is particular important for adolescents and young adults and it is significantly less important for people over the age of 30. This can be explained by the change of priorities and responsibilities. Adolescents are using music for diversion more often than any other age-group. This may be explained by the increase in technology that makes music more accessible nowadays. For example, many adolescents have portable music players, which make it possible to listen to music anywhere and at any time. Furthermore, in this study it was shown that women are more likely to use music as a means of managing their arousal. However, men are spending significantly more money on music every month than females. (Lonsdale & North 2011.)

In a study conducted in Zürich with 1230 volunteers Thoma et al. (2012) discovered that the qualitative aspects of listening to music, for example the reasons are more important than the quantitative aspects like for example the duration. It was also reported that reducing loneliness was a major reason for listening to music. Furthermore, other reasons were to reduce aggression and to arouse and intensify specific feelings. It is assumed for example, that individuals, who have negative emotions, also listen to music with the purpose to arouse or identify negative emotions. Additionally, it is likely that the effects of music listening are influenced by variables such as personality factors. (Thoma et al. 2012.)

2.2 The effects of music on psychological wellbeing

Biley (1999) reviewed several different literatures and found out about the effects music listening has on the patient wellbeing. He reported that in a study 20 patients who listened to relaxing classical music had a greater reduction in anxiety and in the heart rate. A study performed in a post-anesthesia care unit also reported a reduction of anxiety because of music. In surgical settings, surgeons performed tasks more accurately and quickly on exposure to music. (Biley 1999, 670.)

In 1991, a study discovered that music could strengthen ego, increase socialization, decrease psychotic symptoms, increase activity, alter stimuli and be an intervention for people with a wide range of disorders. Studies consistently report that exposure to music leads to a lowering of psychological stress. However, some studies found no change on the physiological state with the exposure to music. (Biley 1999, 670 and 674.)

Decreased labour pain is one of the positive effects of music. There are also many positive outcomes of music for the neonatal, such as increased weight gain, improved oxygen saturation, stabilized respirations, heart rate and blood pressure and reduced pain response behaviours which belong to the people's physical wellbeing. (Hollins Martin 2014.) Furthermore, if a mother listens regularly to music during late pregnancy, the fetus learns to recognize it. Mother's singing voice and the songs which she has been singing regularly are known by the newborn. Additionally, the singing voice has a soothing effect on a baby. (Huotilainen & Fellman 2009.)

The rhythm of music and tone can raise powerful feelings of existence for people in a way that it opens the connection to the main selfhood. Communication which is based on musical, rhythm and picture of sound is primitive in the biological evolution because already animal species use musical, acoustic messages between their communications. A wide content of psyche such as feelings, process of symbols and sense perceptions, phenomena which aren't present by themselves, are consisted by experience of music. (Leinonen 2003.)

Furthermore, music can raise feelings which can be seen for example as a smile or tears or then it can affect to the mind without seeing any marks of emotion (Tervaniemi 2009). Ünal et al., (2013), studied the effects of music on driving and found out that music increases arousal and has a positive effect on performance in the car-following task. The study contained 47 participants, both men and women, and they were 19 to 25 years old. They were asked to complete two drives in the simulator, first with music and second without music and

during those drives their heart rate was recorded by electrocardiogram. The participants were divided into two groups, one group received loud and the other group moderate volume of music. The playlist, which was played during the driving sessions, was created by the participants and according to their preferences. (Ünal et al. 2013.)

Traffic setting in the simulator wasn't very complex and in the monotonous car-following task participants were asked to follow the lead car's speed changes and maintain a safe headway to it at the same time. Participants trained the car-following task and the use of the simulator five minutes before the actual driving sessions. One driving session lasted half an hour and after all of the sessions participants filled a self-report, which measured emotions like if the participants feel tired, bored, sleepy or energized after the simulated drive. Participants were able to mark after every description of emotion by using Likert Scale, if they for example strongly disagree=1 or strongly agree=7. Driving performance was monitored with the delay in response while following the lead car and its decelerations and accelerations in the car-following task. At the end when participants have driven with music, they were also able to complete a questionnaire, where they were asked if they liked the music or not. (Ünal et al. 2013.)

In a study in Hungary, Harmat et al. (2008) examined if music improves sleep quality in students. The study was a randomized control trial with three groups. Ninety-four students with sleep complaints were recruited at a university in Hungary. Three groups in each block received only one treatment, either listening to relaxing classical music, listening to an audio book or no intervention. The participants listened to the music or the audio book for 45 minutes during 3 consecutive weeks, right before going to sleep. Members of the control group did not receive any intervention but they participated in the pre-and post intervention assessment. Further they were encouraged not to listen to music or an audio book at bedtime. (Harmat et al. 2008.)

The results were gathered through a questionnaire, that all of the participants completed. The results showed that the improvement of sleep quality correlated statistically significantly with the decrease in depressive symptoms. Additionally,

listening to music resulted in improved sleep quality, shorter sleep latency, and longer sleep duration, better sleep efficiency, reduced sleep disturbances and less daytime dysfunction. The results improved week by week. Nothing improved statistically significantly in the audio book group. The students who listened to relaxing classical music at bedtime had a better overall sleep quality especially in the second and third week, than those who did not. The improvement continued during the third week and was greater at the end of the study. (Harmat et al. 2008.)

Castillo-Pérez et al. (2010) studied in Mexico the effects of music therapy on depression compared to psychotherapy. The music-therapy group was exposed to a selection of baroque and classical music. The music was listened to in single, self-administered 50 minutes session once a day at home and once a week in a group session at the hospital. The therapy was given over eight consecutive weeks. The results showed statistically-significantly that the music-therapy group had a better improvement in their symptoms than the psychotherapy group. (Castillo-Pérez et al. 2010.)

Chan et al. (2009) examined in Hong Kong the effects of music on depression levels in older adults. The data was collected at the end of 2006. The chosen music included Chinese and Western slow rhythmic music. A digital monitor was used to collect systolic blood pressure, diastolic blood pressure, heart rate and respiratory rate. There was approximately one 30-minute session per week and it took place either at the day-care center or in the participant´s homes. The participants used earphones and they could adjust the volume. They also decided on their choice of music. Furthermore, the participants were encouraged to listen to the same type of music for 30 minutes every night before going to sleep. In the control group, instead of listening to music they had a rest period. The results showed statistically significant reductions in systolic blood pressure, heart rate and respiratory rate in the experimental group. (Chan et al. 2009.)

Chan et al. (2010) studied in Hong Kong how music effects on depression and sleep quality in elderly people who were aged 60 or over. The sample was 42

people and they were divided into a control and experimental group. Music for the study was decided by the researchers and the study instrument was divided into three parts: demographic variables, physiological parameters and psychological parameters. Demographic variables were age, gender, religion, marital status, educational level, previous experience of listening to music and medical history. Physiological parameters were a digital monitor, which was used to collect systolic blood pressure, diastolic blood pressure and heart rate for each participant. Psychological parameters were sleep quality and depression level. The study showed that listening to music may act as an effective intervention when talking about improving sleep quality and reduce depression levels in a group of older people. (Chan et al. 2010.)

Additionally, it has been shown that music affects maternal mood, depression, anxiety and stress, and also labour pain and neonatal outcomes. Stress and anxiety levels decrease and maternal depression reduces because of music. Music also improves the relationship between the mother and the fetus. Other outcomes of the music are that it calms the mother and makes maternal mood better. (Hollins Martin 2014.)

Furthermore, the study of Esfandiari & Mansouri (2014) supports the idea that light and heavy music has an effect on depressed people. It was discovered that light and heavy music seemed to reduce the symptoms of depression in female students. Even though the sample of their study was small, it encourages psychiatric hospital and nurses to use music therapeutically. (Esfandiari & Mansouri 2014.)

Music therapy was used in this study and participants were diagnosed with depressive disorder, according to the Diagnostic and Statistical Manual of Mental disorder 4th edition, by the professionals in a psychiatric hospital in the city of Isfahan. Female students were divided into three groups, control-, first experimental- and second experimental groups and every group contained ten people. Two different styles of music were played by using an mp3 player attached to a speaker and the duration of listening time was 45 minutes. In this case, light music was Pop and heavy music was Rock and there weren't any lyrics.

Every group listened to different kinds of music or to no music at all. The first experimental group received light music and the second experimental group received heavy music. Decreased levels of depression were seen in people's conditions that were in the experimental groups. It has been shown that music also stimulates beneficial feelings and can improve pleasure while doing daily activities. Music has also been used to treat for example schizophrenia and bi-polar disorder. (Esfandiari & Mansouri 2014.)

Maratos et al. (2009) reviewed five studies about music therapy. Participants across all studies suffered from clinical depression. The age of the participants varied across studies but three studies focused on older adults. All studies had small sample sizes. Four studies involved listening to pre-recorded music either in a group or individually. The duration of the sessions ranged from one hour to 90 minutes. Three self-rated scales were used to measure symptoms of depression. Four studies reported clinically significant positive effects in reducing depressive symptoms. However one study in which music therapy was used as a control treatment showed no effect. (Maratos et al. 2009.) Music therapy is associated at least in a short period of time, with improvements in mood that are more effective than those found with standard care alone. Based on the low dropout rates it also seems to be a well tolerated treatment. (Maratos et al. 2009.)

Moreover, Erkkilä et al. (2011) studied the effects of music therapy for depression. The sample of the study was 79 working-age adults with unipolar depression and the age ranged between 18 and 50 years. Most of the participants were women and their primary diagnosis was depression, which were also the inclusion criteria. The participants didn't need to have musical skills or any given musical background so that they would be able to take part in the study, but if they had, it wasn't an obstacle. The sample was recruited between February 2008 and April 2009 and gathered primarily from the Central Finland Health Care District's psychiatric health centres and the psychiatric polyclinics of Jyväskylä city. (Erkkilä et al. 2011.)

The sample was randomised into two groups, the first group received both music therapy and standard care and the other group received only standard care. The standard care contained a short-term psychotherapy intervention, with nurses, medication like antidepressants and psychiatric counselling. Music therapy, which the other group received, contained an interaction between free musical improvisation and a discussion. During the music sessions, participants produced music with instruments they chose, while trained music therapists supported their action by using similar instruments. The produced music was recorded in a way that later on, participants and therapists were able to listen and discuss about it. (Erkkilä et al. 2011.)

An assessment procedure, related to the two groups, was carried out by conducting the baseline and a three- and six-month follow-up. The primary outcome measure was the Montgomery –Åsberg Depression Rating Scale and the secondary outcome measures were the anxiety part of the Hospital Anxiety and Depression Scale. Global Assessment of Functioning and the use of exploratory regression analyses helped to find out the possible effect of severity of depression, antidepressant medication status and being self-described as a musician or singer. (Erkkilä et al. 2011.)

The main findings of the study were, that changes in participants' scores of the Montgomery –Åsberg Depression Rating Scale, the anxiety part of the Hospital Anxiety and Depression Scale and Global Assessment of Functioning were significantly greater in the music therapy and the standard care group, comparing to the only standard care group at the three-month follow-up. This means that music therapy improved participants' depressive and anxiety symptoms and general functioning in this group. It was also noted in this study, that the response rate of the music therapy plus the standard care group was higher than the response rate of the only standard care group. (Erkkilä et al. 2011.)

Furthermore, Guétin et al. (2008) assessed in their study the effect of music therapy on mood, anxiety and depression in institutionalised patients with traumatic brain injury, who are in a medical rehabilitation centre. The design was a prospective, observational study. The sample of the study contained thirteen

patients with brain injury, three men and ten women, the mean age was 31 years and the mean time since injury eight years. The sample was gathered in France, between the period of September 2005 and June 2006. (Guétin et al. 2008.)

The music therapy sessions, in which the participants took part in weekly, were individual, they lasted one hour per time and the period of them was 20 weeks. In addition, every session was also divided into two 30-minute periods, the first part was for the receptive music therapy and the other part for the active music therapy. Receptive music therapy consisted of listening to music from the head phones in an otherwise silent room. The patient was lying on his back and the played music was chosen according to the preferences of the patient. The session included several pieces of music, which lasted only a few minutes and were linked and integrated into each other. The purpose of this was to get the patient relaxed and it was carried out by first slowing the musical rhythm and decreasing the number of instruments in the orchestra, the frequencies and the volume. The relaxation phase was followed with a dynamic phase which slowly increased. (Guétin et al. 2008.)

During the active music therapy, the patients were able to play a musical instrument with the therapists and participate in interventional techniques that included singing, song-writing, instrumental or gestural improvisation and the execution of rhythmic movements to musical accompaniment. The idea was that they would improve stimulation of cognitive functions because the task would require memorisation, concentration and attentiveness. (Guétin et al. 2008.)

The assessment criteria were mood and anxiety-depression. Mood changes were monitored by using a patient-scored face scale, which was based on the evaluation of patients' facial expression. It was researched if the patients express laughter or extreme sadness ranging between five faces. Assessments of mood were made immediately before and after sessions and they were made only in every fifth session. The anxiety-depression was assessed by using the Hospital Anxiety and Depression Scale, which contained seven questions for

anxiety and seven for depression scored from zero to three. They were assessed similarly as mood: only every fifth session. (Guétin et al. 2008.) The main findings included, that music improves mood and the anxiety-depression components in severe patients with traumatic brain injury and in this way, helps functional and cognitive rehabilitation (Guétin et al. 2008).

The study of Mössler et al. (2012) examined if the different types of music therapy techniques predict changes related to the development of ego-strength, relational competencies and quality of life in clinical outcomes in mental health settings. The application of music therapy techniques was also investigated in individuals with mental illness and who present a low therapy motivation. The method of the study was an exploratory study, which used observational and naturalistic design with pre, post and intermediate tests of clients who began music therapy. (Mössler et al. 2012.)

The data was collected from one decentralised psychiatric centre in Nordfjordeid, in Norway and one psychiatric clinic in Linz, in Austria. There were 31 participants in this study, 22 from Austria and 9 from Norway, and they had to have any non-organic mental disorder according to the ICD-10 criteria and meet at least one of the following criteria, so that they would be eligible for the study: the client hasn't reached sufficient improvement in previous psychotherapy, he has difficulties to talk about feelings or problems, he doesn't believe that talking would help and wants only a medication cure or the client is lacking or has insufficient insight into illness. (Mössler et al. 2012.)

The sample consisted of 19 males and 12 females and the most frequent diagnoses were schizophrenia, schizotypal or delusional disorder, affective disorder and personality disorder. Anyhow, the sample included similar numbers of participants with psychotic disorders, 14, and non-psychotic disorders, 17. Usually types of low motivation were difficulties in talking about feelings or problems and insufficient achievements in previous psychotherapy. The age ranged between 18 and 59, the mean age was 37 and most of the patients received music therapy as inpatients. Twenty-six individual music therapy sessions were offered over a course of three months besides the standard care. Each session

lasted 45 minutes and it was possible to get two sessions in one week. The number of music therapy sessions ranged between 12 and 25 and the average number of music therapy sessions, which were received, was 19. (Mössler et al. 2012.)

The goals of music therapy were taking care of social and relational abilities, supporting self-efficacy and self-esteem, improving quality of life and gathering self-confidence. These goals, client population and the therapeutic approach, where considered when choosing the outcome measures. From the outcomes, self-esteem was measured by using the Rosenberg Self-Esteem Scale, self-efficacy by using the General Perceived Self-Efficacy Scale and interpersonal problems, which represent relational competence, by using the Inventory of Interpersonal Problems. Actual social relationships were measured by using the 11-item Quality of Life Enjoyment and Satisfaction Questionnaire and interest in music by using the Interest in Music Scale, subscale Musical Activity and Emotional Engagement with Music. (Mössler et al. 2012.)

A detailed report after every music therapy session was written by the music therapist and it contained information about the therapy process and used music therapy techniques. Music therapy techniques were production, reproduction and reception and they were categorised and rated by using the Questionnaire for the Assessment of Music Therapeutic Working Modes. The use of this questionnaire helped to see how much each technique was used and what techniques contain in the broader scale. Production contained communicative, thematic, “trying-out”, structure and free improvisation techniques. Learning or practising musical skills and singing or playing pre-composed songs belonged to the reproduction techniques and reception techniques were listening to recorded music, listening to live music, listening in combination with body perception, or with dance and movement. Therapy techniques were categorised and rated by using the Questionnaire for the Assessment of Music Therapeutic Working Modes. (Mössler et al. 2012.)

The data analysis contained calculated frequencies, which told how much each music therapy technique was used according to the number of sessions. The

effective intensity, of the music therapy technique, was defined by the mean of the intensities of the sessions where the specific technique was used. When the connections between outcomes and predictors were found out, two types of models were calculated: an unadjusted model and a fully adjusted model. Predictors were the intensities of the production, reproduction and reception, and the potential confounders were for example age, sex and diagnosis. The main findings of the study were that reproduction techniques, such as singing or playing pre-composed songs and learning musical skills, might be in important position in music therapy when interacting with clients in mental health care with low therapy motivation. These techniques might also be an important role when predicting outcomes related to relational aspects. (Mössler et al. 2012.)

2.3 The effects of music on physical wellbeing

Blood and Zatorre found out in their study (2001) that music activates the areas of the deep parts of the brain which induce euphoria stimuli. Examples of these brain areas are amygdala, ventral striatum and hippocampus. Changes in heart rate, electromyogram and respiration were measured during the study, because at the same time they followed subjective reports of chills. Subjective reports of the strength of chills were done by using questionnaires. Positron emission tomography was used to notify the cerebral blood flow changes in the brain which increased when the intensity of chills increased. (Blood & Zatorre 2001.)

People, who were subjects of the study, have had a background of music training and the sample consisted of only five women and five men. The study participants were able to choose their own favorite music which was played to them. The reasons for self-selected music were individual preferences, because when people hear their favorite music, intense emotional responses are more likely to be produced. The music that was used didn't contain words and all the people's music selections were of the classical genre. (Blood & Zatorre 2001.)

According to the researches of functional magnetic resonance imaging, music is a stimuli which has straight connection to the deep parts of the brain such as

hippocampus and amygdala. These parts take care of the instinct action of people when they are adult and during the fetal period. For the most part in the first years of life they take care of all essential life processes. These parts of the brain deal with pleasure and also for example fear. (Huotilanen & Fellman 2009.)

Moreover, an experimental study (Baumgarter et al. 2006), in which magnetic resonance imaging was used, showed that affective pictures, which were exhibited at the same time when music was played, activates together the brain areas of emotional processing. The activation was stronger compared to only showing the pictures or audio material. Therefore, music has its own nonverbal way to connect visual perception and emotional experience. (Tervaniemi 2009.)

Additionally, it has been studied that music has an effect on different kinds of biochemical responses such as hormone levels and interaction between the nerve- and immune system. It has been shown, that music increases for example the excretion of growth hormone and immunoglobulin A and decreases the excretion of cortisol. (Lilja-Viherlampi 2011, 55)

Different studies have also demonstrated that it is possible to change tensions of the muscular system by listening to music. In addition, soothing music reduces muscle tension faster and stimulative music increases it. (Lilja-Viherlampi 2011, 56). Furthermore, music has proven to help patients who have suffered from a middle cerebral artery stroke. Autti et. al. (2008) researched the effects of music listening on cognitive recovery and mood after middle cerebral artery stroke. It is known, that in human beings music listening activates regions in brain related to functions such as memory, motor functions and emotional processing. However, so far music's potentiality in neurological rehabilitation has not been systematically studied. (Autti et al. 2008.)

In the research, Autti et al. (2008) , the aim was to find out if music can affect on the recovery of cognitive functions and mood of a post-stroke patient. The research was done as randomized and controlled trial that included 60 patients in the acute recovery phase with a left or right hemisphere middle cerebral artery

(MCA) stroke. The patients were randomly divided in to a music group, a language group or a control group. The music and language groups listened to self-selected music or language books for the following two months, whilst the patients in the control group were not given any listening material at all. (Autti et al. 2008.)

In the end, 54 out of the 60 patients completed the study. Results showed that in the patients, that were part in the music group, the verbal memory and focused attention improved distinctly compared to the patients in the language and control groups. In addition, the music group was less depressed and confused than the control group. These findings can indicate for the first time that listening to music in early post-stroke stage has positive effects on not only the cognitive recovery but also on the negative mood of the patients. (Autti et al. 2008.)

Furthermore, music can affect mood and attention even in people with memory disorders. Särkämö et al. (2013) studied the efficacy of a novel music intervention in persons with dementia in Finland. The sample was gathered from five different day activity centers and inpatient centers in Helsinki and Espoo during the years 2009-2011. It included 89 couples, which were formed from the person with dementia and a caregiver. It included 59 caregivers who were family members and 30 caregivers who were nurses. The participants were divided randomly into three groups, the control group, the music listening group and the singing group. The control group consisted of 30 couples, the music listening group of 29 couples and the singing group of 30 couples. (Särkämö et al. 2013.)

The control group received only standard care while the music listening group received standard care and music listening coaching and the singing group received singing coaching and standard care. Both, music listening coaching and singing coaching, lasted ten weeks. The duration of a weekly singing or music listening session was one and a half hours and the amount of participants at each center was five couples. The sessions were led by a trained music teacher or a music therapist. During the singing sessions, songs were mainly sung in a group and physically activating vocal exercises and rhythmical movements,

such as clapping or playing maracas, were occasionally performed. Music listening sessions consisted mainly of listening to songs from a CD followed by a discussion about thoughts, emotions and memories, such as personal events, people and places which songs evoked. In addition, discussion and reminiscence were tried to boost by showing visual cues, for example album covers, for the participants. Six to ten songs were used, for both singing and music listening sessions and they were mainly traditional folk songs and popular songs from the 1920s to 1960s. (Särkämö et al. 2013.)

An extensive neuropsychological assessment of persons with dementia was carried out by using cognitive tests and mood and quality of life scales. Assessments were done before and after the intervention and also six months later. The psychological well-being of family members was also followed regularly by using questionnaires. The study showed that music listening, as well as singing, can improve orientation, remote episodic memory and mood when compared with standard care. General cognition, executive function and attention were also improved but not as much as those previously mentioned. Other findings of the study were that caregiver´s well-being and both short-term and working memory were improved by singing, while music listening affected positively quality of life. (Särkämö et al. 2013.)

In addition, motor function can be stimulated by music as well, not just people's mind. Burger et al. (2013) examined the effects of rhythm- and timbre-related musical features as well as tempo on movement characteristics in Finland. The sample of the study consisted of sixty participants, 17 male and 43 female, and the average age was 24. Four participants had a formal background in dance tuition and six participants had formal music education. The study was carried out by playing 30 randomly ordered musical stimuli which represented popular music genres such as Pop, Rock, Techno, Latin, Jazz and Funk for the participants. Each stimuli lasted thirty seconds, they were non-vocal and in 4/4 time even though there were differences between their rhythmic complexity, mode, pulse clarity and tempo. (Burger et al. 2013.)

An eight-camera optical motion capture system, tracking and three dimensional positions of 28 reflective markers, attached to the different parts of the body to each participants were used to record movements of the participants. Markers were for example on the head, shoulders, sternum, different part of the hips, elbows, wrists, fingers, knees, ankles, heels and toes. The sessions, during which the participants were recorded, were individual and during them two overhead microphones recorded the room sound. The participants were asked to move to the played stimuli in a way that they felt natural and they were also encouraged to dance if they remember to remain in the center of the capture space/carpet. (Burger et al. 2013.)

Main findings of the study described that, music consisted of easy and clear noticeable pulses. In addition, the participants used many different movements and movement types of the whole body. By using various movement types of different body parts, for example hip and shoulder wiggle, speed of center of mass and feet, an expression of pulse clarity was possible to see. When music with a clear pulse was played for the participants, they tended to move the center of the body and feet faster, used an increased amount of movements related to the whole body and wiggled more with shoulders and hips. Participants moved their head and hands faster, used increased amount of movement and had a larger distance between the hands, when there was a stimuli with strong spectral flux in the high frequencies in the music. Stimuli, which consisted of a high amount of percussive elements, made the participants move their head, hands and center of mass faster; wiggle more with their shoulders, use an increased amount of movement and have a larger distance between their hands. According to the study findings, the tempo stimuli didn't affect the movement features. (Burger et al. 2013.)

Moreover, music can make some of the smallest children move rhythmically. Eerola et al. (2010) researched the rhythmic engagement with music in infancy. Humans are known of their remarkable capability to turn their motor functions in to foot-tapping or dancing while hearing external auditory stimulus – which in this case, is music. The aim of this research was to find out if infants practice

music-related rhythmic behavior. During the research, 120 infants aged 5-24 months were examined by exposing them to musical and rhythmic stimuli, such as drumbeats. The infants were also played adult- and infant-directed speech. The methods, which were used for the assessment of the infants' rhythmic movements, involved ways such as manual coding from video and innovative 3D motion-capture-technology. (Eerola et al. 2010.)

The experiments with both music and speech were performed while the infants were on their parent's lap. This was done due to the fact that it minimized separation anxiety, but still allowed the infant to move most relevant body parts such as arms, legs and head. The results of the research present that infants engage noticeably more on the rhythmic movement to music and other rhythmical sounds than to speech. (Eerola et al. 2010.)

2.4 The effects of music in the fields of medicine

Vaajoki et al. (2012) investigated in their research the effects of music on both pain intensity and pain distress in patients who have undergone a major abdominal surgery. The research evaluates what kind of difference does music listening make during post-surgery. The aim of the research was to find an easy and inexpensive non-pharmacological intervention that would help the patient to feel better. The sample was a group of patients who had undergone elective abdominal surgery, who were divided in two, to a music group and a control group. Patients in the music group listened to music seven times between the operation day and the second post-operative day. One researcher collected all of the data. On the second post-operative day the music group experienced pain milder compared to the control group. Though no long-term effects were discovered, music can still provide help, at least for a short period. (Vaajoki et al. 2012.) Another study with forty hospitalized patients with chronic cancer related pain showed that music has a significant effect on reducing the amount of pain. Highly significant reduction in pain was also demonstrated in s study conducted on 30 volunteers with rheumatoid arthritis. (Biley 1999, 672.)

Lin at al. (2010) studied in southern Taiwan how music therapy affects adults with cancer requiring chemotherapy. Methods they used when collecting the material were physiological measures, behavioural state and anxiety. The sample was divided randomly into three different groups: the music therapy group (experimental/intervention group), the verbal relaxation group (comparison group) and control group. The music therapy group received a one-hour single music session, the verbal relaxation group received 30 minutes of guided relaxation and the control group received usual nursing care. The findings were that both verbal relaxation and music therapy are effective in decreasing chemotherapy-induced anxiety. Effects were bigger when patients had high state of anxiety, and the most significant effects on decreasing anxiety were got when using music intervention during a 30-minute chemotherapy protocol in patients with high state of anxiety caused by pre-chemotherapy. (Lin et al. 2010.)

In 2005, Allen conducted a study in Italy to examine the role of music therapy in reducing stress associated with day surgery. He evaluated changes in plasma levels of cortisol and natural killer lymphocytes. 60 patients took part in this study and they were randomly assigned to one of three groups, with 20 patients in each group. Participants in group 1 listened to a compilation of relaxing new age music one hour before the surgery. Group 2 chose the type of music they wanted to listen to. Participants in group 3 did not listen to any music before and during the surgery. The findings were that, plasma levels of cortisol and natural killer lymphocytes decreased during surgery in the groups that listened to music and increased during surgery in the control group. Additionally, postoperatively cortisol levels were significantly higher in group 1 than group 2. This study demonstrated that music therapy decreased stress perioperatively as measured by the cortisol level and natural killer lymphocyte count. Furthermore, music in a style that has been selected by the patient appears to be more effective in reducing stress. (Allen 2007.)

It has been shown in clinical and experimental studies in the different fields of medicine that music listening for example in surgery reduces significantly stress hormone levels, restlessness, side-effects of anaesthesia and the necessary

amount of it, decreases pulse and stabilizes blood pressure, reduces postoperative pain and the need for pain medication, makes the healing faster and increases talk about the surgical operation. In the intensive care unit of newborn babies it has been noticed that music listening promotes weight gain and reduces motion, reduces irritability, crying and stress behaviour, increases the eating behaviour, stimulates development, increases the oxygen levels of blood and shortens the hospital stay. (Heal & Wigram 1999, 164.)

The music, for use in anesthesia settings, should be designed to reduce stress and emotional turbulence. The music should also be quite with small shifts in amplitude and appropriate rhythm and tempo. A music rate of 70 to 80 beats per minute is similar to the heart´s own rhythm and stimulates the brain´s alpha waves. This leads to a reduction of pain through the release of the body´s endogenous opioids and endorphins. Low tones are promoting relaxation and produce a calming effect. On the other hand, music faster than 70 to 80 beats per minute with higher pitched tones promotes a stress hormone release without the previous mentioned benefits. (Trängeberg & Stromberg 2013.)

In a study conducted in a surgical unit in Sweden, Trängeberg and Stromberg (2013) described the patient´s experience of listening to music during a hand procedure with regional anesthesia. The results were gathered through interview, questionnaire and The Hospital Anxiety and Depression scale. Fifteen people participated in this study. All patients received an axillary nerve block that provided regional anesthesia to the forearm and hand. No other drugs were given. The music was started in the operating room at the beginning of the procedure and stopped when the operation was over. The patients could choose their music and listened to it through earphones. (Trängeberg & Stromberg 2013.)

The results showed that the patients had a feeling of satisfaction and that it was a positive experience. Furthermore, the patients had a feeling of peace and well-being during the procedure. Some people were even falling asleep during the procedure. The mood changed for many patients and the incidence of anxiety decreased. The participants also reported that the music made them feel

detached from reality and that it helped them to think about something else than the surgery. (Trängeberg & Stromberg 2013.)

Table 2.1. Listed effects of music according to the different fields of medicine

(Heal & Wigram 1999, 165-167, tables 15.1-15.11, modified**)**

Pediatric medical treatment	- Decrease anxiety and symptoms of stress - Increase talking about disease and help families to deal with issues relating to their child´s illness
Physical rehabilitation	- Improve motor action and motivation to participate in a therapy - Analyse rhythmical movements and strengthen desired movements - Decrease muscle tension and increase efficiency of acupuncture
Treatment of respiratory organs diseases	- Improve breathing and vital capacity and also resonate breathing - Decrease restlessness which is related to the medical methods
Treatment of burns	- Relieve pain and psychic trauma - Increase breathing exercises and make joints more mobile - Decrease heart rate while removing dead tissue
Pain relief	- Increase relaxation, self-control methods, pain tolerance and elevate pain threshold - Decrease the need of pain medication and even

	talking about pain - Affect to the psychological and physiological aspects
During labours and childbirth	- Can decrease fear and anxiety and relieve pain - May shorten the duration of the birth and affect to the duration of the opening of ostium uteri - Can condense time during labours and control breathing - May increase euphoria feeling of birth and improve child's well-being - Can capture the attention
Terminal care	- Can relieve pain and decrease restlessness - May increase talking about issues related to the disease - May help patients to deal with disease and death and families to help the issues related to the patient - Can offer a possibility to create a diversion from the disease and some amount of control over it or decrease helplessness

It has been shown that passive music experiences decrease the muscle tension, psychic anxiety and open signs of restlessness, lower blood pressure, the level of corticosteroids and the level of temperature of the fingers, and affect the abundance of automatic body functions when relieving stress. Passive experiences of music in the general hospital or intensive care unit decrease anxiety

and relieve pain, improve mood and feeling of comfort, offer entertainment and an element that controls the patient. (Heal & Wigram 1999, 165.)

2.5 Active music therapy

Music therapy can be divided in to two main categories – receptive and active music therapy. Receptive music therapy is about listening to the music therapist who sings or selects recorded music for the clients. Then again in active music therapy, the clients are in active role for example by playing an instrument, doing musical improvisation, dancing or singing. (Vink et al. 2013.)

At a cancer support center in the United Kingdom, Mclean et al. (2012) studied the experiences of patients with cancer in a one-time group music therapy event that was undertaken as part of the patient´s week-long residential treatment. (Mclean et al. 2012.) The residential group is made up of about eight to ten people. Music therapy is offered in the middle of the week and lasts for approximately one and a half hour. The instruments are percussion instruments and originate from around the world. The session usually moves into a whole- or small group improvisation. At the end, there are opportunities to listen to a short piece of relaxing music usually from the classical repertoire. (Mclean et al. 2012.)

As part of this study, two researchers conducted telephone interviews that were tape recorded. The interviews took place approximately two weeks after the music therapy session. Results showed that this music therapy event was relaxing and enjoyable and the healing impact seemed to last beyond the music session. The experience was also described to be uplifting and powerful. In addition, the freedom of improvising with music instruments can also provide relief from the burden of cancer. During the session, many patients used music as a communication exercise and experienced a feeling of closeness and connectedness. For some, playing and listening to music evoked particular memories. The music therapy also enabled people to get in touch with their feelings, especially those that were dormant or difficult to express. (Mclean et al. 2012.)

For many people with mental illnesses the life is lived in social isolation and with limited or no social networks. They usually have not many available activities and they are bombarded with negative and positive symptoms of mental illness. (Gathro & Devine 2012.)

In Scotland Gathro and Devine (2012) reported about Drumdee a mental health service created for music based intervention. Drumdee is a percussion based music group for people between the age of 18 and 65 who have sever and long lasting mental health conditions. The number of participants is 20. It is an occupational therapy and nursing intervention that is supported by a professional percussionist. It started in August 2010 and each week two one-and-a-half-hour sessions took place. The groups were formed to divide beginners and people with more advanced musical skills. The session included percussion technique, self-expression, vocals and the use of other instruments. Drumdee was also approached to give live performances for example at art festivals. Clients that seem suitable for this service are screened and interviewed, especially about their goals of this intervention. Each group has a 12-weeks cycle after which the participants are evaluated by interview and questionnaire. A total of 51 evaluations were completed. (Gathro & Devine 2012.)

The results showed that the participants felt very relaxed during the session and were able to act in their own pace. Many people felt a sense of achievement and gained confidence. Especially, when asked to perform outside in public. Some participants also become more active outside the group as a result of attaining these sessions. For some members it also helped them in improving their personal hygiene and being more interested in their appearance. Drumdee made it possible to reach the most isolated adults and help them in recovery. (Gathro & Devine 2012.)

In a study that will be conducted in the United Kingdom, Porter et al. (2012) were planning on doing a randomized controlled trial about improvisational music therapy. One group will receive improvisational music therapy in addition to standard care and the control group will only receive standard care. Participants will be 200 young people aged between 8-16 years with mental health issues. In

addition to the standard care, clients assigned to the experimental group will receive psychodynamic improvisational music therapy in an individual setting. Music therapy will be conducted for 30 minutes once a week. (Porter et al. 2012.)

The model of music therapy delivered will be the Alvin model of 'Free Improvisation'. In this model the therapist does not impose any structure or rules upon the client. Rather, the client is encouraged to explore music and sounds in its own way. The client can create music and sound through the voice, an instrument or movement. In this article, it is also emphasized that it is important that all members of the multi-professional team, including nurses, are aware of all the available therapeutic options, the rationale for their use and the potential benefits for their patients. (Porter et al. 2012.)

The research article "Creative songwriting in therapy at the end of life and in bereavement" (Heath et al. 2012) studies the meanings of songwriting as a part of improvisational music therapy among dying clients. The authors have both worked as music therapists and used songwriting as a part of their therapy sessions. In improvisational music therapy, the client and the therapist can play and create music together. The client does not necessarily need to have any previous experience in order to be able to participate. Songwriting was found as a therapeutic intervention that can touch the patient emotionally, physically and even spiritually. The songwriting process can be both therapeutic and healing from the patient's perspective. (Heath et al. 2012.)

It seems that songwriting can be a new way for the clients to express themselves and to connect with feelings that may arise, as they are facing death. Songs that are created in the songwriting sessions can be a way to deal with the struggles and questions related to dying. It is also a personal and unique way to express some final words or thoughts for the loved ones. In addition they are also part of the legacy that the dying patient leaves behind. (Heath et al. 2012.)

Romo et al. (2007) conducted a cost-benefit analysis of music therapy in a home hospice. The study was performed in a medium-sized for-profit home hospice in the San Francisco bay area. The number of participants was only eight. The cost-benefit analysis was performed comparing patients receiving music therapy to patients not receiving music therapy. Cost-benefit analysis compares to alternatives by quantifying the benefits of each alternative and comparing it to the cost of the interventions. (Romo et al. 2007.)

The results showed that the total cost of patients in music therapy was $ 10,659 and $ 13,643 for special care patients, resulting in cost savings of $ 2,984. The music therapy program cost $ 3,615, yielding a cost benefit ratio of 0.83. It is indicated that the expense of the music therapy program is greatly offset by the cost savings seen in other areas of care. This small study demonstrated also that music has a positive impact on patient outcomes. Further, it shows that music therapy may have a positive financial consequence for hospice agencies. (Romo et al. 2007.)

3 THE TASK AND AIM OF THE PROJECT

As for the thesis project, we wanted to study how music effects on people in the health care field and what kind of results we can achieve by organizing a listening session in a club house. In our project, we wanted to find out how people react to different sorts of music. Furthermore, we wanted to increase the awareness of music as a treatment method.

The project task was to do a listening session at Salo's Clubhouse and to analyze literature and the questionnaires in order to create a larger picture of how music effects on people. It was also important to compare the results of the questionnaires to the other information gained from different literature sources that were used, in order to figure out if there are any similarities. The main focus was in finding out if there is a connection between music and its effects on people's health.

3.1 LIMITATIONS

The biggest limitation in the project was the small sample collected during the listening session, since there weren't many participants. With a sample this small, it was more likely to be a pilot study, but the authors still tried to take advantage of every little thing and pay attention to details. As many participants gave similar answers, it was possible to get an overall idea about the effects the different songs had on the participants.

Because the sample from Salo's Clubhouse was so small, the authors considered about holding another music listening session for another target group at some another place. Due to the schedule related problems, it soon became clear that it would be too hard to arrange another session on such a short notice.

The small sample also forced the project group in to a situation where more literature review about the effects of music was needed for the thesis and not just rely on the results of the music listening session held at Salo's Clubhouse.

The playlist used in the music listening session can also be considered as one of the limiting factors during this project. The authors acknowledge the fact that it was relatively too short to bring out a full variety of all the music genres. This implies that with a longer playlist, there could have been different results, since with a broader range of songs the session could have had an altered impact on the participants and also possibly on the results.

In addition, the participants were not able to affect on the music or choose any of the songs that were used in the playlist. In a variety of different studies (Blood & Zatorre 2001; Allen 2007; Autti et al. 2008; Guétin et al. 2008; Chan et al. 2009; Trängeberg & Stromberg 2013; Ünal et al. 2013) participants were able to choose music according to their own preferences, which might have indicated a stronger effect of music listening. As music is considered as a matter of opinion, this might have influenced on their motivation to listen to the music during the listening session. This considered, the response from the participants and the results of the music listening session might have been totally different, had they had the possibility to bring out some own personal song choices, that would have really meant something to them and brought back for example, some important memories from the past.

Alongside the questionnaire that was filled, some of the feedback that was received from the participants was given orally after the listening session. This can be seen as a limitation, as no recording of any video or audio of the participants was taken in order to protect their privacy. Most of the information was written down instead of recording the event, but in practical terms considered, recording the session would have been an easier way to remember everything that the participants said during the playlist listening at the clubhouse.

Also, it has to be considered, that having the public overall oral feedback, the participants might have been too shy to say what they really wanted. If there would have been a possibility to organize individual one-to-one discussions afterwards, maybe the participants would have been more willing to express their

opinions and the authors could have received a different kind of perspective from the entire event

Moreover, the authors would have preferred to try different musical approaches during this project, such as having a songwriting session with our participants. Some studies did not only contain listening but also active production of music, such as, in addition to songwriting, creating music and sound through voice, instruments or movement (Guétin et al. 2008; Erkkilä et al. 2011; Heath et al. 2012; Mössler et al. 2012; Porter et al. 2012). It was due to the lack of both resources and time that it was decided to pursue only for the music listening event. In order to arrange improvisational songwriting sessions with the participants, individual meetings would have had to be organized. In addition, the authors would have also needed to provide some musical instruments easy enough for everyone, because there would not have been time enough to teach everyone to play. The listening session was not a time consuming option and it also ensured that everyone could participate, without the need of special musical skills.

4 EMPIRICAL IMPLICATION

4.1 PLANNING

The idea for the thesis came from one of the group members of this project, who suggested that music in health care seemed like an interesting topic to work on. The remaining group members supported the proposed theme, since all consider music as an important part of life and listen to it on a daily basis.

Besides, music is also yet relatively unknown affair in the nursing science and all of its capabilities are not yet fully revealed. Therefore, finding more information about music and it's usability in health care felt very appealing and interesting. It seems that music and its effects are still a mystery, even though a lot of research has been made both in Finland and around the world.

One of the group members is also considering about specializing on music therapy later, after getting the nursing degree. That considered, writing a thesis about music can prove to be quite useful in the future.

In the early spring of 2014, the project was already partially structured and also planned what the thesis work would consist of. The authors started to plan a music listening event and discussed about what it would it be like and how and where it would take place.

As soon as the authors found out that there should be a target group for the music session, a search for a possible place started. Quite soon the teacher came forward with the idea of going to Salo's Clubhouse and suggested contacting the personnel in order to find out if this kind of session could be arranged there. They seemed quite interested in the project and wanted the authors to come to the clubhouse to introduce themselves and to advertise the project before putting it in action. During the visit there an agreement was made about the day and time of the event, and they promised to advertise the project online in order to get enough participants for the session.

4.3 INTRODUCING SALO'S CLUBHOUSE

Salo's Clubhouse is a place where people, who have or have had severe mental health problems, can visit. It is designed for 18-65 years old residents of Salo. The clubhouse is a community consisting of both mental health rehabilitees and hired staff. The rehabilitation program that is used at the clubhouse is based on the international Fountain House – operation model. (Salon Klubitalo 2014.)

The clubhouse is not a treatment facility, but a place that offers rehabilitation, work-related activities and peer support for its members. All the members and the staff are in equal position compared to each other. The membership of the clubhouse is free of charge and the participation in the activities is voluntary. (Salon Klubitalo 2014.)

For many people, the daily life and activities at the clubhouse are a way to get in touch with a proper daily rhythm. This can be helpful for the members to find again the pleasure of everyday life and support in getting back into the working life. (Salon Klubitalo 2014.)

4.4 QUESTIONNAIRE

In order to be able to create a questionnaire, the authors first needed to come up with the questions and decide what kind of results were aimed to achieve. The main idea was that the participants would have the possibility to show their opinions as widely as possible, which is the reason why the authors ended up in making multiple-choice questions including a free-word section. At the end of the questionnaire a paragraph was included where the participant would have a chance to give some feedback in their own words if they wanted to. The questions were asked in a direct and understandable way. The questions were mostly about the people's emotions while listening to the songs. It was also asked if they had any memories during the song and if they liked the song in general. The participants were asked to answer all the questions individually for every song. This method made it possible to compare all the songs with each other

and may discover an interesting pattern concerning the song type and the participant´s answers.

The questionnaire was formed from five questions and the sixth was an open-ended question. The first question was related to people's feelings during different songs and how the songs made them feel. People were able to choose from three options, did the songs make them feel happy, angry or sad. In addition, the participants were able to write and describe their feeling(s) with their own words. Information about feelings was gathered in our questionnaire, because it has been found out that music can intensify and arouse specific feelings (Thoma et al. 2012). The second question was similar to the first one, people were asked about their opinions considering the atmosphere of the songs in it and again there were three options: were the songs happy, angry, sad or something else. When answering to these questions, people had the possibility to choose more than one option.

The third question was to find out if the people liked the songs or not and now they had only two options to choose from, either they liked the songs or not. In the study of Ünal et al. (2013) participants filled out a questionnaire as well, and participants answered if they like the music or not. Besides, they were asked about their emotions after a driving session with music. The questions included if the participants feel tired, bored or sleepy (Ünal et al. 2013), which we also did in our project when we inquired participants feelings related to the different songs in the first question. In order to do more complex project, Likert scale could have been used and participants would have been put to evaluate how strongly they agreed/disagreed with different emotions by numbers from seven to one. This was done by Ünal et al. (2013) in their study and number seven reflected a strong agreement. In this project, the focus was in the question number five, if the music touched participants a lot, a little bit or not at all, because music can stimulate intense emotional responses of people (Blood & Zatorre 2001).

The fourth question gave answers about, if the music raises memories in the participants and in this part as well, people were only able to answer with yes or

no. A memory related question was included in our questionnaire, because it has been shown in the studies that music can evoke memories and improve remote episodic memory (Mclean et al. 2012; Särkämö et al. 2013). The last and known as the sixth question was open-ended and people were able to write whatever came to their minds and give comments.

The questionnaire in its entirety can be found in the appendix part of the thesis.

4.5 PLAYLIST INTRODUCTION

Making a playlist was part of the research task and one of the top priorities during this project. The authors created a playlist that the participants could listen to at the music session, fill out the questionnaires and share their feelings anonymously at the listening session at the Salo's Clubhouse.

The authors acknowledge the fact, that music is a matter of opinion and that it might not be an easy task to please everyone with the song selections that were made. Therefore, the authors tried in their best effort to find something enjoyable for everyone, so that each and everyone would be able to feel something while listening to the playlist that had been created for the session.

The playlist was created by choosing mainly Finnish songs or instrumentals, as it was known beforehand that the target group would consists of only Finnish speaking participants. The lyrics of each song play an important part, so it was essential that the participants could focus on both, lyrics and melody, but also understood the message that was delivered in each song. Instrumentals that were selected for this playlist were more powerful and emotional. In this way they could compensate the missing lyrics and maybe create more feelings in the participants.

The authors tried to collect a variety of songs, some songs were slower and more sentimental, but there were also songs that were more happy, uplifting and up-tempo. The songs were selected from different genres and different themes, as it was desired that the songs would portray as much of different feelings as possible. The songs were linked to each other and the order of them was carefully planned. In the study of Guétin et al. (2008), several pieces of music were also linked and integrated to each other when their purpose was to get the patient relaxed. In that study, pieces of music lasted just a few minutes like in this project.

First song: Jippu – "Kato mitä sä teit"

This is a Finnish cover song (Originally titled as "Against all odds" by Phil Collins) about breaking up. This was particularly chosen because it is about a difficult and unfortunate love life, where the other person has violated your feelings. The authors felt like this song could be easy to relate to and connect with on an emotional level.

Second song: The life of David Gale soundtrack – "The Life of David Gale"

This song is taken from a movie soundtrack and portrays more powerful feelings and has a beautiful and calm melody. In this track it is beneficial that it leaves space for the listeners' own point of view since there are no lyrics to define a particular story or vision.

Third song: Marjorie – "Täyttä elämää"

This is a passionate Finnish tango about love, also a quite fast track with a dramatic violin accompaniment. This was chosen to be in the playlist since tango is one of the most iconic styles of music in Finland.

Fourth song: Hans Zimmer (Lion king soundtrack) – "This land"

This is a very sad, but at the same pretty wishful movie soundtrack song, that

gets more uplifting in the end. The melody is very harmonic and peaceful with a little bit of African twist.

Fifth song: Pauli Hanhiniemi & Hehkumo – "Tähtiin kirjoitettu"

This is a Finnish song with a folk music – like sound. The reason why this fast and fun track was selected for the playlist was that the authors wanted to have a happy song that would possibly make people feel like wanting to dance or jam a little bit.

Sixth song: Juha Tapio – "Kelpaat kelle vaan"

This s a Finnish song about having a rough time in life and surviving through the darkness. This was one of the most typical Finnish songs to be chosen, as this portrays how there's always light at the end of the tunnel, no matter how grey or hard life can be sometimes.

Seventh song: The Piano Guys – "Nearer My God to Thee"

This is a modern version of a well-known hymn, played with cellos. Sad, but the melody gets quite comforting at times. This is the only spiritual pick to this playlist, as it was not desired to let any religious factors to influence on the results.

Eight song: Tehosekoitin –"Maailma on sun"

This is a melodic uplifting Finnish song that sounds like summer. This song is often considered as one of those "feel good" – songs about focusing on the important things in life and living carefree. This can also be seen as a song that portrays the youth of a human being.

Ninth song: Katri Helena – "Minä toivon"

This is a slower song about hope with an emotional melody, including a good and hopeful message. The singer sings about hoping different things, so that everyone would feel well and be safe in this life. This song might be one of those songs to give hope for the listener during difficult times.

Tenth song: Johanna Kurkela – "Tuo se mulle"

This is a happier and more up-tempo song about leaving. The message basically says that "You have to go, but bring me the rainbow when you find it". It's a song about finding what you are looking for in life and that you realize that nothing is impossible.

The link to the Clubhouse playlist can be found in the appendix part of the thesis.

The listening session lasted about an hour, including a short introduction of the thesis work and instructional part about the listening session and how to fill out the questionnaires. The playlist itself lasted approximately 30 minutes, but the music was paused after each song, so that the participant would have adequate amount of time to fill out the questionnaires before continuing to the next song. In different studies, the duration of music listening or therapy sessions varied between one and a half hours, one hour, 50 minutes 45 minutes, 30 minutes and 15 minutes (Guétin et al. 2008; Chan et al. 2009; Castillo-Pérez et al. 2010; Lin et al. 2010; Mössler et al. 2012; Porter et al. 2012; Buger et al. 2013; Särkämö et al. 2013; Ünal et al. 2013; Esfandiari & Mansouri 2014.)

4.7 IMPLEMENTATION

The authors played the playlist for the people with mental health issues at the Salo's Clubhouse and asked them to fill a form which contained questions related to the music during this event. The music listening session was at the Salo's Clubhouse on Thursday eighth of May 2014 and ten people participated in it. A playlist was made, which consisted of ten different types of songs and a questionnaire with sections related to the playlist. The songs were on a CD and they were played for the participants with a stereo CD-player.

In the beginning of the session, the authors distributed the questionnaire forms to the participants and explained to them what was going to happen and how they were expected to proceed. Filling out the questionnaire was described in detail. It was also pointed out that the authors will play only one song at a time and then pause for a couple of seconds, so that the people are able to write their answers down. The songs were handled separately in every question and marked with numbers from one to ten. In the questions from one to ten people marked their answers by using ticks. During the songs the authors observed people's acting, reactions and which songs may cause them and wrote them down. People were aware of the monitoring. Burger et al. (2013) also examined the effects of different types of musical stimuli on participants' movements. They had thirty songs in their study, however in this thesis project there were only ten songs. In their study, musical stimuli were taken from the popular music genres such as Pop, Rock, Techno, Latin, Jazz and Funk. (Burger et al. 2013.) In addition, it has been presented that already infants engage noticeably more on the rhythmic movement to music than to speech (Eerola et al. 2010), which tells that people can have physical reaction, starting from an early age.

At the end of the listening session and before gathering the questionnaires, the participants were asked if they want to comment or tell something about their feelings, thoughts about the songs, session or just give some feedback. Särkämö et al. (2013) had in their study also a discussion part which followed the listening session and during it, participants were able to tell about their thoughts, emotions and memories, which music evoked. In this project, people were quite shy to say anything, but basically the feedback was related to the opinions of the songs and whole event and if they liked some songs in particular or if there were some unpleasant songs. All in all it can be said, that the participants liked this kind of event. The comments that the authors received were very positive and the participants also said that they were interested in seeing the finalized thesis project, as they know that they are going to have a part in it.

5 THE RESULTS

These results are based on 10 songs, which were evaluated by 10 participants.

The first song was a slow Finnish song with a soft woman voice and a piano as instrument in the background. For most people the song was sad (n=8) and the majority didn't like it. Many people had memories during the song and the song was mostly touching (n=8).

The second song was an emotional movie soundtrack that was fully instrumental. Many people did not fill out the questionnaire completely for this song. Many did not indicate how the music made them feel and how the atmosphere of the song was. However, most people liked the song but had no memories. Many people were as well touched by this song (n=9).

The third song was a Finnish song, with a high variety of rhythms and changes in tempo and atmosphere. Half of the participants indicated that the song was happy and made them happy. Most people liked the song. However, the majority didn't have memories during the song. Over half of the people indicated that the music was a bit touching (n=7).

The fourth song was an instrumental movie soundtrack with a darker atmosphere and a powerful ending. Overall, the song was very emotional. The song was perceived very differently by the participants. It made some people happy (n=4) and some people sad (n=4) or angry (n=3). For some the atmosphere was happy (n=3) but for others it was sad (n=4). For one person there was also an angry atmosphere. Most people liked the song but had no memories during it. The song was mostly considered as touching (n=8).

The fifth song was a classical Finnish song that had a fast rhythmic pace. This song made most people happy (n=8) and the atmosphere was also mostly considered as happy (n=7). However, only half of the participants liked the song. Most people did not have memories during this song but the majority was touched by it (n=7).

The sixth song was an encouraging song in Finnish, which was very easy to listen to. The song divided opinions, some felt happy (n=3) and others felt sad (n= 3). Nobody felt angry. The majority of the participants liked the song and most of the people were touched by it (n=10). Also most people had memories during this song.

The seventh song was an instrumental song that had a constant tempo and the main instrument was a cello. This song was popular among people and most liked it even though just a few had memories during it. People felt different emotions during the song. However, for most people it was touching (n=6).

The eighth song was a Finnish song that had singing and instrumental parts. In addition, it was easy to listen to it. Most of the people felt happy during the song (n=7). Furthermore, over half of the people got the idea of a happy atmosphere (n=6). The majority of the participants liked the song but for over half of the people it didn´t raise any memories. This song touched the listeners mainly a little bit (n=8).

The ninth song was a classic old-fashioned Finnish song that was sang by a woman. Most people felt happy during the song (n=6) and most of them liked the song. This song also raised memories for many people and it was mostly touching (n=6).

The tenth song was a Finnish song with a high-pitched voice and guitars. All in all, the song made half of the people happy and the atmosphere was also happy for over half of the people. The results showed that the opinions were divided when talking about who liked the song and who didn’t. Additionally, the majority didn´t have memories during the song. The song also split the opinions when the people were asked if the song was touching.

The general atmosphere in the listening session was calm and relaxed. It felt like each of the participants enjoyed the evening and made their best effort and focused on listening to the playlist and the songs and answering the questionnaires.

Overall, it can be said that the participants liked the songs but memories did not occur very often. People tend to have mostly memories occurring to them when they listen to old and well-known songs. The atmosphere and the feeling they get from music changes with every song but there is always an impact on the people´s emotions. When the music had more rhythm and was at a faster pace, most people considered this as a happy atmosphere. Furthermore, the majority of the people considered the songs as touching. In addition, during this project session, people seemed very concentrated. People's facial expressions and body postures changed according to the songs. The majority of the participants had body movements during the songs. For example, they were tapping with their feet or fingers according to the rhythm of the song. To conclude, music always affects people no matter what kind of music it is. However, the way it affects depends on the people.

6 DISCUSSION

This project shows that music has an emotionally impact on people. It is possible that the people´s feelings and emotions are altered by different kinds of music. Many people are listening to music to alter their emotions and people listen to music which matches their emotions. This project supports previous studies, demonstrating that music can decrease people´s stress and anxiety levels. Music has also the ability to evoke memories as it was demonstrated in our project and in other studies. Furthermore, as music has an impact on the people´s happiness it can also decrease depression. It often gives people a feeling of satisfaction and wellbeing. Music has the capability to help people detach themselves from reality and this can be particularly helpful during surgery. It was also shown that, when people are playing for example percussion instruments they feel uplifted and powerful. This experience also provides a feeling of connectedness if it is practiced in a group.

Literature has shown that music is an important factor in people´s everyday life. Especially, students tend to spend a large amount of time listening to music. Music can also be used to portray a social image. Furthermore, sometimes music is used as a background noise to avoid uncomfortable silence. Usually, the reasons why people listen to music depend on age and gender. In addition, when people hear their favorite music, intense emotional responses are more likely to be produced.

Music and singing can be exciting or calming, it can stir welcome or unwelcome memories and feelings, and it can help to express emotions. Music improves people´s social interactions and ability to connect with previous life experiences. Listening to music and singing have been shown to be powerful tools in reducing anxiety and agitation among people. (Eells 2014.) Results demonstrated that there is a positive effect of music on anxiety symptoms and this continued for a longer period after the sessions stopped. Furthermore, there are many physiological changes that occur when listening to music, including a reduction in blood pressure, pulse and heart rate, and an increase in oxygen saturation levels. Music also has the ability to decrease pain. Additionally, it has been

demonstrated that music activates different parts of the brain. In many people the quality of sleep increases when they have listened to music before going to bed. Stress can also be decreased when listening to music.

However it is important to consider, that not every person reacts the same way to the same music and the same song. The person's personal background can have an influence on the music perception. As it is said in previous studies, the effects of music listening are influenced by variables such as personality factors.

Music, as a therapeutic nursing intervention, can consist of listening to a tape or a CD, singing alone or with others and playing instruments. It is easy to incorporate music into nursing practice. Music is widely available and accepted. It is inexpensive and non-controversial and has minimal ethical, legal and cultural concerns. Listening to music and/ or singing are a safe, evidence-based nursing intervention and staff should be encouraged to study and use it. (Eells 2013.) The health care professionals should be aware of all the available therapeutic options, the rationale for their use and the potential benefits for their patients (Porter et al. 2012.) However, a volume higher than 130 dB can cause pain and over long periods, increase the risk of hearing loss (Trängeberg & Stromberg 2013). This needs to be considered.

In addition, without a coherent therapeutic framework and understanding, listening to music alone within a large group or even with a trained therapist is not effective. On the other hand, music therapy can be effective, even when self-administered if the therapist trains the patient beforehand and has regular telephone contact. It is important to note, that the level of uptake and participation in music therapy appears to be high and the drop-outs are rare. (Maratos et al. 2009.)

6.1 ETHICS AND INTEGRITY

Ethics and integrity were taken into account in this project. A permission to carry out the project was obtained by Turku University of Applied Sciences. From the beginning it was clear to follow principles of anonymity, confidentiality and voluntary participation in this project. The participants all knew that they are participating voluntary for a school project and their human dignity was respected (Numminen 2010). The questionnaire was answered anonymously and the participants were free to fill it out in a way that they felt comfortable with. The obtained data was treated with confidentiality. Therefore justice was maintained by protecting the participants' privacy (Numminen 2010). The participants were not exposed to any harm. All participants were legally adults as they were over the age of 18. The returned questionnaire was regarded as their consent to participate. Furthermore, no pictures or videos were taken of the participants. Bias was avoided and there were no personal interests that influenced the outcome. The project was also conducted without discrimination of any kind.

All the results are from the questionnaire that was filled out by the project participants. The results have not been changed or influenced in any way. The participants are aware that these results are used in the thesis work.

6.2 CONCLUSION

The aim was to find out whether music can be used in health care successfully or not and if it provides a beneficial change in people. The authors' of this thesis wanted to discover if music can alter people's wellbeing and overall physical and psychological state. This knowledge makes it possible for nurses to evaluate if, how and when music can be helpful for their patients. Despite the fact that the main project – the music listening session, ended up being smaller than expected, the authors still decided to compare the results of it by searching for music and health related literature. In the end a lot of literature was found that supported the fact that the effects of music in health care can be almost

unlimited, but more research is still needed in order to find out its full potential and usability in the nursing field.

Needless to say, music already as it is, can still be a way to self-medicate one's self when feeling down or blue, as it has proven to have up-lifting influences. Music affects everyone individually, but for some it can work as a valuable tool that helps through the roughest periods in life. Besides, it is a harmless treatment method. It can be believed that in the future, music is going to be even more used than what it is already today.

Especially, health care centers and mental health centers could use this information to organize music listening sessions on their own. Even if listening to music doesn't have big impacts on people's health, it could still be used to bring joy and happiness to the people. The goal in particular was to find out if this music listening session has an impact on the people at Salo's Clubhouse. The music listening session was one of a kind occasion, as nothing like the event had not been held there before. If it provided some benefits for the listeners, these kinds of sessions could be recommended for small organizations like Clubhouse in the future as well. Additionally, many of those organizations don't have a lot of money to spend, therefore a cheap intervention like music listening could be easier to implement.

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Appendix. 1

Musiikkihetki Salon Klubitalolla 8.5.2014 klo 16 alkaen

Kyselylomake

(Vastaa laittamalla rasti ruutuun)

1. Saako musiikki sinut (useampi rasti mahdollinen)

Kappale nro	**iloiseksi**	**vihaiseksi**	**surulliseksi**	**joksikin muuksi, miksi?**
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

2. Minkälainen musiikin ilmapiiri sinun mielestäsi on (useampi rasti mahdollinen)

Kappale nro	**iloinen**	**vihamielinen**	**surullinen**	**jonkin muunlainen, minkä?**
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

3. Pidätkö musiikista

Kappale nro	**Kyllä**	**Ei**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

4. Herättääkö musiikki mieleesi muistoja

Kappale nro	**Kyllä**	**Ei**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

5. Koskettaako musiikki sinua

Kappale nro	**paljon**	**vähän**	**ei lainkaan**
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

6. Tuliko mieleesi muuta? Sana on vapaa ☺ !

Kiitos vastauksistasi!

TURUN AMMATTIKORKEAKOULU
TURKU UNIVERSITY OF APPLIED SCIENCES

Sairaanhoitajaopiskelijat

Laurence, Katsu & Reeta

Terveysala

Appendix 2.

Clubhouse playlist

Link to the playlist used in the music listening session at Salo's Clubhouse
http://youtu.be/xNvR95Jc0p4?list=PLTUMJm7gMgc3hg6mEvQlsFf6UkrscdVoK