Sufi Music Therapy with Makams as a Potential Intervention for Common Mental Health Disorders

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A thesis submitted for the degree of Doctor of Philosophy

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January 2021
Declaration

I, Rumeysa Nur Gurbuz-Dogan, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signed:

Date: 06.01.2021
Acknowledgements

First and foremost, I would like to express my great appreciation to my primary supervisor Professor Michael King from the Division of Psychiatry, UCL for his unwavering support, sincere guidance, encouragement and infinite patience as a supervisor. I have always found your guidance and judgment calls hugely valuable, keeping me grounded and making me feel well supported, knowing that you have always wanted the best for me. I have been extremely lucky for being your student throughout the course of this research work.

I would like to thank my secondary supervisor Dr Afia Ali from Division of Psychiatry, UCL. I am so grateful that you have always been willing to give me support whenever I needed it. Your optimism has helped me to pick me up when my own motivation or confidence have faltered. I have really valued your help on refining and organising my ideas and your patience on responding to my anxieties and questions. I always feel grateful for being your student along the way.

I would like to express my sincere gratitude to Dr. Bridget Candy from Division of Psychiatry, UCL for her contribution to Chapter 3 and her unwavering support to me in doing a systematic review and meta-analysis. I would also like to offer my special thanks to Dr Nuriye Kupeli from Division of Psychiatry, UCL for her insightful comments and suggestions in Chapter 4. I would like to thank Prof Levent Ozturk, Prof Ahmet Hakki Turabi and Prof Cenk Guray, for their precious contributions and feedbacks in developing the guidance of Sufi music with makams intervention. Special thanks to Merve Cetinkaya for her sincere friendship during this course and for her contribution to conduct the search in Chapter 3.
I am also grateful to the Turkish Ministry of Education for providing me with an extensive scholarship to study this degree. It would have been impossible for me to do a PhD in the UK without that funding.

I would like to express my gratitude to the staff at Newcastle Turkish Community Association for supporting the research, and all the attendees of the centre for participating so wholeheartedly. Without their support and willingness, this thesis would not have been completed. Thanks also go to Yunus Emre Institute London staff and attendees for supporting and participating in this research.

I would like to extend my sincere thanks to my father, my mother and my brothers for supporting me psychologically and spiritually, chatting things through whenever I needed, and helping me to keep going. Especially, I feel extremely thankful for the support of my father and my mother. This thesis was in part inspired and influenced by you both and the words cannot explain my gratitude for being your daughter.

Last but not least, I am deeply grateful to my husband Emre for all his support throughout this process. Thank you for always believing in me and loving me. I could not have done this without you.
Abstract

Sufi music has long been regarded as both spiritual and beneficial. This thesis aims to develop and evaluate Sufi music with makams as an intervention for people with mild to moderate levels of depression and anxiety. To reach this aim, the MRC framework for developing and evaluating complex interventions was used. As a first step, reviews of the historical and theoretical framework for Sufi music, its structure and applications were undertaken. Then an umbrella review of systematic reviews on receptive music therapy and its impact on mental health was conducted, followed by a systematic review and meta-analysis of the effectiveness of listening to Sufi music with makams in patients with mental health symptoms. As a fourth step, a qualitative face-to-face interview study on how such music would best be delivered was conducted in adults attending two Turkish community centres in England. Participants listened to short clips of Sufi music and fed back on the emotions it evoked and how it might help them. A brief manual for the face-to-face delivery of Sufi music as an intervention for anxiety and depression was then designed from the results of these studies, as well as from consultation with three international experts on its application in clinical and community settings. Finally, a feasibility randomised trial was undertaken to explore the acceptability of the intervention, patients’ adherence to the intervention and the research, and to provide preliminary data on its effectiveness. The overall objective of the trial was to estimate whether a major trial would be possible.

While the historical and theoretical framework provided a theoretical baseline for the intervention, the umbrella review and systematic review provided an evidence base. The qualitative study revealed that Sufi music with makams was perceived by listeners
as spiritual and beneficial. Finally, the feasibility randomised controlled trial demonstrated that this music listening intervention was feasible and acceptable for Turkish people in the UK, and preliminary results of the clinical exploratory analysis revealed that it might be helpful for reducing anxiety and improving mental and spiritual well-being. Thus, the overall finding of this PhD project is that a manualised Sufi music intervention can be delivered to community dwelling people with mild to moderate distress, and that it is a feasible and acceptable intervention for the Turkish community living in the UK. It suggests that a larger randomised trial could be undertaken.
Impact Statement

This thesis is unique in exploring the views and attitudes of people to Sufi music with makams, and it is the first attempt to develop a guideline for this intervention and conduct a feasibility study outside of Turkey. Although several clinical studies had been conducted in Turkey on Sufi music with makams as an intervention, little was known about how best to deliver it in practice. This thesis has shed light upon complex components of this music intervention as distinct from other music interventions in the literature. To the best of my knowledge, these are the first systematic review and meta-analysis, the first qualitative study and the first feasibility randomised controlled trial outside Turkey of this music listening intervention. In particular, my studies are the first to explicitly explore the spiritual nature of the music as an intervention. This thesis clarifies best modes of delivery for the intervention in the light of theoretical mechanisms for it, and provides an evidence base for research and practice.

Dissemination of study findings

To ensure my research has a broad impact, I have been publishing outputs from it in national and international journals and books. To date, this has included;


I also presented my findings at several conferences:

- “Sufi music with makams for people with mild to moderate levels of depression and anxiety: A feasibility randomised controlled trial” was presented at International Congress in Spirituality and Psychiatry 4th Global Meeting in Spirituality and Mental Health, organised by World Psychiatric Association, Jerusalem/Israel, 1-4 December 2019

- “Sufi Music as a spiritual music therapy intervention for depression and anxiety” was presented at the IAPR (International Association for Psychology of Religion and Spirituality) 2019 Conference; Psychology of Religion and Spirituality: New Trends and Neglected Themes, Gdansk/Poland, 30 August-3 September 2019.

I was awarded a grant by IAPR 2019 Conference Committee to present my study at the conference. These publications and presentations have enabled me to reach a wide national and international audience and extend the dissemination of this research.

**Feeding into practice**

To ensure that the findings of this research feed into practice, I presented the result of my feasibility study at the conference on ‘Spirituality and Mental Health: What does the NHS Provide?’ organised by The Spirituality and Psychiatry Special Interest Group (SPSIG) of the Royal College of Psychiatrists, on 11th of December 2020. This presentation gave an insight into how this spiritual music intervention might be offered
for the Muslim population in NHS practice. SPSIG’s remit is to provide a forum for psychiatrists to explore how best to respond to patients’ spiritual and religious faiths. This presentation helped me to show how Sufi music with makams might be used in psychiatric practice in the future. The impact of this study may go further after a well-designed pilot trial and full trial in Muslim communities in the UK.

**The impact of use of Medical Research Council Framework in the research**

I used the Medical Research Council’s framework on developing and evaluating complex interventions, which is a guideline that was published in response to the difficulties in developing and evaluating complex health interventions. To my knowledge, this thesis is the first music intervention research that has used this framework in its development and evaluation phases. Whilst it was not without challenges, this study has shown that this framework needs to be followed in the music therapy field more often in order to increase research quality. Therefore, a particularly important impact of this study is that it paves the way for more research of this type in the music therapy field.
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1. Introduction; historical and theoretical framework

1.1. Introduction

Music has been used as a healing form from primitive times, with this having been witnessed all around the world. The primitive version of using the healing power of music pertained to it being a way to communicate with God. However, when Greek philosophers explored the special effect of music upon people via very basic experimental improvisations – for example, Plato played musical modes to make people sleep, laugh or cry when they gathered around him – it was found that producing or listening to music had an effect upon people’s moods, even if those effects were not clear yet.

Spirituality appears to be a new term in the health care profession, therefore finding a general consensus on one definition of it is hard as studies of this are only on the nascence. Spirituality and religion might be used interchangably in practice, even though they are different terms. Spirituality refers to an individualistic sense of an intense connectivity with the self, others and sacred, whereas religion is more of an institutionalised structure and depends on society-based rituals and ceremonies (Dein et al, 2010). According to Hill and Pargament (2003), seeing religion and spirituality as independent terms causes a simple categorisation of spirituality as good and religion as bad. As a result of this simplistic perspective, the possible harmful and helpful sides of the both phenomenon could overlook even in the studies and in the public sphere. Moreover, in reality, most of people experience spirituality in the religious group (Hill and Pargament, 2003). Therefore, Musick and collegues (2000) argued that the bifurcation shows itself only in academic studies and not in real life.

Although the effect differs from person to person, every kind of music may have a spiritual effect upon a person (Alvarenga et al., 2018). Even though the two words,
‘spiritual’ and ‘religious’ might be used interchangeably from time to time, in the music field, the word ‘religious’ indicates a narrower style while the word ‘spiritual’ can find a place in almost every musical genre. Religious music is defined as music pieces that are “composed for religious purposes or are focused on religious or sacred topics” like gospel, contemporary Christian, and Islamic rhymes (ilahi) (Bradshaw et al., 2015: 962). Religious music and its therapeutic use within the mental health area have been newly incorporated into such investigations (Bradshaw et al., 2015; Hamilton et al., 2013, 2017; Khouzam et al., 2005). However, in contrast to religious music, no attempts have been made to identify a spiritual music genre. Some classical music pieces are commonly used within music therapies because of their ability to make the listener feel calm, serene and peaceful. It has been suggested that such pieces have a spiritual effect (Alvarenga et al., 2018; Bonny, 2001). However, no study related to spiritual music or its use in the mental health area has been undertaken to date.

Although from 9th centuries to the present time, music has been used as a primary intervention and as a supportive therapy in medicine, it appears to have less value in some cultures. For example, in some Muslim communities there is a negative attitude towards music and it is avoided in daily rituals as some scholars described music as one of forbidden amusement, worldly pleasure or moral misbehaviour (Shiloah, 2000). Despite this assumption in Islam about music, the Sufi tradition has used music very widely (Trimingham, 1971) and has strongly influenced Turkish culture (Benek et al., 2015). With the increase in music therapy research over the last few decades, particular music therapy theories have come to light again.

One of the unique music therapy theories in the medieval age was developed using a modal music system called ‘makam music’ (Benek et al., 2015). The theory was based on the idea that specific musical modes (makams) had effects on specific illnesses. A
makam has been defined as “a kind of melodic mode; a subset of rules regarding the choice of permissibly playable tones and a player’s treatment of them (in terms of melodic direction, order of importance regarding emphasis, tonal inflection, etc.), drawn from a larger system of acceptable tones (that is, a general scale) in order to create a distinct modal identity.” (Ederer, 2011: xxvi). Namely, the makam refers to a predefined system consists of scales that have dominant notes distinguished by its melodic progression -seyir- (Öztürk, Erseven, & Atik, 2009). Over 600 makams have been identified so far, although only a small number is currently used (Sagun & Bolat, 2016). Makam music was used in hospitals and Sufi centres (dargahs) played with Sufi instruments to heal mental illnesses.

In the Sufi tradition, music plays a significant role and assumes a noteworthy position in Sufi rituals (Trimingham, 1971). Here, Sufis use music as a way of connecting with God, sometimes through listening to music, playing an instrument or singing love songs and, sometimes, in unusual ways such as seeing the rhythm of the world and feeling the song of nature (Netton, 2000). These different forms all lead Sufis to God by means of hearing signs of His love and allowing them to follow these. According to investigations of conversions to Islam, a considerable number of people choose Islam by means of knowing Sufism or via being part of a Sufi group (Sedgwick, 2016). This is claimed to be due to Sufism’s inclusive and accepting nature of ethnic and cultural differences (Lings, 1975). Even if these concepts vary from culture to culture, and from order to order, tekkes (Sufi centres) have arisen as places in which this developed and where darwishes/Sufis expanded around the world. Makam music therapy theories have blossomed in the hand of Sufis with the help of Sufi instruments.

Previous randomised clinical studies have indicated that Sufi makam music, either therapeutic music intervention or simply listening to music, may have a positive effect
on clinical symptoms of patients with schizophrenia (Kavak et al., 2016), anxiety (Bekiroğlu et al., 2013; Cantekin & Tan, 2013; Cinar et al., 2016; Doğan & Şenturan, 2012; Karagozoglu et al., 2013; Kocabaş & Khorshid, 2012; Ovayolu et al., 2006; Parlar Kilic et al., 2015; Zengin et al., 2013), depression (Ugur et al., 2016) and stress disorder (Cam & Altinkopru, 2013; Zengin et al., 2013). Although, these studies suggest that Sufi makam music may be beneficial in the treatment of mental illness, all the studies were conducted in Turkey and the methodological quality of the papers was weak. The most common reasons for low quality were unclear risk of selective reporting of outcomes and insufficient information on whether outcome assessments were conducted blind to group membership. Therefore, it is not clear whether Sufi makam music may be effective in people from other cultures and those living outside of Turkey where they do not expose to Turkish culture intensely. Moreover, Sufi makam music could be used as a mode of therapy in the treatment of psychiatric disorders. However, little is known about how this type of music therapy should be delivered and how it might help individuals.

Currently, no study is available that can guide clinicians or researchers as to the application or mechanisms of Sufi makam music intervention. Due to the lack of a) existing theoretical models as to how Sufi makam music intervention should be delivered, b) the benefits of this approach and c) the mechanisms of action in this area, further exploratory research is required. The evidence as to the effectiveness of Sufi makam music intervention on mental health is also limited as all of the available studies have been conducted in Turkey. Thus, while there is some evidence as to the effects of this therapy on Turkish people living in Turkey, no empirical data exist in relation to its effects within other cultures and countries. Further investigation is thus
required to develop evidence-based guidelines for the application of Sufi makam music therapy in different cultures.

This thesis will contribute to current knowledge about Sufi makam music therapy and how it may impact on the mental health of individuals. It will do this by providing evidence and guidelines on the delivery of Sufi makam music, its potential benefits and its possible mechanisms of action. The aim will be to develop a manualised intervention using Sufi makam music and to carry out a feasibility study to test its acceptability and appropriateness as an intervention for reducing anxiety and depression. Importantly, this will be the first study to have been conducted on the relationship between Sufi makam music therapy and mental health outside of the context of Turkey. The present study also represents the first attempt to construct a guideline/ manual for Sufi makam music therapy.

1.1.1. Aim

The overarching aim of the series of studies described in this thesis is to examine the place of listening to Sufi music with makams in the management of depression and anxiety. Sufi music with makams can be considered as a complex intervention, as it has multiple mechanisms which interact with each other and with the client throughout the therapy like makam music, spiritual nature of this music and natural components in the intervention. The Medical Research Council (MRC) has published a framework (Craig et al., 2008) that aims to help researchers in the development, design and evaluation of complex interventions in health services. To achieve the aim, therefore, the MRC’s published guidelines for development of a complex intervention were followed.

1.1.2. Objectives
This thesis follows parts of the Medical Research Council (MRC) Framework for developing and evaluating complex interventions (Craig et al., 2008) (see figure 1). As illustrated below, studies are undertaken in accordance with the phases of the MRC Framework.

![Diagram of the MRC Framework](image)

The six steps were laid out in six chapters and are represented in the thesis; (1) a historical and theoretical framework of the literature to identify the theories and mechanisms behind the practice, (2) an umbrella review of systematic reviews on receptive music therapy and mental health to evaluate the efficacy of receptive music therapy methods on mental health and well-being, (3) a systematic review of the literature and meta-analysis to establish an evidence-based overview of the effectiveness of makam music on symptoms of mental illness, (4) a qualitative study to help design the intervention (5) development of a manual to model the process and outcomes (6) a feasibility randomised clinical trial to assess how makam music might be delivered in a community setting to people with mental distress.

Thus, the objectives of this thesis follow:
1. To describe the historical, spiritual and theoretical origins of Sufi music with makams as a therapeutic intervention in mediaeval and early modern medical settings.

2. To undertake an umbrella review of all published systematic reviews of the efficacy of receptive music therapy for management of mental health disorders.

3. To undertake a systematic review of all published trials of the effectiveness of Sufi music as a treatment for psychological distress.

4. To undertake a qualitative study of members and attenders to two Turkish community centres in order to examine the practicality and acceptability of a Sufi music intervention for depression and anxiety.

5. To develop draft guidelines for a brief Sufi music listening intervention for patients with mild depression and anxiety.

6. To undertake a feasibility randomised controlled trial of the effectiveness of a receptive Sufi music intervention for community dwelling adults with mild to moderate symptoms of depression and anxiety.

1.2. Sufism and music; Harmony of the Hearts

1.2.1. What is Sufism and what is its position in mental health

The word ‘Sufi’ came from Muslim ascetics who were wearing a type of wool (suf) garment (Trimingham, 1971) and it emerged around the second century of the hegira (around 9\textsuperscript{th} century AD). Sufism has had varied definitions across cultures and history. Lings (1975: 15) describes Sufism as Islamic mysticism, and Howell and Van Bruinessen (2007) support this with the definition of ‘a devotional and mystical current within the Islamic tradition’. Although some experts define Sufism as a part of Islam like Lings and Howell and Bruinessen, there are wider definitions of Sufism in the literature. Milani & Possamai (2016: 67) emphasise this point as “Sufism is a historical
trend within the Islamic heritage that has its own unique culture of practice. Outside of Muslim countries, Sufi practices and traditions have also been taken out of an Islamic context and reworked by non-Muslims.” While talking about a culturally wide and varied current is one thing, understanding of ‘Sufism’, explaining its highly complex and divergent nature is another (Malik, 2006). I have tried to keep the perspective on Sufism in this thesis as wide as possible. Thus, the term is defined as a movement that includes people “who believe that it is possible to have direct experience of God and who are prepared to go out of their ways to put themselves in a state whereby they may be enabled to do this.” (Trimingham, 1971: 1) with the support of Sufi rituals like dhikr (remembering of God, repeating the names of God), samah (whirling), or Sufi music.

The varied definitions arise from the evolution of the term throughout history as Sufism emerged as a religious movement in Islam at around the second century of Hegira/ Islamic calendar (around 8. century AD). With the spread of Sufism around the world, its borders gradually expanded to include the range of peoples, practices and cultures involved in the movement. Even though it is a religious movement that was historically associated with Anatolia and Central Asia and practitioners mostly considered themselves as Muslims, the number of people involved in the tradition from other religions who claimed to be Sufis increased and it became independent of any particular religion in the last seven decades within Western cultures (Lings, 2005).

In Arabian Peninsula, Sufi thought was seemed as a fabricated creed (bid’ah) since there were no such institutions at the time of Prophet Mohammed and according to Muslim jurists, some rituals such as music or dance in Sufism appeared to be unacceptable (Ismail, 2008). Moreover, Netton (2000) reports that Muslim scholars approach to the sheykhs (Sufi leaders) suspiciously as they exploit people’s spiritual
and religious emotions and use their authority to get religious control and power. Sufism did not develop as a reaction to orthodox Islam as Sufism (Islamic mysticism) does not contradict Islamic orthodox law (Malik, 2006). However, Sufism is highly divergent, pluralistic and there are wide-ranging differences among the Sufi ways which sometimes cause contradictions in the practice and appears to be unislamic by Islamic jurists. For example, Hallaj al-Mansur was a famous Persian Sufi sheikh and claimed that he was the God (‘I am the Truth/God’) (Garnett, 1990). Due to this idea in his teachings, he was executed by the Islamic court. Although some people interpreted this idea as an annihilation of the ego into God’s love, which is a very common idea in Sufism (Garnett, 1990). In that context, Sufism with all culturally differed versions positioned itself as an Islamic creed even though from time-to-time Sufism received serious criticisms and was perceived as non-Islamic by some Muslim communities and Muslim jurists (such as the Wahhabiyya). Thus, even though most of the Sufi groups have been established on Islamic rules (shariyya), and even if they are not differed from mainstream Islam, Sufism has been criticised by some Muslim groups around the world due to Sufis’ different interpretations of the issues.

Sufi philosophy is based on the notion that it offers different ways, tools and methods to help lead Sufis to a greater sense of wholeness and well-being (Boni, 2005). Sufism aims to attain God’s divine love and wisdom through the purification of the soul (tazkiyya) (Trimingham, 1971). Pryor describes the Sufis’ way as ‘grounded in millions of hours of clinical experience of spiritual guidance’ (Pryor, 2000:1). One of the main aims of Sufism is to seek the perfect being (insan al-kamil) and thus as a result, Sufism can be regarded as a psychosocial phenomenon in which people found themselves with the support of sheikh, as well as receiving social or psychological support for their mental well-being among the other seekers in the Sufi centres (Boni, 2005).
I will give details on the self (nafs) development stages in Sufism as an example. There are seven stages (makams) for self (nafs) in the way of being whole:

‘Nafs al ammarah’ (the self who is commanding and expecting the person to follow its commands- lower self)

‘Nafs al lawammah’ (The self who is blaming, speculating, and is also blameworthy, a lover of fame and authority- Blaming self)

‘Nafs al mulhama’ (The self who was inspired by God’s creation and can differentiate the good from the evil- Inspired self)

‘Nafs al- mutmainna’ (The self who has reached the state of serenity/ tranquillity and does not desire any evil thing with the aim of behaving like the chosen one (the Prophet)- Tranquil self)

‘Nafs al- radiya’ (The self who is contented with all that takes place in the world without any hesitation, is content with everything which is from its Beloved- Content Self)

‘Nafs al- mardiyya’ (The self who is gratified by God and God is satisfied with it - Gratified Self).

‘Nafs al- kamila/ safiyya’ (The self who has reached the wholeness, become the purest- Perfect self) (Cebecioğlu, 2009; Tringham, 1971; Uludağ, 2001).

In the way of Sufism, Sufis have to be in the way of transformation from nafs al-ammara (lower self) to nafs al-kamil (perfect, whole self). Therefore, these stages could be seen as spiritual and psychological developmental stages of personality for those who are on the way (tariqah) of being a good and whole person. Sufi music has a vital role in this transformation as with the help of music Sufi’s awareness and understanding of the Divine are increased (Lewisohn, 1997; Uyar & Beşiroğlu, 2012).
Throughout the way, Sufi searches the Divine and spiritual connection with transcendental. The music has a function similar to meditation in this search as via focussing on the melody of the instruments, listener/ Sufi tries on communicating with Divine (Uyar & Besiroglu, 2012). During (1988 cited in Uyar & Besiroglu, 2012) states that 'music of the spheres' (refers to makams and Sufi music) helps to hear the Divine summons and Sufi’s orientation towards the truth by abandoning his ego (lower self-nafs al-ammara). Self development stages were lying at the centre of the Sufi psychology and music plays a significant role in this development.

There is a need for clinical studies on the integration of Sufi psychology into schools of western psychology including psychotherapies and music therapies. As stated in the literature, there are several exploratory studies on similarities between Freudian and Jungian theories with Sufi psychology (Abu-Raiya, 2014). However, more comprehensive studies are required to integrate Sufi thoughts into existing therapeutic approaches and establish an evidence base for the proof of efficacy of the Sufi psychology.

Sufism, in terms of its spiritual features, offers a unique approach to psychological healing. Whereas some theoretical discussion is continuing to create a place for Sufi psychology in the literature, exploratory clinical studies on the psychological healing properties of Sufi thoughts in the community have emerged for modern Sufis or for people who want to see a Sufi component in their therapeutic process. Integrating Sufi thoughts in psychotherapies (Ismail, 2008) or using Sufi dream interpretations into Jungian analytic psychology (Amini, 1999; Katz, 1996) were among the examples. Moreover, the spiritual aspects in Sufism have reflected in Sufi music alongside stories and poems; therefore, using Sufi music may increase the spiritual healing properties of Sufism in mental health practices.
1.2.2. Whirling hearts; music as a therapeutic approach in Sufism

While the relationship between Sufism and psychology has attracted the attention of researchers, therapeutic features of Sufi music are not described in much detail in the published literature. This is partly the motivation for this research which aims to probe more deeply into the music’s therapeutic use by Sufis or with Sufi instruments in Sufi centres throughout history.

Music assumes a significant role in human life – from the individual to the societal level. Here, cultural codes are embedded in music alongside the traditions, customs and behaviours of respective societies. Thus, listening to music from a given culture means accessing an intangible aspect of that world. Moreover, music relates to the spiritual side of humans and to the transpersonal. Since the initial emergence of music, this form has been utilised as a vehicle through which to communicate with God or the spirits of ancestors – for example, early civilisations sang and danced to invoke this connection. All religions thus have incorporated musicality into the rituals practised. Here, music is seen as a mystical way to reach God and to gain knowledge from God.

In some Muslim communities music has become ‘forbidden’ on the advice of Muslim scholars/jurists in these communities. Music was seen as a powerful entity that might entice people to do more worldly things and follow their worldly desires, which lead them in terms to the harmful deeds (Farmer, 1952). The jurists made this statement depending on a hadith (The Prophet Muhammed’s words, sentences) (Sahih Bukhari, Volume 7, Book 69, Number 494v) which mentioned how harmful is music alongside illegal sexual intercourse, the wearing of silk, and the drinking of alcoholic drinks. However, the hadith literature contains some other examples where the Prophet Muhammed encouraged the use of music in events (Sahih Bukhari, Volume 4, Book
which is ignored by the same scholars. The issue on whether or not music is forbidden is still controversial among Muslim scholars but in practice in mosques, during the recitation of Qur’an in the prayers or in the call of prayers (Al-Adhan) which occurs in Muslim countries 5 times a day, music and musicality plays an important role. Those rituals have makams, too, so in the religious music of Muslims makam music is in use even in the communities where music is forbidden. Muslims from muslim cultures in countries like India, Turkey, Persia, Egypt, and Indonesia and from other communities all around the world including Western countries, have an interest in music and approach it with the intention of creating art and a sense of healing (Nasr, 1997).

Sufis used music in a mystical way to reach to God but did so to an intense degree. In Sufi philosophy, there are seven stages of being whole, with different methods arising to access each stage (Ismail, 2008; Amini, 1999; Peker, 1993; Shafii, 1988). As all Sufi rituals have a strong musical component, the producing of and engaging with music is among the ways through which these stages can be accessed. As part of this process, barriers should be removed to allow progression to the next stage, with every stage hereby invoking multiple tests (Trimingham, 1971). With music seeming to be the key to this progression, musical instruments are therefore beneficial and advantageous to Sufis. Thus, Sufis play instruments by employing deep thoughts and by creating an emotional bond with their instrument (Çetinkaya, 2011; Senay, 2015). Every musician has a common language with their instrument; however, the communication and connection of Sufis here have a more intense meaning.

The best-known Sufi instrument is the Ney, a result of the focus Rumi (worldwide famous Sufi sheikh) gave to this apparatus and its Sufi identity (Uludağ, 1992). Rumi began his famous book Mesnevi with the story of the Ney and established a
connection between this instrument and humans. He supposed that Neys and Sufis share similarities, whereby the Ney’s seven holes symbolise the Sufi seven stages of being whole. The Ney was used as a vehicle to reach the inner self and clarify the souls for Sufis (Koca, 2002). When a Sufi/human starts to play this instrument, he/she starts to learn how to move further in his/her journey and how to purify his/her heart as like the Ney had done with its holes on/in it (Koca, 2002). Every musical piece played with a Ney is a unique scream of that instrument, as it tells both the wounds of the Ney and the wounds of the Sufi (player). The soul of the player and the Ney are thus connected in an inimitable way (Senay, 2015). In this sense, the spiritual side of Sufi music not only relates to Sufism but also the soul of humans. The link between Ney music and the spirit of the player is an aspect of this music’s spirituality as well.

More people are joining such Sufi groups, even though they are not Muslim or even religious, in order to take part in Sufi rituals such as the reciting of rhymes, singing of Sufi songs or dancing/whirling (Hammarlund et al., 2004). The increased tendency of people to move towards spirituality might be explained by a modern search for an answer to psychological distress, and as a way to relieve their poor mental health (Amini, 1999; Boni, 2005; Deikman, 1977; Nizamie et al., 2013). However other studies regard this increase as a failure of established more orthodox religions to fulfil the spiritual needs of people (Giordan, 2007). The undertaking of Sufi practice is here seen to be peaceful and helpful in increasing one’s well-being. As aforementioned, music as a part of artistic rituals is accepted as a way through which God can be accessed in Sufism and is an expression of a psychological/emotional struggle for Sufis. Sufi music plays a role in these rituals, as do the instrumental versions of such music in social/community gatherings. While attendees see this music as a way of
helping to increase mental well-being, only a limited number of studies have been conducted on this issue.

Sufi rituals emphasise music, poetry and dance such as the dhikr (the rhythmic repetition of Allah’s name and the most well-known Sufi ritual), which is rhythmic music in of itself. There is evidence that Sufi dhikr has been used among Muslim communities for relieving psychological distress resulting from traumatic experiences, for example war or natural disasters in Kashmir (Nickelsberg & Matloff, 2009). Moreover, samah ritual (Sufi whirling) is a spiritual dance with Sufi ney music. In this ritual, while some Sufis are whirling in the middle of the Sufi circle, others are playing Sufi instruments like the ney or daf/ bendir (kind of drum) and there is clearly an element of music listening for the attendees.

Music has been seen as an essential in the daily life of Sufis; they are listening to the harmony in life and intending to hear God. Therefore, music has an essential place in Sufism not just in the rituals with therapeutic purposes for the attendees’ spiritual and psychological distress at a social but also at an individual level. Like the psychological effects of Sufism, Sufi music’s therapeutic effects on mental health need further consideration. In comparison to modern music therapy theories, all existing theories about Sufi music’s therapeutic effects stem from pre-modern ages. Thus, they require systematic and scientific research before they can be seen as useful as world-wide clinical applications.

1.3. Music as Medicine in History, Historical Framework

In traditional cultures, the balance of the world was thought to contribute to the importance and cause of illnesses, whereby disruptions or imbalances were
understood to occur in the relationship between humans and God, between humans and nature, between humans and, most importantly, between one’s soul and body. Additionally, in the contemporary period, the definition of being healthy has altered from ‘not being sick’ to ‘becoming well’, with this change occurring alongside people seeking activities designed to pursue well-being (David Aldridge, 1995). According to the World Health Organisation (WHO) “health is a state of complete physical, mental and social well-being and not merely the absense of disease or infirmity” (Preamble to the Constitution of WHO, 1946). Today, the core desire to be healthy is assumed by individuals themselves rather than by others like health professionals. This can be characterised as witnessing individual cures for individual illnesses in an individualist world, in other words, people taking responsibility for their own health and well-being. In this context, the attractive role of music in healing cannot be underestimated as it enables people to use it with freedom of place and time on an individual basis. This attraction is one reason for the increasing interest being given towards musical interventions in modern and secular countries.

To establish the link between music and mental health, one can look back at the history of music being used to alter one’s mood, to increase well-being and to ameliorate signs of madness. Indeed, doing so provides a wide perspective as to the historical emergence of musical interventions. This framework will thus provide this narrative, albeit limiting this overview to the Western World and the Anatolian and Mediterranean Lands – areas which are the focal point of the thesis. In building upon this, the framework then explores why musical interventions in relation to mental health have increased in prevalence within recent decades.

1.3.1. Magic, music and religion; a healing triangle
The use of music can be traced back to the very early times (between 43,000 and 39,000 years BC), with the earliest cave drawings being found to include illustrations of instruments (Montagu, 2017). Humans are born with a musical capacity or musical intelligence, with this potentially having developed much quicker than other human abilities (Darwin & Spencer cited in Thaut, 2015). Regardless of whether this theory is correct, it is undeniable that music has been present since the earliest recorded history. Although we can only speculate about the use of music in healing in pre-literate times, the study of these cultures can help us to draw an impression as to the role of music played in that era.

The thought of using music to communicate with God or with nature, or alternatively with controlling powerful and/or supernatural entities such as storms, spirits or death (Thaut, 2015), can be traced to the very earliest eras of religious ritual. Therefore music has held a consistent relationship with the religious institutes alongside the spiritual/religious leaders of society (i.e., the healers/shamans) (Alvin, 1975).

Defining magic during the pre-literature times is a challenging issue, as drawing a definitive line between religion and magic is far from easy. Briefly, magic is a concept used to describe an arcane or a secret knowledge and the ability to channel power from or through any of the deities, spirits, or ancestors of the ancient pantheons (Middleton et al., 2016). Magic, music and religion have composed a healing triangle. In the pre-literate era, we see evidence of the use of music within magical/religious rituals which was the main channel of communication with gods throughout those times. But it can still be asked how and why music was accepted as a mystical cure or the reasons for its inclusion when communicating with the spirits and/or gods by early humans.
The first instruments, dating from 43,000-67,000 years ago, were made of animal skins, bones or horns (i.e., drums and flutes) (West, 2000). Through this, the power of music to establish a connection with the other world/hereafter can be understood as this linkage with the spirits and/or gods (as belong to the other world) was provided via an item taken from their worlds. Even though the instruments might have been used for signalling between villages or for sheer enjoyment, the primary role of the music in that early times was mystical and ritualistic. One mysterious thing (music) was used as a key to open another mysterious door (the other world), which explains why music has always been accepted as somehow spiritual (Alvin, 1975). In a world which had the spiritual explanations for the causes of illness, the undertaking of healing through such a spiritual element seemed plausible. Nature or magic may also have been seen as a source of power rather than a refuge to be sought, namely as the cause of an illness. Thus, pre-scientific man might have sought to fight this power with the weapons available, such as music. Consequently, the use of music as a form of magic in healing was likely a very common way of countering illness, and other worldly instruments (made from skins and bones of dead animals) were thereby the vehicle through which to conjure other worldly spirits which were disturbing the soul of an ill person (West, 2000).

Moreover, instruments were also in their most natural and uncomplicated form in this era. In addition to the use of dead animals, natural materials become used as the raw materials. Here, instruments were made from trees or canes and had only a few holes or strings added to them. Nature also seemed to be a notion that could contribute to the curing of illness, whereby the balancing of a broken harmony with something from nature or its spirits was understood to be a potential route to health. How music as a form of medicine and as therapy transformed from this comprehensive spiritual and
holistic form into today’s rational and secular understanding still needs answering. Parallel evolutions are seen in the development of mindfulness as an intervention in the absence of Buddhist belief or Yoga without spirituality.

1.3.2. Music and harmony; music as medicine in Greek Philosophy

Music assumed an important position among the schools of Greek philosophy, namely as most philosophers held an interest in musical instruments while some developed their philosophies around music. The first examples of music being used in relation to healing in a theoretical way are seen in the work of Greek philosophers. To understand the foundations of the notion of music as medicine, a narrative must be gained as to how music has been used as healing method from Antiquities to today.

In Greek culture, music was accepted as a gift from the gods – see, for example, in Greek mythology whereby the flute (aulos) was given by Athena (the Goddess of War), the harmonica was the instrument of Pan (the God of the wild) and Apollo (the God of medicine, music and dance) invented the lyre from a tortoise-shell which became the favourite instrument of the gods (Alvin, 1975). Furthermore, Apollo was considered the protector God of both music and medicine (Montinari et al., 2018). While the Gods and Goddesses invented musical instruments and enjoyed playing them, the invented instruments were perceived as a gift from the Gods and Goddesses to humanbeings (Alvin, 1975). From these religious and spiritual bases of music, Greek philosophers established rational theories as to the use of music in responding to physical and mental illnesses. Although only few examples are available here, it is clear that the therapeutic use of music was approached in a theoretical rather than a practical way in this era (Horden, 2001). Moreover, the sophisticated nature of music might have attracted the curious mind of philosophers, because of the belief that music was a way
of communicating with the divine, of healing, of changing one’s state of mind and of fighting powerful spirits or magical demons.

The theories of Pythagoras on music and harmony, as produced in the late Sixth century B.C., are worth mentioning as a starting point here. When Pythagoras (c. 500 B.C.) and his successors categorised Science, music was accounted among the Mathematical Sciences – which were considered to be the most reliable form of Science (Huffman, 2018). Notably, Pythagoras held that humans were in harmony with the world and within themselves. This harmony could be preserved via music as music was subterranean to everything while also existing alongside Mathematics (West, 2000). According to Pythagoras, humans could reach emotional stability through daily singing, with this underlying how music formed the basis of maintaining the day-to-day harmony of life and the universe (Pratt & Jones, 1987).

According to Alvin (1975: 38): “If Hippocrates is called the father of medicine, we may recognise Plato and Aristotle as the forerunners of music therapy, which is [the] controlled use of music.” Therefore, although other names are mentioned before Plato and Aristotle in this historical narrative, these figures gave music a medical value and defined it in this way (Alvin, 1975). In Plato’s (c. 400 B.C.) thoughts on music and healing, certain modes were supposed to possess particular ethical or emotional healing values (Alvin, 1975; West, 2000; Montinari et al., 2018). By the second half of the fifth century B.C., musical modes had begun to be discussed among philosophers. In the literature produced, these modal descriptions were related to emotions or the characteristic features of humans – with such discourses primarily being attributed to Plato. However, other contemporaneous philosophers also discussed this topic – for example, Damon (c. Fifth century B.C.).
In his *Timaeus* text, Plato noted the ability of harmony ‘to correct any discord which may have arisen in the courses of the soul, and to be our ally in bringing it into harmony and agreement with itself; and rhythm too was given by them for the same reason, on account of the unmeasured and graceless ways which prevail among mankind generally, and to help us against them’ (cited in Shirley, 1999: 1). The notion of harmony in Plato’s philosophy had similarities with the approach of Pythagoras and plausibly had been influenced by Damon.

There are different names in the literature after Plato – such as Aristotle (c. 384-322 B.C.), Xenocrates (c. 339-314 B.C.) and Asclepiades of Bythnia (124-40 B.C.), however their details are highly similar. As a result, although we know the names of those who used musical modes in their musical healing ways, the details of these methods are limited for these very early ages. Moreover, this era witnessed music’s healing power being positioned at the receptive level, whereby it was held that listening to mode-based music affected the listener’s character or that listening to modes made the player calmer than playing these forms.

1.3.3. The missing link, music therapy in the medieval ages in the East

In study of the history of music therapy, one group of researchers jumped directly from these Greek philosophers to the Renaissance use of music in healing, while another followed Muslim/Arab scholars of Medieval ages to complete the chronology of music therapy, though giving little information on their methods. In the last few decades, this trend has begun to change and the history of Eastern cultures in music therapy has started to be mentioned by some scholars – see, for example, Burnett (2000), Horden (2000), Shiloah (2000) and Ruud (2000). I do not use ‘Arab inheritance’ as the theories or practices of these ages did not belong solely to Arabs even though they were written
in Arabic but to all of the cultures who lived in the lands of the Near/Middle East. For example, in the Ottoman Empire, Ottoman Turkish was used in daily life besides Arabic, whereby Arabic was used for scientific and religious purposes while the Persian Language was used by courtly and scholarly society (Faroqhi, 2005). Therefore, written literature was mostly in Arabic language, although not produced by Arabs.

The theories on music and astrology relate to each other, as both depend on mathematics. One of the chief questions which should be asked here is why the astrological theory of the West is mainly based on a Muslim inheritance yet there is no mention of music therapy theories despite this containing significant astrological aspects. Indeed, scholars in the Medieval Ages frequently mentioned the astrological aspects of musical theories and attempted to establish a sophisticated bond between the cosmos and music modes (makams). However, Muslim scholars’ Astrology texts did not mention any music theories. Music theories refer to how music is produced including the concepts in creating music, musical scales, tuning systems, and composition methods and so on- or provide any musical explanations (Burnett, 2000; Horden, 2000). Thus, during the translation movement, as occurred around the twelfth and thirteenth centuries, music theory texts were not translated alongside astrological texts.

However, it can still be asked why Western scholars have not developed an interest as to music therapy theories solely translated into Western languages. As a speculative answer, it may be asserted that this is related to the difficulty of translating some of the terminologies of the held Eastern music theories (Burnett, 2000). This appears to be a rational reason, with this potentially being reflected in how the modal systems and musical modes vanished in the Medieval West (Alvin, 1975). Thus,
translating the modal music system (as had become much more complicated since the initial Ancient Greek version), was difficult and this was exacerbated by the fact that the terminology had no translation in Western music terminology.

The fertile lands of the Near and Middle East can be considered to have been the homeland of music theory in the medieval ages, whereby scholars from different backgrounds contributed to the theory without concern for their nationality. The roots of mode-based (makam) music therapy theory, as mentioned above, linked strongly to ancient Greek Philosophy.

Al-Kindi (died c. 870) was the first outstanding Muslim philosopher in the medieval age to have scientifically identified the effects of music and rhythm on human psychology within Islamic Philosophy (Ergeshov, 2011). In his book, *Kitabu'l-Musavvitat*, a connection was established between the self of humans (nefs) and the strings of Ud (an instrument), whereby it was supposed that each string induced emotions and behaviours (Turabi, 1996).

After Kindi, Al-Farabi’s book, *el-Mûsika’l-kebîr*, is accepted both in the West and the East as the most systematic book written during the Middle Ages on Music Therapy and the Philosophy of Music (Farmer, 1952; Ergeshov, 2011). Meragi asserts that “Al-Farabi is a master in both the theory and application of music, so much so that he sometimes made [the] public sleep or cry with his ud performance” (cited in Sezikli, 2007: 263). Speaking about medieval medicine is impossible without mentioning the name of Ibn Sina (Avicenna) (died c. 1037). Although Ibn Sina encouraged ill people to occupy themselves by listening to music they liked the most, he did not give more detail as to the therapeutic aspects of this.
Ikhwani Safa (as appeared around the 10th Century) assumes a special position in terms of the relationship between spiritual music, healing and Sufism, a result of Ikhwani Safa (The Brethren of Sincerity, Purity) representing a group of scholars and their Sufi path (tariqah). Their conception of music depended upon Pythagoras’ ideas as to the universe and the origin of sounds. According to their music philosophy, as the planetary motions and star movement voices originate all of the other sounds in the world with a mystical touch of God, thus, listening to music in the universe and to music made by human beings are significant ways of reaching God (Çetinkaya, 2011).

Ikhwani Safa’s perception as to music and the universe presented a typical Sufi group ideology though their combination of musical healing with cosmology and the mystical appearance of God. The book on music in their most well-known work, the Rasail (encyclopedia), supposed that planetary movements, star positions, universal harmony and musical modes together influence the spirits of humans and gives them serenity, calmness and mystic thoughts (Çetinkaya, 2011; Ergeshov, 2011).

The approach developed by scholars in Medieval age towards music shown how Sufi music has a powerful connection with the universe and spirituality. These two dynamics in Sufi music shows the theoretical aspects of this music in terms of healing. Detailed explanation on history of makam music and mental health relationship can be seen at appendix 1.

1.3.4. Music and the Renaissance

The transition of knowledge from the East to the West began around the 12th-13th century, whereby translation works from Arabic, Ottoman Turkish and Persian sources were disseminated to Spanish and Latin contexts throughout the Andalusia and Anatolia lands. This had the effect of triggering the Renaissance movement in the
West (Alvin, 1975; Essa & Ali, 2012; Jones, 2000). The Renaissance was one of the most creative periods of human history and was the basis for radical changes in the perspectives held as to music and medicine (and their interrelation). In the Renaissance, science and creativity developed significantly, yet treatment models still maintained superstitious beliefs – especially towards mental illnesses (Alvin, 1975).

Cosman (1978) has noted how medieval physicians used music as medicine before surgeries to calm patients or used musical modes to change unpleasant moods to pleasant ones. Modes and the healing features of modes continued to be seen in the literature produced during the Medieval Ages – a result of the work of Boethius (born c.480) being read in Medieval Western medical schools (Cosman, 1978). This illustrates that the modal system in music healing vanished somehow following the Medieval Period.

According to Horden (2000), the translation of Aristotle’s works with his sceptical approach towards spheres/modes and their relatedness with illness affected Western physicians. As a result of this effect, a limited version of music therapy reached to the Modern era via the exclusion of all mode-related theories as to music healing. As aforementioned, Plato has been called the father of music therapy alongside Aristotle, yet Aristotle’s name is never mentioned in the history of music therapy. Moreover, if previous translation problems are the main reason for this, it would be impossible to explain Boethius’ work on music modes and healing and his successors’ attempts in the field of medical practice. Horden (2000) suggests that this could explain why modern music intervention seems to be disconnected from that of Antiquity.

According to Ofhuys (c. 1456-1523), famous painter Hugo van der Goes suffered from a mental disturbance and music was used to treat his illness (Jones, 2000). This case
is quite interesting and illustrates the provisions of the late Medieval Ages and the Renaissance as Hugo was treated at a religious cloister called Red Cloister by religious choirs and a prior. The motives as to the employment of treatment depended on biblical stories as David had treated Saul’s illness (possession of an unclean spirit) with music. According to Jones (2000), this story was the focal point of music use in the treatment of illnesses related to the mind in that time. Although different exegetes have given varied interpretations as to this story, the approach taken towards mental illness here can be seen clearly as it was accepted as ‘possession by evil/unclean demon/evil’. Although Ofhuys describes what others thought of Hugo’s illness, he also gave his opinion and speculated as to possession. He explained Hugo’s illness as “a lesion in some blood vessel in the region of the brain as a result of excessive imaginings, fantasies, and worries” (John, 2000: 134). Thus, we can see how Ofhuys explained Hugo’s illness which was melancholy in a medical and semi-rational way (McCloy, 1958).

The thinking of the Renaissance could be described more generally as bridging Medieval thought and that of the Modern Ages. As with Ofhuys’ account, the semi-rational explanation of mental illness emerged in the literature as with his approach to the perspective of the cause of mental health was transformed from a devil's possession to a press of overthinking on a brain vessel. With this also reflecting the rational justification given as to the therapeutic effect of music on mental illness. Such examples illustrate the general approach given towards music therapy in the late Medieval Ages and the Renaissance.

In thinking about the Renaissance, Ficino (c. 1433-99) has to be mentioned as he developed Plato’s ideas in correspondence with the Renaissance context. The therapeutic use of music by Ficino thus differed from that undertaken in Antiquity as
he sang and played music to heal the physical or psychological problems of his friends and whoever needed his help, doing without mentioning any modal identity. However, Ficino played instruments in accordance with planetary positions and described the music characteristic of each planet (Callahan, 2000; Voss, 2000).

Kricher, in the same vein, gave one of the most comprehensive descriptions of music in the medicine of that era (Thaut, 2015). Kricher’s therapeutic use of music comprised of the spiritual music therapy of the Medieval Ages in combination with the modern thought held as to mechanist body responses to music – as with Burton. In Kricker, a more realistic and materialist explanation of how music functions in healing was given, wherein the term of *Iatromusik* was used to explain how the healing force of music reaches the body via vibrations (Thaut, 2015; Montinari, Giardina, Minelli & Minelli, 2018)). Here, it was denoted that music vibrates the air and this vibrated air shakes the body. From this, the bad humors of the body are shaken lose by the vibrations and escape via the pores of the skin (Thaut, 2015). This explanation and approach towards illness is seen to be physical, yet the working mechanism of music on health still retained a superstitious understanding.

The 17th century marked the beginning of the Enlightenment, such as that invoked through Descartes’ ideas (c. 1596-1650). Notably, Descartes’s approach as to the body and mind became the lead for the modern version of dualism. According to Descartes’ substance dualism, the mind as a substance with mental properties lacks material properties and the body as a substance with material properties lacks mental properties (Rodriguez-Pereyra, 2008). Descartes thereby understood the mind as a radically different substance from the body, with this approach invoking the philosophical problem as to how these two different substances interact with each other (Rozemond, 1999). This problem has instigated extensive philosophic
discussions, yet the focal point here is how this dualist approach has shaped the attitudes held towards health and illness in society and how these attitudes have impacted upon the music interventions given as to mental illnesses.

From the 17th century onwards, although the scientific link with ancient Greek philosophy had not been broken, physicians had begun to look at their patients from psychological and physiological perspectives rather philosophical and theological ones (Alvin, 1975). The conception of illness had therefore become almost free of magical or supernatural concepts, yet most physicians remained affiliated to churches somehow and thus their explanation of illnesses were still not purely secular.

The focus on empirical evidence in the 18th century is one of the reasons as to why some scholars have assumed that the modern age started in the 18th century. The therapeutic use of music until that point had depended on a listening basis, however Richard Browne mentioned in his *Medicina Musica* (1729) how singing helped to regulate the motions of the heart, the circulation of blood, digestion, the operation of the lungs and breathing (Heller & Gibbons, 1985). We can see that, alongside listening to music, the playing of and engaging with music was also seen to possess a healing power.

Canon Harford, as a pioneer in the music therapy profession, was a musician who ran music therapy experiments at the end of the nineteenth century in London. Harford attempted to show that music could be used systematically as a healing agent and did so via the collection of empirical data (Tyler, 2002). The end of the nineteenth century was a significant period for the development of medicine in Britain, wherein the treatment of the psychological and social aspects of illness were emphasised by physicians (Tyler, 2000). Harford was the first person in the West who was a musician,
rather than a physician, attempting to demonstrate the healing power of music on psychological illnesses. He appealed to musicians to make themselves available to perform for patients, with physicians having been seen to support him in his trials via medical and musical journals (i.e., The Lancet, British Medical Journal and The Magazine of Music) (Alvin, 1975; Bunt, 1994; Tyler, 2000). He founded the Guild of St. Cecilia in 1891, where musicians came to rehearsals after the publications. Ultimately, he sought to make the Guild move around London to respond to when a doctor needed it. Patients who listened to the Guild’s music were asked their opinion of the benefits of the music, and recorded alongside physicians’ observations of changes in patients’ behaviour (Harford, 1891). Moreover, his ideas as to the use of music were also innovative as he offered patients the opportunity to listen to music over the telephone, which was a new invention at that time.

Although a series of experiments were carried out by Harford and these were reported via medical journals, the article in which he reported the results of his experiments received sceptical responses (Davis, 1988; Tyler, 2000). An anonymous publication in the editorial of The Musical Times and Singing Class Circular, ridiculed Harford’s experiments, indicated that the experiments were seemed as an attempt to weaken the medical institutions’ position among the society. The following part summarises the tone of the letters which criticised Harford’s attempts;

“Doubtless we shall come in time to have our electric call-boxes provided with a special signal for summoning the medical musician, so that within a very few minutes of the first symptoms of influenza or mumps making their appearance we shall be able to nip the ravages of these maladies in the bud by the application of the proper musical remedies. There will be, we fear, a few ribald sceptics who will talk about the melody being worse than the disease…” (Medicinal Music, 1891: 587)
The main criticisms towards Harford’s experiments focussed on using rennoative methods and using a non-medical treatment (music) which was provided by musicians for patients. Harford’s intention was never to be a ‘medical musician’ rather being a researcher who was aware of the importance of proving the clinical effectiveness (Tyler, 2002). Therefore, his exploratory emperical studies were ahead of the age. While Harford extended his experiments by using different types of music (stimulative music alongside sedative music), the Guild collapsed under the pressure of critics, a lack of funds through which to pay the musicians and Harford’s bad health (Bunt, 1994).

Harford’s approach to music as a treatment model was based on listening as he supposed that patients should not see the musicians (they could perform behind a curtain screen). Nonetheless, his thoughts on the application of music as a therapy/treatment model for patients with physical and/or psychological distress can still be found in the contemporary music therapy profession. He also emphasised that the use of music in medicine requires cooperation between medical and musical professionals and that training is essential to run such therapy/treatment (Tyler, 2000). These notions remain among the main principles in the music therapy profession. Moreover, his systematic method in using music as a treatment model via publications in scientific journals and his passion for developing a treatment model on the basis of empirical evidence should also be mentioned to illustrate how the application of modern music therapy is rooted in the Guild and in the work of this musician.

After the Guild, in the first half of the twentieth century, the first systematic use of music as medicine emerged in the USA and the UK, in the context of a changing approach towards health and well-being. From now on the use of music in medicine evolved into a therapeutic modality and a division emerged in the literature between music
medicine and music therapy. Music medicine is defined as the use of music in healing without a systematic approach, while music therapy is defined as the use of music in a systematic therapeutic process led by a trained therapist (Bradt et al., 2015). To give a more coherent understanding here, the modern development of music therapy profession will be explored in the next section.

Everything flows into and from the river of history and, as the ancient Philosopher Heraclitus said: ‘the only thing that doesn’t change is change itself.’ Alongside the shifting approaches held as to the illness and wellbeing of humans, music has changed the way in which communication has arisen around the world. The dominant cultural movements in respective societies have changed and thus the use of ancient healing methods without adaptations in contemporary medicine became naïve. However, being a complete stranger towards such historicism also seems to be unfair for all of the great work undertaken by physicians and musicians since antiquity. The history of music’s use as a medicine is the key in understanding why Sufi music with makams might be a treatment model for mental or physical illnesses and how its precepts have become established. The integration of ancient methods into contemporary music interventions and adaptations of ancient music therapy applications could help to recover what has been lost or forgotten untill the contemporary music therapy profession. Ultimately, this could help to recall the collective mind of humanity and thereby widen our perspectives.

1.3.5. Modern music interventions

While music was initially an independent branch of practice related to mathematics, astrology and health, it ultimately became a suspect treatment model within the medical sphere at the beginning of 20th century. This change occurred towards the
end of 19th century, and music therapy as a profession was born in the 20th century as evidenced by the appearance of trained music therapists in the field. The therapist figure is actually the key aspect in the development of the music therapy profession. Within this field, a number of terms and approaches have arisen – including ‘music therapy’, ‘music as medicine’ and ‘music in medicine’. All of these terms convey a common sense of using music to promote health, however their methods and approaches differ. In this section, I discuss how these terms differ and the ways in which music has been used in medicine in modern times.

At the beginning of the 20th century, the organisation of music therapy and the courses/training provided by these organisations became established in its modern meaning. For example, Margaret Anderton, a British musician specialising in treating orthopaedic and paralysis cases, taught a course in Musicotherapy at Columbia University in 1919 (Tyler, 2000). Furthermore, in 1944, professionally-designed classes arose with the first curriculum in music therapy being designed at Michigan State University (Bunt, 1994). Thus, it is seen that the first music therapy associations and classes emerged in the USA. In following years, similar organisations were set up rapidly in the UK. While the National Association of Music Therapy (NAMT) was formed in 1950 in the USA, the Society for Music Therapy and Remedial Music was formed in the UK in 1958 (and was soon renamed the British Society for Music Therapy). The therapeutic use of music shifted, from the first half of the 20th century, to manifest as an independent profession.

1.3.5.1. What is music therapy, music medicine or music as medicine?

Every foundation has started with the question of ‘what’ rather than ‘how’. This is because the defining and drawing of the lines of a profession, a therapy or an
intervention has played a critical role in the process of professionalism. Here, the definitions held have served a fundamental role in setting out the boundaries of the profession, in explaining the identity of the profession and, most importantly, in clarifying the role of the professionals working in the field. In this regard, defining a profession in a way which responds to all global practices is difficult. Music therapy, for instance, combines music and therapy alongside healing, spirituality and culture (Bruscia, 1998). The field comprises very broad branches of science - music, health, and spirituality- each of which is complex.

According to Bruscia (1998) and Ruud (2008), music therapy does not merely represent the addition of music to psychological treatments, but rather this field establishes a balanced combination of music and therapy via emphasis being given to the uniqueness of the musical form (Amir, 1996). Music and therapy both have unclear boundaries and definitions vary between musicians, therapists and cultures (Bruscia, 1998). Notably, the music therapy profession is a young one, yet it possesses ancient roots. In this sense, it is still in the process of becoming and therefore, there has been a rapid evolution of the definition over the years.

Alvin (1975: 4) provided one of the first definitions of music therapy as: “the controlled use of music in the treatment, rehabilitation, education and training of children and adults suffering from physical, mental or emotional disorder.” This became the standard definition utilised in the UK and was accepted by contemporary music therapists (Bunt, 1994). However, the words ‘controlled’ or ‘suffering’ came to be seen as outdated, and the definition took no account of the relationship between the therapist and the client (Bunt, 1994).
In 1980, an alternative definition of music therapy was provided by the National Association of Music Therapy (NAMT): “Music therapy is the use of music in the accomplishment of therapeutic aims: the restoration, maintenance and improvement of mental and physical health” (quoted in Bruscia, 1998: 272).

Here, the focus moved from the music itself to its therapeutic use. This highlights how the balance between the music and therapy has shifted rapidly in modern times. The roles played by psychotherapeutic practices and humanistic psychology in these changes should not be underestimated. As with the spread of such practices in the National Health Service of the UK and in the USA after 1960s, various treatment models with disparate therapeutic aims became incorporated into the psychological and emotional treatment of people (Foster, 2018). For example, Alvin described her music therapy course in London as being based on humanistic psychology, as like therapeutic features in the use of music were dominant in the course. Following the impact of psychoanalytical theory (free musical improvisation represents the inner ‘music child’ and focusses on expression depending on the lead of therapist) and behaviour modification movements (the therapist’s dominant role in the therapy) on music therapy, humanistic psychology has taken over the charge and many new therapies have gathered under this umbrella (Bunt, 1994). As a result, after the 1970s the definition of music therapy in the music therapy profession focused on therapeutic relationships.

A more comprehensive and therapy-focussed definition of music therapy has been given by Bruscia (1998), whereby music therapy was held to be:
‘a systematic process of intervention wherein the therapist helps the client to promote health, using music experiences and the relationships that develop through them as dynamic forces of change’.

This definition emphasises music as a therapy form and differentiates this from music being used in a therapy or a treatment/ a medical operation. Here, focus is given to the systematic process of using music and the relationship that arises between the client and the therapist. This definition (music therapy) allows the music therapy profession to be appeared as an independent multidisciplinary scientific field like other science branches as it has differentiated from medicine, psychology, or religion.

Maranto (1991) has detailed this differentiation more comprehensively, achieved by defining ‘traditional music therapy’ via the use of Bruscia’s (1998) definition and differ it from the term ‘medical music therapy’. Medical music therapy divided into five areas; ‘music as medicine’, ‘music in medicine’, ‘music therapy and medicine’, ‘music therapy as medicine’ and ‘music therapy in medicine’ (Maranto, 1991). This categorical division serves to demonstrate the functional and purposeful use of music in medical treatments (physical and mental). Here, it is quite important to see how music therapy (traditional music therapy) has a different position from other medical treatments in which music is used.

According to Maranto (1989:23), music as medicine pertains to ‘the use of music to affect health directly’ while music in medicine refers to ‘the use of music as the primary agent in a role which supports or enhances medical treatment or procedures.’ The role of music in the process of healing in the first definition is the key to affect the client/patient’s health directly. In the second approach, music is positioned as an agent of a treatment (i.e., in supporting medical procedures) rather than it being the
treatment in itself. Under the music as medicine category, the therapeutic use of music since antiquities can be evaluated; as with the receptive nature of this music, the main aim was to affect health directly through the emphasis on music. In addition, as mentioned, the spiritual characteristics are dominant in this section, as the music plays the most crucial role in the entire intervention and music is accepted as spiritual in nature. The concentrating on music may lead the listeners to deep feelings and a sense of being connected to God (or a higher power) and the whole universe (Amir, 1996; Bonny, 2001). These spiritual thoughts may create a serenity and relaxation amongst the listeners and thus, the well-being of the listeners may increase. Moreover, a sense of being connected to a higher power may create a spiritual refuge from stressful thoughts and this may create relaxation for the listeners.

When considering Maranto’s definition of medical music therapy category and its associated terms, we can see that these are categorised in relation to where the emphasis is placed – i.e., on the music or on the therapeutic relationship. In the first two terms (‘music in medicine’ and ‘music as medicine’), music assumes a greater importance than the therapeutic relationship and the focus of the interventions is given to the music. The third category, ‘music and medicine’, is described as a middle point and includes applications where both music and the therapeutic relationship have equal importance. The last two categories, ‘music therapy as medicine’ and ‘music therapy in medicine’ describes applications in which the therapeutic relationship has more significance than the music itself and thus the music type or version used is generally not important.

In the fourth category, ‘music therapy as medicine’, it is the therapeutic relationship produced between the client and the therapist which has a direct effect upon the health of the client rather than the music supporting a medical procedure. In the fifth category,
‘music therapy in medicine’, music and the therapeutic relationship has a supportive role in medical procedures. Thus, using music therapy to facilitate changes in a patient’s lifestyle (as will help them overcome a disease) is ‘music therapy as medicine’ while the use of music therapy to reduce the distress of a chemotherapy patient is ‘music therapy in medicine’ (see figure 2).

![Figure 2; Maranto's Medical Music Therapy Categories](image)

While Maranto’s music therapy categories are comprehensive, the lines between the categories remain blurred in relation to how to categorise if a music therapist gives emphasis to music in one session but to the therapeutic relationship in another session or, alternatively, how one is to categorise the use of music with a direct aim to heal/treat by a musician rather than a therapist. These questions continue to trouble the gaining of a comprehensive definition of music therapy. As all of these therapeutic categories have the common ground of using music in the therapeutic relationship, regardless of the degree of music in the therapeutic relationship or the position of
music in the therapy, all such categories can be included under Bruscia’s definition of music therapy apart from the second one ‘music in medicine’. As in this category, therapeutic relationship mostly is not included in the process of using music. The only category which does not include the term of ‘therapy’ is ‘music as medicine’.

The distinction between music as medicine and music therapy seems to be questionable. The traditional therapeutic use of music, as spans back to Antiquity and was essentially spiritual, has developed to manifest contemporary music therapy with its greater emphasis of therapy. Therefore, even though during the ‘music as medicine’ there is no visible therapeutic conversation between the facilitator and the client, the music itself is establishing it via the rhythm, harmony, pitch or even the touch of the musician to the instrument (in Sufi music with makams this includes spiritual nature of the music). Therefore, it could be assumed that music’s nature is therapeutic as it reaches our inner self with a touch of harmony.

The traditional therapeutic use of music, including Sufi music with makams, is, therefore, best evaluated under ‘music as medicine’ category. The healing property of this intervention has lied on music which has the most crucial role in the entire therapy process. Although there is a therapeutic relationship between music and the listener, this intervention design was made out of the contemporary music therapy circle by the absence of a therapist in the intervention design (Gold et al., 2011). As a consequence, the distinction between music as medicine and music therapy depended on the process of the therapeutic relationship, which goes between the therapist and the client in music therapy, between the listener and music in music as medicine.

1.3.5.2. Is there a need for therapist?
The definition of music therapy by Bruscia appears to be comprehensive and emphasises the important aspects of music interventions. However, Bunt’s (1994) definition of music therapy is also clear;

‘Music therapy is the use of sounds and music within an evolving relationship between client and therapist to support and encourage physical, mental, social and emotional well-being’.

In both Bunt and Bruscia’s definitions, the most important term that distinguishes ‘music as medicine’ from ‘music therapy’ is ‘the therapist’. Here, both interventions invoke a systematic therapeutic relationship, yet ‘music as medicine’ establishes this between the music and the client and in ‘music therapy’ the therapist and the client together produce this relationship. Thus, ‘music as medicine’ pertains to the use of music as the treatment while, in contrast, music therapy relates to the systematic use of music to promote health via the therapeutic relationship formed between the client and the therapist. The main emphasis is here on the therapist trained as a music therapist. It can be asked, with the common and global use of music, whether people can be a therapist to themselves, whether one person can assume the roles of both client and therapist and whether a therapist is needed. In this sense, it is asked if the help of a therapist is needed by clients.

In addition to Bunt and Bruscia, the Association for Professional Music Therapists in Great Britain (1982) and the French Association for Music Therapy (1984) have defined music therapy by giving emphasis to the therapist. The therapist, in this context, was defined by Bruscia (1998: 55) as ‘an expert who uses principles of personal and professional ethics to guide his/her work with clients’. Music therapists are thus experts in the clinical application of music in therapy in contemporary
institutional settings to conceptualise the transition from the use of music in history to its practical adaptations in modern health care (Moreno, 1995: 332). The therapist's role in the use of music and in the therapy have depended on the clients' need as the way of use music in the therapy (active or passive/ receptive), interpretation of the musical/ verbal expressions or leading the musical experiences in terms of clients' psychological requirements. Due to the vast range of music available today, a significant range of possible applications arise, wherein the control of the intervention direction in a therapeutic path can be assumed to be an essential ingredient of music therapy.

Questions remain in relation to the role of the therapist during such therapy. For example, it can be queried whether a psychotherapist can apply music therapy or whether a musician, facilitator, spiritual leader, Sufi sheikh or ethnomusicologist shall possess enough training to apply the music therapy? If not, then how can we term or define this application? To provide an answer, the role of music therapists and their quality should be clarified.

In music therapy, there are four distinct methods: 1) improvisatory experiences where the client makes up music while playing or singing or by creating a melody, rhythm or instrumental piece; 2) re-creative experiences where the client reproduces any kind of musical piece; 3) composition experiences where the client writes songs, lyrics or any musical form and 4) receptive experiences where the client listens to music and responds silently, verbally or in other ways (Bruscia, 1998). These methods show how music can be used in accordance with the client's needs while interpreting the verbal/ musical experiences back to him or her, or the design the music therapy sessions in terms of the psychological state of the client. In the first three methods, the client assumes productivity, engages with the instruments and participates in the music-
making process with the therapist. For the fourth method, the main role of the therapy derives from the music itself. Therefore, music interventions are divided between active music therapy (expressive) and passive (receptive) music therapy in accordance with the methods used (Maranto, 1989; Bonny, 1997). Here, the first three methods comprise active music therapies while the final method comprises receptive (passive) music therapy.

In passive (receptive) music interventions, music is at the central point rather than therapist, therefore, the music’s selection has a crucial importance as this might be where a specifically spiritual element comes in. While the healing is expected from music itself in receptive music therapy interventions, the therapist has a special role in helping to the client on his/her reaction/ reflection towards the music pieces (Wigram & Grocke, 2007). On that point, Grocke and Wigram (2007) proposed three characteristics the therapist should have to apply receptive music therapy; consideration of belief, culture and values of the client, counselling skills, and improvisation. The point is to preserve the main focus of the intervention on the music rather than other events in the therapy session. Although there is an improvisation proposal at the end, this still protects the focal point of the therapy as it is an ‘emphatic’.

As an example of receptive music therapy, Bonny (1999), a theorist of guided imaginary and music (GIM), undertook a music-added version of the guided affective imaginary (GAI) method of Leuner (1969). Through this model, Bonny explored the connection between the different levels of consciousness and music. This therapy model mainly depended on listening to music alongside guided imagination and the exploration of the imaginaries of the client (Bonny, 1999). Nordoff and Robbins’s creative music therapy approach is an example of active music therapy, as it aims to
create a genuine client-therapist relationship through the joint creation of meaningful musical experiences (Birnbaum, 2014; Nordoff & Robbins, 2007).

The music therapist role is thus seen to change depending on the therapeutic approach taken. In active music interventions, the therapist plays a role throughout by participating in the music-making process with the client and, at the end, making meaningful bridging connections between the music produced and the client’s approaches to these. In receptive music therapy, the music therapist’s role may only relate to assisting the silent responses of the client to the music in some cases (Grocke, 2016). Thus, the music therapist has varied roles in accordance with the method used or the type of music therapy applied. If we compare ancient music interventions with modern music therapy methods, active music therapy could be seen to be a result of modern approaches being taken towards music as a therapy. This could also derive from the rise of the client-centred approach. Until the beginning of the 19th century, the use of music in health care was always receptive in nature. However, a shift of attitudes has occurred towards health in the modern ages wherein, as Aldridge (1996) states, it began to be believed that being healthy was not the same as not being sick. Consequently, greater attention was given to pursuing well-being activities and to individuals defining themselves as sick or well rather than waiting for a diagnosis from an authority. Therefore, the client/patient became the centre of the diagnosis and treatments/therapies undertaken in the modern age.

Nevertheless, some have suggested the need for a therapist in applying music interventions (Oldfield, 2011). For example, in receptive music therapy with live music, there is a need for a musician who possesses psychosocial or medical knowledge to lead the client and the music interactions during the music listening (Moreno, 1991; Oldfield, 2011). Subsequently, this figure is needed to mediate the expressed
emotions/memories/feelings or other evoked responses (such as tears or laughter) during the intervention (Grocke & Wigram, 2007). Although a musician or spiritual leader shall apply the music here, the exploratory aspect of music therapy still requires a professional therapeutic approach (J. Moreno, 1991; Wigram & Grocke, 2007).

However, the exclusion of therapies applied by a non-music therapist fails to provide an inclusive approach to the profession and causes limitations in this field. To establish a universal theory of music therapy, there is a need for a multi-cultural conceptualisation that can respond to all contexts (Moreno, 1995). This may require interchangeable facilitators within music therapy – including traditional healers or musicians. Here, the music healing traditions of shamans would be included in the profession alongside the approaches of ‘music as medicine’ or ‘music in medicine’. As in most communities music plays an important role in the rituals undertaken with healing purposes (Bruscia, 1998); the roots of music as an intervention derive from the rituals. Thus, here the healers or spiritual leaders of respective communities are also musicians (Moreno, 1995). As a result, these figures can be accepted as music therapists (a better term might be ‘music therapy facilitator’) even if they are not trained in a Western music therapy institution.

1.3.5.3. Conclusion
Receptive music therapy methods were a part of the history of music's therapeutic use from the beginning and musical healing developed within spiritual and religious contexts. After the development of the music therapy profession from the 1950s, active music therapy methods became much more accepted and common. At the same time, music interventions became more secular. Research on receptive music interventions has increased over the last few decades but mainly within a particular cultural context.
Thus, to define music therapy interventions more inclusively, the definition should be extended with the inclusion of the traditional musical healing methods.
1.4. The Theory Behind the Practice: Sufi Music with Makams

Intervention Theory

Although in our fragmented modern reality all cultures suppose their uniqueness and sovereignty, their foundations share a commonality. The history of makam music has the same story as it is assumed to belong to Anatolian and Middle Eastern cultures, but the roots of this music theory reached the first civilisation as all other music theories were reached. Though the homeland of makams differs from history to history and across varied cultures (i.e., the Greeks, Turks, Arabs and Persians), it can be assumed that makam music theory was born in Anatolian lands and was subsequently developed by local scholars. Thus, to gain a coherent understanding of makam music, its historical background will be given as widely as possible following a description of this form.

1.4.1. What is Sufi Music with Makams?

According to Sufis, every existence in the universe has a circular movement – for example, all planets, time, music and even electrons in an atom move in this manner. Sufis thus see their life as being in circulation, with this mirroring the Qur’anic verse of “We belong to God and to Him we shall return” (Qur’an, 2:156) – a soteriological belief that indicates that people came from God and will return to Him at the end. Here, every beginning is an end, and every finish is a new beginning. In Sufi rituals, meaningful circular images are employed – for example, in sitting in a round shape or in spinning to pray (Ertan, 2007).

In a similar thought, the link between music theory and circles can be seen within music theories of East, makam music. Most significant scholars who have contributed ideas to makam music theory have been known to have an interest in Sufism or to
attend Sufi groups. Therefore, makam music and Sufism have a common ground from which to flourish, with this meaning that makam theory has blossomed in the hands of Sufis.

Sufi music with makams in this research, refers to the music played with certain Sufi instruments like ney (which is an important instrument in Sufi thought and symbolise Sufism in the Turkish Culture) and have at least a makam. Therefore, the music used in this research has strong bonds with both Sufism and makam music theory.

Makam is a complex and sophisticated term containing many dimensions pertaining to different tones, varied rhythmic patterns and the unique treatment of the player as discussed previous sections. Each makam could be seen as a musical setting with “a well-defined underlying scale of pitches (perde), and a set of conventions that structure the temporal ordering of the pitches into melodic lines (seyir)” (Akkoc et al., 2015).

The main difference between makam music and Western music is that while Western music is based on a tonal system, makam music is founded on a mode based system (a modal system) rather than a tone-based system (Sagun & Bolat, 2016). When played, patterns, compositions and rhythmic structures are also significant elements for makam music (Sagun & Bolat, 2016). The makam possess an octave range spanning 17, 24 or more (53 or 79) tones. In contrast, the octave of Western music consists of 12 tones (Karaosmanoğlu, 2012; Sagun & Bolat, 2016).

Makam music theory resides at the heart of Turkish Classical Music, but it can also be found in most cultures as like in Arabic (maqam), Persian (dastgah), Jewish and Israeli music (weekly maqam), Central Asian (in Uzbekistan and Tajikistan- shashmaqom, in Western China- mukam), and Indian (raga) music theories. It is therefore evident that the development of this theory has witnessed different cultures playing a role.
3 illustrated primitive versions of makams (edvars) in one of the early theoreticians’ book from 15th century.

Medieval Turks, with the support of the Sufi doctrine, represented music as a universal source of knowledge and wisdom that spanned cultural boundaries. Although some Islamic cultures forbade music, Turkish culture witnessed music assuming a secular position throughout history which anyone could contribute to without facing any discrimination for religion, language and race (Signell, 1986). Therefore, this research shall mainly focus on Sufi makam music therapy’s effects on Turkish population.

1.4.2. Application of Sufi makam music therapy in the history of medicine
While these makam music therapy theories were developed, they were also being put into practice, from the 9th century, by scholars and doctors in hospitals throughout the Middle-Eastern Lands. In generally-accepted medical history, Bethlem, as founded in 1247 in London as a religious house, is known to be the first place in which mentally ill people were treated (Porter, 2002). However, in contrast to this argument, treatment centres for mentally ill people has roots in the late 9th century in Middle-Eastern Lands (Ak, 2009; Ruud, 2000; Dols, 1987). In some historical papers like travel books (specifically Seyahatname by Evliya Celebi) from around the 12th to the 16th century, music therapy is noted as being used to treat mentally ill patients in mental health hospitals at the Middle East and Anatolia (Shefer-mossensohn, 2009). As a result, although some earlier records exist as to some Sufi centres (Dargahs) treating mentally ill people, more reliable records present the treatment of mental illnesses and the application of music therapy on mentally ill people as early as the 9th century in Near/Middle-Eastern hospitals.

Mental illness was defined by scholars who were working at those hospitals as the imbalance of psychological and spiritual states of people (Dols, 1992 cited in Mitha, 2020). It can be assumed that the approaches towards mental illnesses were holistic and interdisciplinary as writings on mental well-being were composed by scholars who expertised dozens of sciences in their lifetimes (Awaad & Ali, 2015). The mentally ill people, therefore, have been treated physically and psychologically by physicians with the support of other professionals. The approach towards illnesses were rational and medical rather than supernatural, for example Ibn Imran had advocated for “the use of clinical observation and presentation before diagnosis, as well as establishing the patient’s temperament before the onset of illness” (Mitha, 2020: 767). The treatment plans were drawn with a holistic approach by several professionals like physicians,
pharmocologists, dieticians or musicians and mainly person-centred treatments were preferred at those times. These approaches were quite similar with contemporary medical understanding. In terms of patients, the hospitals were open to all people without any religion or race limitations which was quite unusual in comparison to the European centres during the medival ages. For example the Mansuri Hospital (established at 1284 in Cairo) was for “a place of medical treatment for patients, male or female, rich or poor, from Cairo and the countryside of Egypt. Both residents and non-residents from other countries, no matter what their race, religion ad so on (shall be treated here) for their full ailments, big or small, similar or different, whether the diseases are perceptible (that is, are physical) or whether there are mental disturbances, because the preservation of mental order is one of the basic aims of the Shari’a (Islamic law). The hospital shall keep all patients, men and women, for treatment until they are completely recovered. All costs are to be borne by the hospital.” (Rahman, 1989: 70). The patient profile of Mansuri and the other similar hospitals were multi-cultured and open to all that wanted to get treatment for their physical or mental illnesses. However, according to Dols (1992) only in serious cases people tend to seek help for themselves or their loved ones’ mental disturbances due to stigma, especially female patients that could get help if their families allowed them to be treated or took them to the hospitals (Mitha, 2020).

All these hospitals (darussifa- house of the healing, bimaristan-place for ill people) were built to treat both physical and mental health patients, but most of them were established and designed specifically to treat mental health patients and it is known that music therapy was applied in these settings. Therefore, the hospitals or the wards of the hospitals that engaged with mental disorders, had a specific architecture. The hospitals had an acoustically well-echoed architecture with a yard in the middle of the
building (figure 4 and 5). Makam music therapy was applied in these hospitals with combination of water sounds as ‘in terms of architecture, pool and fountain is an element which relaxes patients psychologically and offers mental treatment with the sound produced by the movements of water in connection with the channels where it collects rainwater in Darüssifas. The pool and the fountain are located in the middle of the building open or closed.” (Erdal & Erbaş, 2013). Thus, music with water sounds was a significant feature of the Anatolian mental hospitals (darussifas) and was used to treat psychiatric patients for a long time. The therapy was applied as passive listening as patients around the yard listened to live music and gained some rest, sometimes in the yard, sometimes in their rooms around the yard. Musicians were mostly also doctors and they decided which makam should be played for which patients and when.
In Darussifas, according to prominent Ottoman traveler Evliya Celebi (d. 1684), music therapy was held for the mentally ill patients; he reported such an example from one of his visit to Bimarhane of Nuredin Zengi (built in 1154 in Damascus, Syria) and Fatih Hospital (built in 1470 in Istanbul, Turkey) alongside other hospitals like Edirne II. Bayazid Hospital (Edirne) and Suleymaniye Hospital (Istanbul) (Ak, 2009; Dols, 1987a; Erdal & Erbaş, 2013).

According to Evliya Celebi, receptive music therapy was delivered by a group of musicians including physicians of the hospitals (who were musicians as well) and was based on makams like Rast, Neva, Cargah, Buselik, Zengule (Dols, 1987a; Shefer-mossensohn, 2009). He also described the hospitals’ closeness to the natural environment at that time, as patients listened the bird songs at the springs as a healing method alongside the aforementioned water sounds from the fountains (Erer & Atici, 2010; Shefer-mossensohn, 2009). The mention of music therapies in the Ottoman lands are not limited to Evliya Celebi in the literature. A French traveller, Jean-Baptiste Tavernier (d. 1689) describes in his book, published in Paris in 1675, how vocal and instrumental music performed in Enderun Hospital, Istanbul in accordance to moods of mentally ill patients (Tavernier, 1684 cited in Dols, 1987a).

These travellers’ notes illustrate the practical applications of the makam music therapy in the hospitals at the medieval ages.

1.4.3. How Sufi music with makams intervention functions as a music therapy in mental health

Listening to music is a daily experience for most people, and an activity which can be used for therapeutic purposes. The ways in which individuals listen to and respond to music (i.e., silently, verbally or via another modality) are described as receptive methods (or as ‘passive’ methods) within music therapy (Bruscia, 1998). There are
several types of receptive music therapy approaches – for example, ‘music-assisted relaxation’ in a clinical setting, ‘music and imagery’ or ‘guided imagery and music’ (GIM-Bonny Method) approaches can be employed here (Grocke, 2016).

Although, some exceptions arise within its current applications, makam music therapy uses receptive methods, a main aim of which is to invoke a change in the emotional mood of patients and thereby to make them relaxed and experience improved well-being. Among the studies published in this area, none have applied active music therapy where clients have actively participated in the actual process of making music. Some centres (like TUMATA) combine makam music therapy with dance or relaxation movements, yet they also use receptive music therapy methods within their makam music applications. Here, the participants/clients do not participate in the music making process and instead listen and express their emotions via dance movements as a response to the music.

The receptive functions of such music can be considered as invoking a distraction from pain/ sorrow, as a way to focus the mind, as a mental escape from stressful life events, as a way of expressing emotions/feelings indirectly via images or memories or as a way of communicating with one’s inner self (Grocke, 2016). Moreover, listening to music may create a form of communication (Pavlicevic, 2000). Via music, the client may express their feelings, emotions or problems without a need for talk (Donnell, 2007). In receptive music therapy methods, the communication between music and the listeners has become more significant, as the focus in the therapy is on the music. The clients may find it easier to express themselves after listening to music and this is another mechanism lying behind the makam music intervention as well.
The music may also enhance our personal memories of positive times or aspects of our lives, or even change our emotional evaluation of the events and memories (Boltz, 2001). Listening to the music may affect positively how people evaluate their memories and events in good moods (Boltz, 2001). Music may create a learned response in which the mind ceases frantic thinking and becomes quieter, rather like meditation. Another important mechanism was lying behind the practice was unearthed, via the psycho-emotional mechanisms, the Sufi music with makams might work. As its most important feature is modal nature of the music. It is a mode-based passive music intervention and aims to induce some emotions to create a healthy emotional mode in the listeners. According to Bonny (2001) listening to music opens the door to deep feelings and allow the listener to explore what is in deep there. Makam music means mode-based music, therefore, to provoke specific moods in the listeners, appropriate makams can be played as it was done in the history. Via evoking pleasant, calm, peaceful feelings and psychological moods in the listener, listening to music may improve well-being and reduce overthinking behaviour on stressful, anxious situations.

The above mechanisms may be common for all other music interventions as well (Pavlicevic, 2013). However, the uniqueness of this music type lies in its spiritual nature and closeness to ideas of nature. This spiritual effect derives from its strong relationship with Sufism, Islamic spirituality. Spirituality, according to Aldridge (2003) should be an integral element in music therapy. Makam music may help people’s mental well-being by being a trigger for images of the Divine, or evoking memories related to hope, peace or forgiveness. It may allow the listener to take refuge in this ‘divine’ place away from stressful life events. The therapeutic use of makams thus works with a function of spiritual/religious asylum due to the Sufi connection with the music. Therefore, simply listening to pieces of music that already contain a spiritual
meaning within them may do most to improve the spiritual and mental well-being of the listeners.

Moreover, makam music theories assume that the scales of makam music are formed according to a ratio found in nature (Guray, 2012). As the roots of the scales reside in nature itself, those humans who employ makam music therapy may benefit because of its connection with nature. The use of water sounds during such therapy promotes the idea of relaxation through being part of nature and evoking cleansing thoughts. Additionally, the instruments used in this music type (ney -kind of flute, def -kind of drum etc.) are not only among the most famous Sufi instruments but are also very simple and close in their form to nature. This might also boost the sense of being part of nature. Thus, the music may create a sense of relaxation or cleansing, which helps the listeners through cognitive and/or physiological means. According to Ulrich (1984), natural sounds can induce positive emotional states and by means of that have restorative effects. Feeling connected to natural environments, being part of nature, is a need for human-beings, according to social psychologists (Wilson, 1984). Sufi makam music theories aim to remind to humans, their connection with nature, which might help to restore our mental health through reducing stress levels and restoring attention to the environment through unconscious, cognitive processes (Bratman et al., 2012). Helping people to attend to the world around them instead of their thoughts and feelings, may help to improve concentration and reduce irritability (Kaplan, 1995).

As a result, makam music therapy may impact positively upon mental health as it; (1) provides mental distraction and escape, (2) encourages expression and communication, (3) works as emotional-mood changer (4) invokes nature-related images which aid relaxation and (5) improves one’s spirituality and spiritual well-being.
In summary, the theories on music and Sufism relationship have shown how Sufi music with makams intervention could work as a mental health intervention and how it relates with music therapy tradition which has rooted into the antique Greek times. Evaluating the history of music therapy has illustrated the gap in the history line and how this gap relates with makams music therapy applications in the medieval ages on Islamic lands. With this historical and theoretical framework, the further studies conducted in this thesis have a theoretical base which allows to establish an overview of the issue.

The literature collected for this thesis suggests that, as a medieval music therapy model, Sufi music with makams may be used as a potential alternative to Western music therapeutic interventions in mental health care. It has a complex nature made up of components of Sufism, the makam element of the music and ‘nature components’ like water sounds. Therefore, understanding the position of such an intervention among other music therapy models is an important step for developing a wider evidence base for musical interventions. In the chapter 2, I will present an umbrella review of systematic reviews of receptive music therapy and its impact on mental health, in order to understand the position of Sufi music with makams among other receptive music therapies.
2. Receptive music therapy's effects on mental health outcomes; an umbrella review of 13 systematic reviews

2.1. Introduction
There has been growing interest, in the past two decades, in the use of music with receptive therapeutic approaches in the health care area. The use of receptive music interventions in mental health care field has also attracted increasing interest as shown by a number of studies and reviews in the literature. Although these studies and reviews provide an evidence base for music’s place in mental health, there is a limited pooled data from the reviews.

An umbrella review is a way to bring together the findings of a number of systematic reviews, which allows decision-makers to consider the evidence they need (Smith et al., 2011). Although a number of systematic reviews have evaluated the effects of receptive music on mental health, this study is the first attempt to bring their findings together. Therefore, the purpose of this study is to evaluate the available evidence on receptive music therapy and mental health using a narrative synthesis of existing systematic reviews.

2.2. Method
2.2.1. Study design
This study was designed as an umbrella review. The umbrella review is a recently developed method to analyse and summarise systematic reviews to establish an evidence base for an intervention. Umbrella reviews are built on a systematic and comprehensive search strategy similar to systematic reviews, but here the search is for systematic reviews instead of clinical trials. They therefore represent one of the highest levels of evidence synthesis available at the moment (Fusar-Poli & Radua, 2018; Tsagris & Fragkos, 2016). Even though there is no clear guideline to follow for this kind of review, we have utilised the recommendations of the PRISMA statement
for the search strategy design and the systematic review was outlined in a predefined protocol (PROSPERO 2020: CRD42020172987).

2.2.2. Aim
This study aimed to perform an umbrella review of systematic reviews to evaluate the effects of receptive methods in music therapy on mental health outcomes. Receptive methods in music therapy have included passive music therapy, music medicine, music listening, receptive music therapy and music as an adjunct treatment.

2.2.3. Eligibility Criteria
2.2.3.1. Inclusion Criteria
The main criterion for inclusion of articles in the review was that the study had examined the effects of receptive approaches in music therapy on mental health outcomes. The studies included the following: (1) Population: Adult individuals (aged 18 and above) with mental health problems of any severity, except substance dependence and based on diagnosis or self-report. (2) Intervention: interventions with receptive methods in music therapy defined as listening to live music or commercial recordings of music literature in various styles (e.g. classical, rock, jazz, country, spiritual, new age) where the listening experience may be focused on physical, mental, emotional, intellectual, aesthetic, or spiritual aspects of the music and the client/patient may respond to the experience silently, verbally or in another modality (e.g. art, dance) (Bruscia, 1998). Receptive music interventions included passive music therapy, music medicine, music listening, receptive music therapy and music as an adjunct treatment. (3) Outcomes: changes in any measures of mental health. Studies examining effects on physical health outcomes were also included if they contained at least one mental health outcome; and (4) Study type: Systematic reviews and meta-analyses of clinical studies.
2.2.3.2. Exclusion Criteria
The review excluded studies (1) with child and/or adolescent participants (aged 17 or less); (2) which dealt with other types of music therapies, such as active music therapies or general music therapy which includes both active and passive music therapies. Studies combining music with other therapies (e.g. music and guided imagery) were also excluded; (3) examining effects only on physical health outcomes; and (4) other types of reviews included narrative reviews, scoping reviews or mapping reviews.

2.2.4. Search strategy
To identify relevant systematic reviews and meta-analyses, a search of the following databases was conducted in May 2020: MedLine, the Web of Science, PyscArticle, Cochrane Library, SCOPUS, CINAHL Plus and Prospero databases. Papers published in academic peer-reviewed journals were included, as well as other sources such as the grey literature, or conference presentations. Articles published until May 2020 in Turkish and English were included. The search was conducted according to four concepts of search terms/ key words.

*Concept 1;*

Adult
Older adult
Young adult

*Concept 2;*

Receptive music*
Ethno* music

Music listening
Within the concept ‘OR’ and between concepts ‘AND’ Boolean operator was used as (adult or older adult or young adult) AND (receptive music* or ethno* music or music listening or music therapy) AND (mental health or mental disorder or mental illness or psychiatric illness or anxiety or depression) AND (systematic review or meta-analysis or review or review of literature).

The search results were screened, and duplicates were removed. Potentially relevant citations were identified by reviewing the titles and abstracts. Where citations
appeared relevant, the full-text articles were retrieved, read in full and included in the review according to the eligibility criteria.

2.2.5. Data extraction
The reviewer extracted the following information from each included study: (i) Authors’ names and year of publication; (ii) search strategy included dates searched, searched databases and study design; (iii) number of included studies; (iv) details of included studies; (v) outcome/s and result. The summary synthesis of the evidence was prioritised as the results were analysed qualitatively.

2.2.6. Quality assessment
Quality assessment of all included studies was carried out using the AMSTAR 2 (A MeaSurement Tool to Assess Systematic Reviews) checklist which is a critical appraisal tool to assess the methodological quality of systematic reviews (Shea et al., 2017). AMSTAR 2 consists of 16 domains and is not designed to generate an overall ‘score’. Each item should be considered independently, and the reviewer should interpret the potential impact of an inadequate rating (Shea et al., 2017).

There are seven domains recognised as critical in the tool as follows; Protocol registered before the commencement of the review (item 2), Adequacy of the literature search (item 4), Justification for excluding individual studies (item 7), Risk of bias from individual studies being included in the review (item 9), Appropriateness of meta-analytical methods (item 11), Consideration of risk of bias when interpreting the results of the review (item 13), Assessment of presence and likely impact of publication bias (item 15). The ratings of the overall quality score of the reviews were conducted according to these critical domains as follows; a rating of High quality was given if there was no or one non-critical weakness; Moderate if there was more than one non-critical weakness; Low if there was one critical flaw with or without non-critical
weaknesses and Critically low if more than one critical flaw was present with or without non-critical weaknesses (Shea et al., 2017).

2.2.7. Data analysis
To organise findings from included studies and to provide an assessment of the strength of the evidence, a narrative synthesis was used. No quantitative analysis was performed due to the high level of heterogeneity identified amongst the studies (study types, intervention types, or study sizes).

2.3. Results
2.3.1. Selection
Our search strategy identified 429 possible reviews, of which 99 duplicated studies were excluded. A total of 330 titles/abstracts of reviews were screened, of which 62 publications were selected for full-text screening. Forty-nine studies were excluded for the following reasons: one review did not specify which type of music therapy was conducted in the studies, two studies included paediatric populations alongside adults, two studies did not have a mental health outcome, 15 publications were not systematic reviews, and 29 did not include receptive music therapy studies or included all music therapy studies without making a distinction between receptive and other music therapy. A final 13 systematic reviews were included for narrative synthesis (see figure 6).
2.3.2. Study characteristics
The 13 included systematic reviews were conducted between 2002 and 2019. The number of included studies in the reviews ranged from 4 to 92, with a total number of 22,857 participants. All reviews included studies with adult physically/mentally ill populations apart from one (Chan et al., 2011) which included studies with the healthy adult population in the review. While eight reviews (Evans, 2002; Fu et al., 2019; Gaviola et al., 2020; Kühlmann et al., 2018; Nilsson, 2008; Shanmuganandan et al., 2017; Song et al., 2018; Su & Yeh, 2019) searched and included only randomised control trials, five reviews (Chan et al., 2011; Gillen et al., 2008; Sibanda et al., 2019; Umbrello et al., 2019; van der Wal- Huisman et al., 2018) also included quasi-
experimental designs. Five reviews used meta-analysis to synthesis the results of the studies (Fu et al., 2019; Kuhlmann et al., 2018; Shanmuganandan et al., 2017; Song et al., 2018; Su & Yeh, 2019), while the remainder synthesised the results qualitatively. All reviews analysed studies from all around the world, but the reviews themselves were conducted mainly in two countries, The Netherlands (n=3) and Australia (n=3). All included studies were in English. More descriptive information on the included studies is presented in Table 1.

The mean number of studies included in each review was 20.5, while two studies included high numbers of studies in the review (Nilsson, 2008; n = 42 and Kuhlmann et al., 2018; n = 92). Apart from these two reviews, the mean number of included studies in the reviews reduced to 12.09. Both studies evaluated patients’ anxiety who were undergoing surgical procedures and analysed the studies differently. Whereas one of them (Kuhlmann et al., 2018) pooled the studies in a meta-analysis and concluded that music listening significantly decreased anxiety (MD = –0.69, 95% CI = –0.88 to –0.50; p < 0.001); Nilsson (2008) evaluated the included studies narratively and found that in approximately half of the studies, anxiety was reduced by music listening. Thus, although the results revealed in these two reviews are not consistent, the analyses in the two were different. In all reviews, 46 studies overlapped.
<table>
<thead>
<tr>
<th>Author</th>
<th>Dates searched</th>
<th>Country of the review conducted</th>
<th>Design</th>
<th>Number of studies included</th>
<th>Study types of included studies</th>
<th>Population</th>
<th>Total participants</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Type of synthesis</th>
<th>Outcomes</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chan, Wong and Thayala, 2011</td>
<td>January 1989-March 2012</td>
<td>Singapore</td>
<td>Systematic review</td>
<td>17</td>
<td>RCT (n=14) Quasi-experimental (n=3)</td>
<td>Adults (healthy and with depression)</td>
<td>1087</td>
<td></td>
<td>Music Listening</td>
<td>- Standard care - Resting - Placebo-wearing Headphones without music - hypnotic medication but no music.</td>
<td>Depression symptoms</td>
<td>Music listening over a period of time helps to reduce depressive symptoms in the adult population. Daily intervention does not seem to be superior over weekly intervention and it is recommended that music listening session be conducted repeatedly over a time span of more than 3 weeks to allow a cumulative effect to occur</td>
</tr>
<tr>
<td>Evans, 2002</td>
<td>Australia</td>
<td>Systematic review and</td>
<td>RCT</td>
<td>19</td>
<td>Adult Patients</td>
<td>1152</td>
<td></td>
<td>Music listening</td>
<td>-</td>
<td>Quantitative</td>
<td>Anxiety, satisfaction, pain,</td>
<td>Music played via headphones reduces anxiety of patients</td>
</tr>
</tbody>
</table>
Meta-analysis in Hospital mood and vital signs during normal care delivery, but it has no impact on the anxiety of patients undergoing procedures such as bronchoscopy, sigmoidoscopy or surgery with a spinal anaesthetic. Music produces a small reduction in respiratory rate during normal care delivery, but appears to have little effect on other vital sign parameters. It has no impact on the vital signs of patients undergoing procedures. Although the evidence is limited, music also appears to improve the mood and tolerance of patients.
<table>
<thead>
<tr>
<th>Fu, Oomens, Sneiders, van den Berg, Feelders, Wijnhoven, and Jeekel, 2019</th>
<th>Up to February 2019</th>
<th>The Netherlands</th>
<th>Systematic review and meta-analysis</th>
<th>18 RCT</th>
<th>Patients undergoing a surgical procedure</th>
<th>1301</th>
<th>Music listening</th>
<th>Quantitative</th>
<th>Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Standard care</td>
<td>- Placebo-wearing Headphones without music</td>
<td>Perioperative music attenuated the neuroendocrine cortisol stress response to surgery (pooled standardized mean difference -0.30, [95% confidence interval -0.53 to -0.07], P = 0.01, I² = 0).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| Gaviola, Inder, Dilworth, Holliday, and Higgins, 2020 | Up to July 2018 | Australia | Systematic review | 6 RCT | People with dementia | 265 | Music listening intervention based on the person's preferences | Quantitative | Behavioural and psychological symptoms of dementia (BPSDs) including agitation, anxiety and depression and physiological outcomes. Evidence for other outcomes such as cognitive function and |</p>
<table>
<thead>
<tr>
<th>Study</th>
<th>Region</th>
<th>Methodology</th>
<th>Patients</th>
<th>Intervention 1</th>
<th>Intervention 2</th>
<th>Outcome 1</th>
<th>Outcome 2</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gillen, Biley, and Allen, 2008</td>
<td>Wales</td>
<td>Systematic review</td>
<td>12</td>
<td>Pre-surgery patients (n=7)</td>
<td>- Standard Care -placebo (wearing headphones with no music)</td>
<td>- Music listening as a therapeutic activity prior to participants having a clinical procedure</td>
<td>Quality of life was limited.</td>
<td></td>
</tr>
<tr>
<td>Kuhlmann, de Rooij, Kroese, van Dijk, Hunink, and</td>
<td>The Netherlands and The USA</td>
<td>Systematic review and meta-analysis</td>
<td>92</td>
<td>Patients undergoing exclusively invasive surgical procedures</td>
<td>- Live music listening - Recorded music listening</td>
<td>- Standard Care -Resting -Sham sounds -Wearing headphones</td>
<td>Music interventions significantly decreased anxiety (MD – 0.69, 95 percent CI. – 0.88 to –0.50; ( P &lt;0.001 )) and pain (MD –0.50,</td>
<td></td>
</tr>
</tbody>
</table>
Jeekel, 2018

- Headphones with noise blocking features

-0.66 to −0.34; P <0.001) compared with controls, equivalent to a decrease of 21mm for anxiety and 10mm for pain on a 100-mm visual analogue scale. Changes in outcome corrected for baseline were even larger: MD −1.41 (−1.89 to −0.94; P <0.001) for anxiety and −0.54 (−0.93 to −0.15; P =0.006) for pain. Music interventions provided during general anaesthesia significantly decreased pain compared with that in controls (MD −0.41, −0.64 to −0.18; P <0.001).
Nilsson, 2008
January 1995-January 2007
- Systematic review
42 RCT
Patients undergoing elective surgery 3936 Patients
Music listening
- Standard care
- Resting
- Placebo-wearing Headphones without music
Qualitative
Anxiety, Pain, Vital signs like blood pressure etc.

Music intervention can have an effect on reducing patient anxiety and pain in the perioperative setting. This was demonstrated in approximately 50% of the outcomes in the studies included in this review. In quantitative measures, music intervention was found to reduce the use of sedatives and analgesics. Some minor but still significant effects of music interventions were documented in the reduction of heart rate, blood pressure, respiratory rate, and reduced blood cortisol levels.
| Shanmuganandan, Siddiqui, Farkas, Sran, Thomas, Mohamed, Swift and Abulafi, 2017 | up to November 2016 | United Kingdom | Systematic review and meta-analysis | 4 | RCT | Patients undergoing flexible sigmoidoscopy | 445 | Listening to a choice of music from collection s of a variety of styles (n=3) Ocean shore sounds (n=1) | Standard Care | Quantitative | Anxiety, pain scores and helpfulness | Patients who listened to music during their flexible sigmoidoscopy had less anxiety compared to control groups [Random effects; SMD: 0.851 (0.467, 1.235), S.E = 0.196, P < 0.001]. There was no statistically significant heterogeneity ($I^2 = 0$). Patients who listened to music during their flexible sigmoidoscopy had less pain than those who did not, but this difference did not reach statistical significance [Random effects; SMD: 0.345 (-0.014, 0.705), S.E = 0.183, P= 0.06]. Patients who listened to music during their flexible sigmoidoscopy... |
felt it was a useful intervention, compared to those who did not (P < 0.001). There was no statistically significant heterogeneity (P = 0.528, I² = 0).

| Sibanda, Cames, Visentin and Cleary, 2019 | Until June 2018 | Australia | Systematic review | 10 | RCT (n= 8) Quasi-experimental (n= 2) | Patients undergoing hip or knee surgery | 531 | Music listening as an adjunct treatment | - Standard Care - Guided Imagery - Quiet Rest - Noise - Silent - Placebo (white noise from headphones) | Narrativeness Anxiety, Pain and Postoperative Delirium | Six of 10 included studies provided evidence that music can improve anxiety, pain, or postoperative delirium outcomes for patients undergoing hip or knee surgery. Music effectively reduced anxiety in one of three studies. Three of seven studies reported benefits of music for reducing postoperative pain. Positive effects of music on |
Postoperative delirium were reported in all three studies that evaluated this outcome. Within group improvements were observed in many of the studies.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Year</th>
<th>Country</th>
<th>Study Design</th>
<th>Patients undergoing a biopsy</th>
<th>Recorded music listening</th>
<th>Quantitative Anxiety and pain</th>
<th>Anxiety and pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Song, Li, Zhang, Shang, Yan, Chu, Sun, and Xu</td>
<td>2000-December 2016</td>
<td>China</td>
<td>Systematic review and meta-analysis</td>
<td>9 RCT</td>
<td>Patients undergoing a biopsy</td>
<td>649 Recoded music listening</td>
<td>Standard care -standard care -Wearing Headphones without music -noise by headphones</td>
</tr>
<tr>
<td>Su &amp; Yeh</td>
<td>1966-January 2019</td>
<td>Taiwan</td>
<td>Systematic review and meta-analysis</td>
<td>10 RCT</td>
<td>Patients undergoing Percutaneous coronary intervention or</td>
<td>2603 Music intervention</td>
<td>Standard care</td>
</tr>
<tr>
<td>Umbrello, Sorrenti, Mistraletti, Formenti, Chiumello, and Terzoni, 2019</td>
<td>Up to April 2018</td>
<td>Italy</td>
<td>Systematic review</td>
<td>11</td>
<td>RCT (n= 10) Quasi-experimental (n=1)</td>
<td>Critically ill patients</td>
<td>959</td>
</tr>
</tbody>
</table>
van der Wal-Huisman, Dons, Smilde, Heineman, and van Leeuwen, 2018

Up to December 2015

The Netherlands

Systematic review

RCT
(n=9)
Quasi-experimental
(n=6)
Prospective Clinical Study
(n=2)

Older patients undergoing a surgery

1382
Recored music listening
(n=16)
Live music listening
(n=1)

Standard care

Qualitative

Postoperative Recovery-Pain, Anxiety, Physiologic parameter, relaxation and stress, perception, satisfaction and mood, cognitive functioning and sleep, Postoperative complications and hospital stay

Lower postoperative anxiety scores among patients in the music group. The overall anxiety scores in the music group failed to reach significance.

| *WMD=Weighted Mean Difference; CI= Confidence Interval; SE=Standard Error; SMD= Standardised Mean Difference; MD= Mean Difference |
2.3.3. Quality assessment
Quality assessment of the systematic reviews was conducted using the AMSTAR 2 tool. One review was of high quality (Umbrello et al., 2019), one was of moderate quality (Gillen et al., 2020) and the remainder were assessed as low (Chan et al., 2011; Gaviola et al., 2020) or critically low (Evans, 2002; Fu et al., 2019; Kuhlmann et al., 2018; Nilsson, 2008; Shanmuganandan et al., 2017; Sibanda et al., 2019; Song et al., 2018; Su & Yeh, 2019; van der Wal-Huisman et al., 2018). Among the critical domains of AMSTAR 2, the most common reason for low quality was that the reviews did not give a list of excluded studies with reasons and review authors did not account for risk of bias in individual studies when interpreting/ discussing the results of the review. All reviews used a comprehensive search strategy and gave adequate details of the included studies in the review. None of the studies reported funding sources for the included studies.

See table 2 for a full assessment of the quality assessment of individual studies.

2.3.4. Interventions
As already described, only reviews of passive music interventions were included. However, the nature of passive music interventions varied in the reviews. Two of the reviews (Kuhlmann et al., 2018; van der Wal-Huisman et al., 2018) included both live and recorded music listening, while the remainder included only recorded music listening. In the reviews, a number of terms were used to describe passive music interventions, such as music interventions, music as adjunct treatment or music listening.
<table>
<thead>
<tr>
<th>Author</th>
<th>2020</th>
<th>2019</th>
<th>2022</th>
<th>2011</th>
<th>Chan et al., 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did the research questions and inclusion criteria for the review include the components of PICO?</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>2. Did report contain explicit statement that review methods were established before conduct of review and did it justify significant deviations from protocol?</td>
<td>Y</td>
<td>P</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>3. Did the review authors explain their selection of the study designs for inclusion in the review?</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>4. Did the review authors use a comprehensive literature search strategy?</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>5. Did the review authors perform study selection in duplicate?</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>6. Did the review authors perform data extraction in duplicate?</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>7. Did the review authors provide a list of excluded studies and justify the exclusions?</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>8. Did the review authors describe the included studies in adequate detail?</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>10. Did the review authors report on the sources of funding for the studies included in the review?</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?</td>
<td>Y</td>
<td>N/A</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?</td>
<td>Y</td>
<td>N/A</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review?</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Total Score
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Kuhlmann et al., 2018</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>P</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Nilsson, 2008</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>P</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Shanmuganandan et al., 2017</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>P</td>
<td>U</td>
<td>U</td>
<td>N</td>
<td>P</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>iii</td>
</tr>
<tr>
<td>Sibanda et al., 2019</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>P</td>
<td>U</td>
<td>U</td>
<td>Y</td>
<td>Y</td>
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<td>N</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tr>
<tr>
<td>Song et al., 2018</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>P</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Su &amp; Yeh, 2019</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>P</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<td>N</td>
<td>Y</td>
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</tr>
<tr>
<td>Umbr ello et al., 2019</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>P</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
<td>N/A</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td><em>van der Wal-Huisman et al., 2018</em></td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>P</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>P</td>
<td>N</td>
<td>N/A</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
<td>Y</td>
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</tr>
</tbody>
</table>

*Y=Yes, N= No, P=Partially Yes, N/A=Not applicable, U=Unknown, i=high, ii=moderate, iii=low, iiii=critically low,*
In terms of comparison groups, receptive music therapy was compared with standard medical care in 11 reviews (Chan et al., 2011; Fu et al., 2019; Gaviola et al., 2020; Gillen et al., 2008; Kuhlmann et al., 2018; Shanmuganandan et al., 2017; Sibanda et al., 2019; Song et al., 2018; Su & Yeh, 2019; Umbrello et al., 2019; van der Wal-Huisman et al., 2018), quiet rest in 5 reviews (Chan et al., 2011; Kuhlmann et al., 2018; Nilsson, 2008; Sibanda et al., 2019; Umbrello et al., 2019), guided imagery in 1 review (Sibanda et al., 2019), silent environment in two reviews (Gaviola et al., 2020; Sibanda et al., 2019), noise from headphones in 2 reviews (Sibanda et al., 2019; Song et al., 2018), and placebo in 8 reviews (white noise from headphones or wearing headphones without music) (Chan et al., 2011; Fu et al., 2019; Gillen et al., 2008; Kuhlmann et al., 2018; Nilsson, 2008; Sibanda et al., 2019; Song et al., 2018; Umbrello et al., 2019). One review (Evans, 2002) did not report on the nature of the control intervention in the studies (types of control conditions varied as shown in table 1).

There was variation among studies included in the reviews in the number and duration of music therapy sessions provided. Apart from two (Chan et al., 2011; Gaviola et al., 2020), all of the reviews evaluated receptive music therapy’s effects before, during and after a surgical operation. (see table 3).

2.3.5. Synthesis of results
2.3.5.1. Pre-post-surgery anxiety
Anxiety was a clinical outcome in ten reviews; the primary outcome of nine reviews (Evans, 2002; Gillen et al., 2008; Kuhlmann et al., 2018; Nilsson, 2008; Shanmuganandan et al., 2017; Sibanda et al., 2019; Song et al., 2018; Su & Yeh, 2019; Umbrello et al., 2019) and secondary outcome in one review (van der Wal-Huisman et al., 2018). The included studies in the reviews mostly used the State-Trait Anxiety Inventory (STAI) as an outcome measure. While some reviews included studies on patients’ pre-post-surgery/operation anxiety (Evans, 2002; Nilsson, 2008;
Kuhlmann et al., 2018; Song et al., 2018; Umbrello et al., 2019); others included only pre-surgery/operation anxiety (Gillen et al., 2008), post-surgery/operation anxiety (Su & Yeh, 2019) or anxiety during surgery/operation (Shanmuganandan et al., 2017; Sibanda et al., 2019).

Five of the ten reviews that pooled the results via a meta-analysis found that music had a significant effect on anxiety compared to controls (Evans, 2002, Kuhlmann et al., 2018; Shanmuganandan et al., 2017; Song et al., 2018; Su & Yeh, 2019). However, Evans (2002) reported that their meta-analysis, which pooled two studies and evaluated the music’s effect on procedural anxiety, did not find a reduction in anxiety levels. However, another meta-analysis in the same review (Evans, 2002) pooled six RCTs with hospital patients (pre-post operation or mechanically ventilated) showed that music significantly reduced anxiety.

Three of five meta-analyses (Kuhlmann et al., 2018; Song et al., 2018; Su & Yeh, 2019) found a high level of heterogeneity across trials; the lowest level of heterogeneity was 78%. Shanmuganandan et al. (2017) found a high consistency among studies ($I^2=0$), while Evans (2002) did not demonstrate the heterogeneity level among the studies.

Of the reviews describing narrative synthesis only, two concluded that the music reduced anxiety levels (Gillen et al., 2008; Umbrello et al., 2019); and three showed mixed results of which the studies with/without an effect had equal numbers in the reviews (Nilsson, 2008; Sibanda et al., 2019; van der Wal-Huisman et al., 2018).

A meta-analysis was not conducted in the reviews with a high and moderate level of quality. One (Umbrello et al., 2019) had high quality which concluded the review as a significant reduction in the level of anxiety at the end of the music intervention, and
one (Gillen et al., 2008) had moderate quality which evaluated the review narratively.

Five of the studies resulted in a greater reduction in mean state anxiety scores in those listening to music and three of the studies resulted not an important effect of music on anxiety.

All ten reviews had mixed results, but 7 out of 10 reported a positive effect of music on anxiety.

*Table 3: The effect of receptive music therapy on anxiety in the reviews*

<table>
<thead>
<tr>
<th>Author</th>
<th>Study (n)</th>
<th>Population</th>
<th>Meta-analysis result</th>
<th>Qualitative result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evans, 2002</td>
<td>6</td>
<td>Hospital patients</td>
<td>SMD -0.71; 95% CI -0.97 to -0.46</td>
<td>Moderate to large statistically significant effect of music interventions in reducing anxiety.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Procedure patients</td>
<td>SMD 0.06; 95% CI -0.33 to 0.44</td>
<td>There is no reduction in anxiety levels</td>
</tr>
<tr>
<td>Gillen et al., 2008</td>
<td>5</td>
<td>Pre-procedural Anxiety</td>
<td>-</td>
<td>Greater reduction in mean state anxiety scores compared with those not listening to music (control group).</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Pre-procedural Anxiety</td>
<td>-</td>
<td>Not an important relationship between music and relaxation.</td>
</tr>
<tr>
<td>Kuhlmann et al., 2018</td>
<td>47</td>
<td>Surgery anxiety</td>
<td>SMD –0.69; 95% CI –0.88 to –0.50</td>
<td>Moderate to large statistically significant effect of music interventions in reducing anxiety.</td>
</tr>
<tr>
<td>Nilsson, 2008</td>
<td>24</td>
<td>Patient anxiety</td>
<td>-</td>
<td>In 12 of the 24 studies (50%), the music intervention significantly reduced anxiety scores.</td>
</tr>
<tr>
<td>Shanmuganandan et al., 2017</td>
<td>2</td>
<td>Post-procedural anxiety</td>
<td>SMD 0.851; 95% CI 0.467 to 1.235 (combined using</td>
<td>Patients who listened to music had less anxiety</td>
</tr>
<tr>
<td>Study</td>
<td>Design</td>
<td>Outcome</td>
<td>Measure</td>
<td>Type of Anxiety</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Sibanda et al., 2019</td>
<td>1 Hip or knee surgery anxiety</td>
<td>-</td>
<td>compared to control groups.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Music did not reduce anxiety.</td>
</tr>
<tr>
<td></td>
<td>2 Hip or knee surgery anxiety</td>
<td>-</td>
<td></td>
<td>Music reduced anxiety.</td>
</tr>
<tr>
<td>Song et al., 2018</td>
<td>6 Biopsy anxiety</td>
<td>WMD 2.51; 95% CI: 0.83 to 4.18 (The random effects model and fixed effect inverse-variance model)</td>
<td>There was a significant reduction in anxiety in music listening group.</td>
<td></td>
</tr>
<tr>
<td>Su &amp; Yeh, 2019</td>
<td>6 Postoperative anxiety</td>
<td>SMD −1.425 95% CI: −2.726 to −0.125</td>
<td>A significant reduction in anxiety levels of the music intervention groups.</td>
<td></td>
</tr>
<tr>
<td>Umbrello et al., 2019</td>
<td>9 Postoperative anxiety</td>
<td>-</td>
<td>A significant reduction in the level of anxiety at the end of the music intervention.</td>
<td></td>
</tr>
<tr>
<td>van der Wal-Huisman et al., 2018</td>
<td>3 Postoperative anxiety</td>
<td>-</td>
<td>Lower postoperative anxiety scores among patients in the music group.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Overall anxiety</td>
<td>-</td>
<td>The overall anxiety scores in the music group failed to reach significance.</td>
<td></td>
</tr>
</tbody>
</table>

*SMD= Standardised Mean Difference; CI= Confidence Interval; WMD=Weighted mean difference.

### 2.3.5.2. Stress and depressive symptoms

Two reviews (Fu et al., 2019; Umbrello et al., 2019) evaluated music listening’s effects on stress. Stress responses were measured via physiological parameters like blood pressure, heart rate or stress response hormone levels. Fu et al. (2019) pooled the physical parameters in the meta-analysis, whereas Umbrello et al. (2019) combined
the results narratively. Both reviews concluded that the music had a beneficial effect on the physiological stress response.

Only one review (Chan et al., 2011) evaluated the effect of music listening on depression. This review pooled two of the 17 studies which evaluated the effect of music listening on depression together for a meta-analysis and showed that the music had a significant effect on reducing depressive symptoms (SMD – 0.97 95% CI: -1.48, -0.47). The rest of the studies in that review were analysed narratively. Nevertheless, these narrative analyses illustrated mostly that the music group had significantly better depressive outcome score.

2.3.5.3. Other Mental Outcomes
One review (Gaviola et al., 2020) reported the effects of individualised music listening on behavioural and psychological symptoms of dementia, including agitation, anxiety and depression in people with dementia. Results showed evidence of a positive impact of music listening on these symptoms.

One review (Sibanda et al., 2019) evaluated music interventions’ effects on postoperative delirium alongside anxiety and pain of patients undergoing hip or knee operations. Included studies found fewer episodes of postoperative delirium in patients who received a music intervention.

2.4. Discussion
To my knowledge, this is the first umbrella review of systematic reviews to investigate the impact of receptive music therapy on mental health outcomes among adults. This study identified 13 systematic reviews, of which 6 included meta-analyses. The majority of the reviews concluded that music has a significant effect on procedural anxiety. Two reviews (Fu et al., 2019; Umbrello et al., 2019) concluded that music had a beneficial effect in terms of the physiological stress response. Only one review
(Chan et al., 2011) evaluated the effect of music on depression and found that music reduced depressive symptoms. Alongside anxiety, stress and depression symptoms, one review (Gaviola et al., 2020) showed evidence of a positive impact of music listening on behavioural and psychological symptoms of dementia and on postoperative delirium (Sibanda et al., 2019). Moreover, regardless of the type of music or who chose it (participant’s preference or researcher’s choice), the therapeutic use of music listening appears to reduce state anxiety.

All of the included reviews were published within the last 18 years. The general quality of the systematic reviews was low to critically low but two reviews, one judged as high (Umbrello et al., 2019) and one as medium quality (Gillen et al., 2020); therefore, considerable caution is required in drawing conclusions from these findings. All but two reviews were concerned trials with patients who were stressed or anxious at the time of surgery. One (Gaviola et al., 2020) evaluated music listening effects on dementia, while one (Chan et al., 2011) evaluated its effects on depressive symptoms in adults. Both studies included studies from clinical or community settings and investigated the general effect of music listening. Both concluded that their reviews showed benefit from music listening. Thus, while this umbrella review indicated that listening to music was an intervention with beneficial effects on operational anxiety; it also suggested that music listening could be a potential intervention for people with depressive and dementia. Music listening to patients undergoing surgical procedures is a complex intervention. Thus, the heterogeneity of the results is unsurprising as variables like environment, population, intervention or measurement methods of studies in the reviews varied widely.
In this review, the most common setting for receptive music intervention was the hospital, and the most common population was patients who underwent a medical operation in hospital. The medical operations can provoke feelings of anxiety and stress in patients due to their uncomfortable procedures or anticipation of the procedure in hospital (Delewi et al., 2017; Ersöz et al., 2010; Gillen et al., 2008; Ruffinengo et al., 2009). There is plenty of research that has explored the effectiveness of varied interventions on reducing anxiety and stress levels of patients like aromatherapy massage therapy (Hadfield, 2001), preoperative education (Spalding, 2003), or preparatory disclosure with video film show (Herrmann & Kreuzer, 1989). Music interventions are among those, as the scope of this research. Therefore, one of the reasons why receptive music interventions are used commonly to reduce state anxiety and stress of the patients who underwent a medical procedure. The other possible explanation for that common selection of setting and population in the interventions is the cost-effective and easy to apply nature of receptive music intervention model (Walworth, 2005). Therefore, the number of researches on music intervention- assisted procedures has increased to see whether or not music interventions may be used in the hospital context to reduce anxiety and stress levels of patients.

The limitations of this umbrella review were as follows. First, only systematic reviews published in English or Turkish were included. Further research might focus on the use of receptive music interventions in other languages. The second was the literature research which was restricted to key words used in concepts, the MeSH terms (Medical Subject Headings) were not used. This might have affected the results of the literature research as some of the reviews could have been missed out. Furthermore, including overlapping reviews in this umbrella review may introduce bias as some of
the reviews included the same studies’ results (46 studies were overlapped in all reviews) and in this umbrella review some results were evaluated multiple times. Thus, double/triple-counting studies may give more influence on the result of this review and present a biased result. Another limitation was the low methodological quality of the systematic reviews, which may have biased the result of this review. More quality reviews should be done on the issue to draw a strong conclusion. Moreover, further systematic reviews might address receptive music interventions’ effects in any setting, rather hospital settings.

2.5. Conclusion
This umbrella review provides very limited evidence for receptive music therapy’s effectiveness in reducing the anxiety of patients undergoing surgery, regardless of the music type. However, one of the most significant roles of systematic approaches like umbrella reviews is to identify the gap in the literature where further research efforts should be directed (Egger et al., 2001). This, therefore, leads into the next part of this thesis which focuses more specifically on the potential efficacy of Sufi music with makams as a treatment for mental distress, a systematic review and meta-analysis will be described in chapter 3.
3. The effectiveness of Sufi music for mental health outcomes. A systematic review and meta-analysis of 21 randomised trials.

3.1. Background

Music has been used as a way to help heal illness throughout history (Biley, 1999). In recent decades, there has been an increasing interest in the therapeutic potential of music (Aldridge, 1993), particularly because of its safe, economic and potentially effective nature (Ovayolu et al., 2006). Previous systematic reviews indicate that music therapy may have a positive effect on symptoms of anxiety (Petrovsky et al., 2015), including pre-postoperative anxiety (Graff et al., 2019) and may also improve symptoms of depression (Maratos et al., 2008), dementia (Ueda et al., 2013) and schizophrenia (Geretsegger et al., 2017). The umbrella review in the previous chapter concluded that simply listening to music (receptive music interventions) may reduce procedural (pre-postoperative) anxiety (Evans, 2000; Kuhlmann et al., 2018; Shanmuganandan et al., 2017; Song et al., 2018; Su & Yeh, 2019) and improve depressive symptoms (Chan et al., 2011), behavioural and psychological symptoms of dementia (Gaviola et al., 2020), and stress responses (Fu et al., 2019; Umbrello et al., 2019), even a considerable caution is required in drawing strong conclusions from the findings due to a very low methodological quality of the reviews. Although these reviews provide an evidence base for music's place in mental health, there is a need for further, higher quality studies, including studies investigating a range of types of music.

The Sufi tradition has valued and used music in a way that is different to most Muslim communities. As a Muslim community that has enriched its culture with Sufi traditions, Turkish people have been using music therapy over many centuries. Thus, they might offer a unique theory of music therapy to the world (Benek et al., 2015). Turkish music
using makams played with Sufi instruments (coupled with the sounds of water running in a fountain) was used to treat mentally ill patients throughout the Seljukian Dynasty and Ottoman Empire Age (from the 11th to 18th century) (Giray, 2008).

The main feature of this music therapy is its makam nature. In Anatolia and the Middle East, it was believed that there was a relationship between particular makams and their effects on specific illnesses at particular times of the day. Using music with makams for therapeutic purposes might inform theories about western music therapy and allow therapists to apply these theories in other parts of the world. Many scholars of makam music theory have had an interest in Sufism, and thus makam theory has grown in the hands of Sufis and flourished in Sufi centres. Although a number of studies have reported on the application of Sufi makam music therapy in mental health (Benek et al., 2015; Erdal & Erbaş, 2013; Tanriover, 2010), no systematic review or meta-analysis has been undertaken.

3.2. Methods
3.2.1. Aim
The aim of this study was to perform a systematic review and if appropriate a meta-analysis of experimental studies including randomised controlled trials (RCTs) to evaluate the effects of Sufi music therapy with makams on mental health.

3.2.2. Eligibility Criteria
3.2.2.1. Inclusion Criteria
The main criterion for inclusion of articles in the review was that the study had examined the effects of Sufi music therapy with makams on mental health outcomes. Studies which used Sufi music therapy with makams alongside other therapy methods like cognitive behaviour therapy or dance/art therapy were also included. The studies included the following: (1) Population: individuals (adults and/or children) with any mental health problem, except substance dependence and based on diagnosis or self-
report. (2) Intervention: music therapy with makams, defined as a) listening to music which has at least one specific makam (however it is described by the author) that is regarded as therapeutic or b) listening to Turkish classical music or Sufi instrumental music which has at least a makam (however described by the author) but the type of makam is not stated; (3) Outcomes: changes in any measures of mental health. Studies examining effects on physical health outcomes were also included if they contained at least one mental health outcome; and (4) Study type: Randomised controlled studies using any type of control (e.g. treatment as usual). Our ultimate aim was to consider only evidence from RCTs if there were enough to justify this approach. However, at the outset, inclusion criteria on study design were broad to ensure we had sufficient evidence on the state of research in this field.

3.2.2.2. Exclusion Criteria
Studies which dealt solely with other types of music therapies (rather than Sufi music therapy with makams), such as religious or other secular music in the therapy were excluded.

3.2.3. Primary Outcomes
With a view to possible meta-analyses, we aimed to group the studies found as follows. Anxiety was the primary outcome of this review, and other mental health outcomes such as depression were included as secondary outcomes. In terms of structure, we divided the studies into those 1) of a single application of the intervention with immediate outcome measurement and 2) interventions with more than one session of music and later time follow-up points.

3.2.4. Search Strategy
In order to identify relevant articles, a search of the following databases was conducted in July 2017 and March 2020: MedLine, PsyCINFO, the Web of Science, Science Direct, PsyCArticle, Cochrane Library, SCOPUS, CINAHL Plus, AMED, and ULAKBIM.
(Turkish database that includes religious studies literature) databases. Search terms relating to music therapy and mental health outcomes were combined using "and" and included the following: intervention terms; Sufi Music, music therapy, spiritual music, Islam, Sufism, Islamic Mysticism, Turkish makam/s, Turkish music, Turkish tunes, tasavvuf, Turkish music, music, Sufi, Turk; and outcome terms; mental health, psychiatric disorder, mental illness, stress, anxiety, depression, PTSD, trauma, intervention, mental well-being, depressive symptoms, mood. Papers published in academic peer-reviewed journals were included, as well as other sources such as chapters in edited books, or the grey literature. Articles published until March 2020 in Turkish and English were included. The reference sections of included articles were searched to identify additional studies.

The search results were screened, and duplicates were removed. Potentially relevant citations were identified by reviewing the titles and abstracts. Where citations appeared relevant, the full-text articles were retrieved, read in full and included in the review according to the eligibility criteria. The study selection process was carried out independently by three reviewers (RNGD, AA and MC). If there were disagreements between two reviewers, they were reviewed and discussed with the other authors to seek resolution.

3.2.5. Risk of Bias
The risk of bias was assessed according to the Cochrane guidelines for clinical trials. To assess the methodological quality of the articles the Cochrane Handbook for Systematic Reviews of Interventions (Higgins & Green, 2011) was used, and each article was assessed for selection, performance, detection, attrition and reporting bias (see Table 6 for full assessment).
3.2.6. Data Extraction and Analysis
For each eligible study details of the study design, along with demographic and clinical details, were extracted. If insufficient data were available, we attempted to contact the authors of the research paper. For outcomes reported as continuous, the means (m) and standard deviations (SD) at follow-up were extracted or generated. For dichotomous outcomes, the relative risk (RR) and confidence intervals (CI) at follow-up were extracted or generated.

For trials that assessed anxiety, we considered if appropriate to pool their outcome data to analyse in Review Manager 5.3 using a random effects model as reviewers assumed that there is likely to be some variability between trials. For this purpose, continuous outcomes standardised mean differences (SMDs) between trial arms were used to report outcome measures. The weighting of the studies in the meta-analyses depended on the confidence interval; the wider the confidence interval in comparison to other trials included, the less weight was given to a study. Evaluation of the effect sizes was conducted according to Cohen's criteria (Cohen, 1988), where an effect size of 0.2 was considered small, an effect size of 0.5 medium and an effect size of 0.8 was considered large.

We assessed statistical heterogeneity across the studies using the $I^2$ statistic, which measures the degree of real differences among the results of included studies and describes the proportion of variation among studies that is due to heterogeneity rather than chance (Higgins et al., 2003). An $I^2$ value of 0% to 40% was considered as not important or small, 30% to 60% as moderate, 50% to 90% as substantial, and 75% to 100% as considerable heterogeneity. We undertook appropriate subgroup analyses if there were substantial and/or considerable heterogeneity across studies.
Where a meta-analysis was possible, and if there were sufficient studies, a sensitivity analysis was undertaken whereby low-quality studies were removed, and the meta-analysis was re-run without these studies. It is often difficult to make a distinction between sensitivity analyses and subgroup analysis, we made this distinction at the sensitivity analysis, and did not attempt to evaluate the effect of the studies removed from the analysis (Deeks et al., 2019). The results of studies examining other outcomes, such as depression, were also explored. Subgroup analyses were performed for four sub-groups in our analysis: studies that measured Sufi music therapy with makams’ effects on anxiety, studies that measured other mental health outcomes, studies taking measurements at the end of a single therapy and studies taking measurements after repeated interventions.

3.2.7. Quality of the evidence
The quality of evidence was assessed using the GRADEpro GDT system, which was developed by the Grades of Recommendation, Assessment, Development and Evaluation (GRADE) Working Group. The GRADE system assesses the quality of the evidence in terms of five factors: methodological quality (risk of bias), the directness of evidence, unexplained heterogeneity or inconsistency of results (including problems with subgroup analyses), imprecision of the results (wide confidence intervals) and risk of publication bias for each individual outcome (Atkins et al., 2004).

The GRADE system uses the following criteria for assigning the quality of evidence:

• High: we are very confident that the true effect lies close to that of the estimate of the effect.

• Moderate: we are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of effect, but there is a possibility that it is substantially different.
• Low: our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect.

• Very low: we have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect (Atkins et al., 2004).

The grade rating system for evidence derived from a randomised control trial(s) starts as high. We decreased this rating by one (-1) or two (-2) (up to a maximum of -3 to 'very low') according to the following:

- serious (-1) or very serious (-2) limitation to methodological quality of the study (based on the risk of bias assessment)

- high level of inconsistency of direction of results across the studies (-1)

- some (-1) or major (-2) indirectness of the evidence (e.g. studies of mixed populations where only 50% of the sample fulfilled inclusion criteria)

- imprecision of the results (-1) (e.g., wide confidence levels)

- high possibility of publication bias (-1).

3.3. Results

3.3.1. Selection
The initial search was run in 2017, and an updated search was done in 2020 for the new studies published between 2017-2020. After removing duplicates (1,955) from the initial database search (5,908) in 2017, 3,953 references were examined by reviewing the titles/abstracts. In the update search in 2020, the titles/abstracts of 299 references were reviewed after removing duplicates (122) from the database search. A hundred sixty-three studies were considered potentially relevant, and their full texts were reviewed in depth (see Figure 5). Eleven further studies were identified as possibly relevant from the reference lists of these 163 publications. Thus, overall, 174 studies’
full texts were analysed. Ninety-seven articles were identified as descriptive studies and excluded from the review. A further 22 articles were excluded as their music therapy intervention did not include makams or Sufi Music and 15 papers were excluded because the outcomes of studies were not related to mental health. In addition, given that we had found sufficient randomised trials, we also decided to exclude from the analysis 14 papers that were not experimental studies and five that were not randomised trials (see figure 7).

After this selection process, 21 studies remained that met the final eligibility criteria and were included in this review (Aktaş & Karabulut, 2019; Bekiroğlu et al., 2013; Cantekin & Tan, 2013; Ciğerci & Özbayir, 2016; Çinar et al., 2016; Diri et al., 2019; Doğan & Şenturan, 2012; Ergin et al., 2018; Ergin & Çinar Yücel, 2019; Pinar & Tel, 2019; Surucu et al., 2018; İnanlıgil et al., 2020; Kocabaş & Khorshid, 2012; Ovayolu et al., 2006; Özdemir et al., 2019; Parlar Kilic et al., 2015; Sezer, 2012; Toker & Kömürcü, 2017; Uğraş et al., 2018; Ugur, et al., 2016; Zengin et al., 2013). All were randomised controlled trials.
3.3.2. Study Characteristics
The 21 included studies were conducted between 2005 and 2019 in Turkey (Table 4). The sample sizes ranged from 14 to 200 (mean= 84), and the age of participants ranged from 18 to 89 years. All the studies recruited men and women, apart from three studies (Kocabas & Khorshid, 2012; Surucu et al., 2018; Toker & Komurcu, 2017) that included only women. All studies used Sufi music therapy with a makam or range of makams as an intervention. Twenty studies were written in English and one in Turkish.
(Cinar et al., 2016). Participants in all studies diagnosed with pre-operative or intraoperative anxiety apart from six studies where the participants diagnosed with depression (Ugur et al., 2016), anger (Sezer, 2012), schizophrenia (Pinar & Tel, 2019), test anxiety (Inangil et al., 2020), and generalised anxiety disorder (Bekiroglu et al., 2013; Ergin & Yucel, 2019). More descriptive information on the included studies is presented in Table 4.

3.3.3. Interventions
All studies used only listening to Sufi music with makam/s as an intervention. Although makams differed among them, 16 of the studies used specific makam/s as an intervention (Bekiroglu et al., 2013; Cantekin & Tan, 2013; Cinar et al., 2016; Diri et al., 2019; Dogan & Senturan, 2012; Ergin & Yucel, 2019; Ergin et al., 2018; Inangil et al., 2020; Kocabas & Khorshid, 2012; Ozdemir et al., 2019; Parlar Kilic et al., 2015; Pinar & Tel, 2019; Surucu et al., 2018; Toker & Komurcu, 2017; Ugras et al., 2018; Zengin et al., 2013).
<table>
<thead>
<tr>
<th>Study</th>
<th>Subjects</th>
<th>Intervention</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aktas and Karabulut, 2019</td>
<td>Anxiety and pain of the patients undergoing the chest tube removal (CTR) procedure</td>
<td>Turkish Sufi music with ney-unspecified makam</td>
<td>No difference between groups in pain scores and anxiety</td>
</tr>
<tr>
<td>Bekiroglu et al., 2013</td>
<td>Hyper-tension and anxiety</td>
<td>Turkish classical music (Nihavend and Buselik makam)</td>
<td>Reduced Blood pressure and anxiety</td>
</tr>
</tbody>
</table>

**Table 4: Study characteristics of included studies in the systematic review**
<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Country</th>
<th>Study Design</th>
<th>Participants</th>
<th>Intervention</th>
<th>Outcome Measures</th>
<th>Randomisation</th>
<th>Blinding</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cantekin and Tan, 2011</td>
<td>2011</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>100</td>
<td>18+ Mixed F= 47 M= 53</td>
<td>Haemodialysis Stress and anxiety</td>
<td>Turkish music therapy (Rast and Usak makam)</td>
<td>3 times a week during haemodialysis sessions (4 week)</td>
<td>Haemodialysis Stressor Scale (HSS), and State-Trait Anxiety Inventory (STAI Form TX)</td>
</tr>
<tr>
<td>Cigerci and Ozbayır, 2011</td>
<td>2011</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>68</td>
<td>28-75 yrs Mixed F= 16 M= 52</td>
<td>Anxiety of the patients undergoing coronary artery surgery</td>
<td>Turkish classical and folk music (makam is unknown)</td>
<td>One hour 30 minutes before operation, once for 30 min in the Intensive Care Unit, 30 min every day in the ward</td>
<td>The visual analogue scale (VAS) - pain, and the State-Trait Anxiety Inventory (STAI-S and STAI-T)</td>
</tr>
<tr>
<td>Study</td>
<td>Year</td>
<td>Country</td>
<td>Study Design</td>
<td>Number</td>
<td>Age Range</td>
<td>Gender</td>
<td>Intervention</td>
<td>Outcome Measures</td>
<td>Data Collection</td>
</tr>
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<tr>
<td>Cinar et al., 2016</td>
<td>2013</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>60</td>
<td>30-75+ yrs</td>
<td>Mixed</td>
<td>Anxiety of the patients undergoing intracoronary stenting</td>
<td>Turkish classical music (Usak makam) During the coronary angiography State-Trait Anxiety Inventory, Visual Analogue Scale</td>
<td>Self-report Independent unblinded</td>
</tr>
<tr>
<td>Diri, Cetinkaya and Gul, 2019</td>
<td>2019</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>70</td>
<td>18+</td>
<td>Mixed</td>
<td>Anxiety of Patients undergoing urodynamic tests</td>
<td>Sufi music (instrumental ney music)-Huseyni makam Started 10 min before the procedure and continue during the procedure. Anxiety -STAI Pain -VAS Satisfaction - VAS Willingness to repeat the test - VAS</td>
<td>Self-report independent unblinded</td>
</tr>
<tr>
<td>Dogan and Şenturan, 2012</td>
<td>2012</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>200</td>
<td>18+</td>
<td>Mixed</td>
<td>intraoperative anxiety of the patients undergoing coronary angiography</td>
<td>Turkish music therapy (Huseyni makam) During the coronary angiography State-Trait Anxiety Inventory</td>
<td>Self-report unblinded</td>
</tr>
<tr>
<td>Study</td>
<td>Year</td>
<td>Country</td>
<td>Study Design</td>
<td>Age Range</td>
<td>Gender</td>
<td>Intervention Description</td>
<td>Outcome Measures</td>
<td>Study Type</td>
<td>Notes</td>
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<tr>
<td>Ergin and Yucel, 2019</td>
<td>2019</td>
<td>Turkey</td>
<td>Randomised controlled</td>
<td>56</td>
<td>60+</td>
<td>Anxiety of older people living in a nursing home</td>
<td>Classical Turkish music-Nihavend makam</td>
<td>30 min a day for 21 Days</td>
<td>48 Item General Comfort Questionnaire, Beck Anxiety Inventory (BAI), Mini-Mental State Examination (MMSE)</td>
</tr>
<tr>
<td>Ergin, Midilli, and Baysal, 2018</td>
<td>2018</td>
<td>Turkey</td>
<td>Randomised controlled</td>
<td>60</td>
<td>18+</td>
<td>Pain, anxiety, and patient satisfaction of patients with dyspnoea in Chest Diseases Service of a public hospital</td>
<td>Music therapy-huseyni makam</td>
<td>One session of 30 min</td>
<td>Anxiety -STAI, Dyspnea severity - VAS</td>
</tr>
<tr>
<td>Authors</td>
<td>Year</td>
<td>Country</td>
<td>Design</td>
<td>Participants</td>
<td>Age Range</td>
<td>Gender</td>
<td>Intervention</td>
<td>Duration</td>
<td>Outcome Measures</td>
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<tr>
<td>Inangil, Vural, Dogan and Korpe</td>
<td>2020</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>90</td>
<td>18-22 yrs</td>
<td>Mixed</td>
<td>F = 74, M = 16</td>
<td>nursing student's test anxiety</td>
<td>15 min. before an OSCE exam</td>
</tr>
<tr>
<td>Kocabas and Khorshid, 2011</td>
<td>2009</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>90</td>
<td>15-49 yrs</td>
<td>Female</td>
<td></td>
<td>anxiety related to gynaecological examination</td>
<td>During gynaecological examination</td>
</tr>
<tr>
<td>Ovayolu et al., 2006-2006</td>
<td>2005-2006</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>60</td>
<td>18-75 yrs</td>
<td>Mixed</td>
<td>F = 32, M = 28</td>
<td>anxiety, pain, dissatisfaction during the colonoscopy</td>
<td>Before and during the procedure</td>
</tr>
<tr>
<td>Ozdemir, Tasci, Yildizhan, Aslan and Eser, 2019</td>
<td>2019</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>30</td>
<td>18+</td>
<td>Mixed</td>
<td>30 min</td>
<td>Visual Analog Scale (VAS)</td>
<td>medication required by patients, decreased anxiety levels and pain scores significantly, increased satisfaction scores and patients' comfort and tolerance</td>
</tr>
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</tbody>
</table>
Parlar Kilic et al., 2012 | 2012 | Turkey | Randomised controlled trial | 200 | 18+ | Mixed | F= 94 M=106 | Pain, anxiety, and patient satisfaction in patients who present Turkish classical music (Acemasiran makam) | During the appearance at emergency services | The State–Trait Anxiety Inventory-State Anxiety Scale (STAI-S) and Visual Analog Scale- level of pain (VASP) | Independent single-blind | decreased pain and anxiety score and increased satisfaction score | bone marrow aspiration and biopsy but decreased pain and systolic and diastolic blood pressure, therefore increasing tolerance to the procedure
<p>| Pinar and Tel, 2019 | 2019 | Turkey | Randomised controlled trial | 28 | 20-58 yrs | Mixed gender | Schizophrenic patients who hospitalised in the psychiatry department of hospitals | Music – Rastmakam | 15 min whenever auditory hallucinations appeared during their stay in hospital | Assessment of positive symptoms of schizophrenia-SAPS | 7 items scale for the assessment of auditory hallucinations | 26 item Quality of life- WHOQAL-BREF | Self-report Unblinded | Positive effects on the positive symptoms and quality of life of the patients having auditory hallucination |</p>
<table>
<thead>
<tr>
<th>Authors, Year</th>
<th>Country</th>
<th>Study Design</th>
<th>Sample Size</th>
<th>Age</th>
<th>Gender</th>
<th>Intervention</th>
<th>Duration</th>
<th>Outcome Measures</th>
<th>Blinding</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sezer, 2012</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>14</td>
<td>18-23 yrs</td>
<td>Mixed F=8, M=6</td>
<td>Turkish Sufi Music (ney-reed flute)</td>
<td>40-45 min twice a week (7 weeks)</td>
<td>Brief Symptom Inventory, State Trait Anger Scale</td>
<td>Single-blind</td>
<td>Reduced anger and psychological symptoms</td>
</tr>
<tr>
<td>Surucu, et al., 2018</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>50</td>
<td>16-28 yrs</td>
<td>Female</td>
<td>Turkish Classical music-Acemasiran makam</td>
<td>3 hours (20 min listening, 10 min resting) during the active phase of labour</td>
<td>Pain –VAS, Anxiety -STAI</td>
<td>Unblinded</td>
<td>Significantly reduced anxiety level and reduced the pain level</td>
</tr>
<tr>
<td>Toker and Komurcu, 2017</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>70</td>
<td>18+ yrs</td>
<td>Female</td>
<td>Turkish classical music therapy (Nihavend and Buselik makams)</td>
<td>30 min a day for seven days</td>
<td>State trait anxiety inventory (STAI TX-I), The Newcastle satisfaction with nursing scale</td>
<td>Unknown</td>
<td>Increased satisfaction, decreased blood pressure, the positive effect</td>
</tr>
<tr>
<td>Procedure</td>
<td>Study Design</td>
<td>Sample Size</td>
<td>Population</td>
<td>Intervention</td>
<td>Primary Outcome</td>
<td>Secondary Outcomes</td>
<td></td>
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<tr>
<td>Preoperative anxiety reduction</td>
<td>Randomised controlled trial</td>
<td>65 F=53, M=127</td>
<td>Mixed</td>
<td>Turkish instrumental music with ney, Huseyni makam, and natural sounds</td>
<td>Reduced preoperative anxiety</td>
<td>Systolic blood pressure (SBP), diastolic blood pressure (DBP), heart rate (HR), cortisol levels</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No effect on anxiety level, minimalising effect on fatal movement counts, and non-stress test (NST)</td>
<td>For at least 30 min before the procedure in waiting room</td>
<td>State-Trait Anxiety Inventory (STAI-State anxiety part)</td>
<td>Independent self-report, double-blind, unknown</td>
<td>Classical western music, natural sounds, instrumental music, ney, Huseyni makam, and natural sounds</td>
<td>State-Trait Anxiety Inventory (STAI-State anxiety part)</td>
<td>Systolic blood pressure (SBP), diastolic blood pressure (DBP), heart rate (HR), cortisol levels</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Ugras et al., 2018 Turkey Randomised controlled trial 180 18-65 yrs 127

Preoperative anxiety reduction | Reduced preoperative anxiety | Systolic blood pressure (SBP), diastolic blood pressure (DBP), heart rate (HR), cortisol levels |
<p>| No effect on anxiety level, minimalising effect on fatal movement counts, and non-stress test (NST) | State-Trait Anxiety Inventory (STAI-State anxiety part) | Systolic blood pressure (SBP), diastolic blood pressure (DBP), heart rate (HR), cortisol levels |</p>
<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Country</th>
<th>Study Design</th>
<th>Sample Size</th>
<th>Age Range</th>
<th>Gender</th>
<th>Intervention</th>
<th>Duration</th>
<th>Measures</th>
<th>Randomisation</th>
<th>Blinding</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ugur et al., 2015</td>
<td>2015</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>64</td>
<td>76+ - 76</td>
<td>Mixed</td>
<td>Depression in elderly people and systolic blood pressure (SBP)</td>
<td>20 min 3 times a week (8 weeks)</td>
<td>Geriatric Depression Scale (GDS) and Elderly Information Form</td>
<td>Self-report single-blind</td>
<td>Decreased depression level and SBP</td>
<td></td>
</tr>
<tr>
<td>Zengin et al., 2013</td>
<td>2012</td>
<td>Turkey</td>
<td>Randomised controlled trial</td>
<td>100</td>
<td>18-75 yrs</td>
<td>Mixed</td>
<td>Pain and anxiety in patients undergoing port catheter placement procedure</td>
<td>Before, during and after the procedure</td>
<td>The state-trait anxiety inventory (STAI), and Visual Analogue Scale (VAS)</td>
<td>Independent Not blind</td>
<td>Reduced anxiety, pain, Blood Pressure, Heart Rate, and Respiratory Rate before, during, and after invasive procedures</td>
<td></td>
</tr>
</tbody>
</table>
One of the interventions used Turkish music with unspecified makams (Cigerci & Ozbayir, 2016), while four were described as Sufi music, also with unspecified makams (Aktas & Karabulut, 2019; Ovayolu et al., 2006; Sezer, 2012; Ugur et al., 2016). The specified makams used in the studies were as follows; both nihavend and buselik makam in two studies (Bekiroglu et al., 2013; Toker & Komurcu, 2017); only nihavend makam in two studies (Ergin & Yucel, 2019; Kocabas & Khorshid, 2012); rast and usak makam in one study (Cantekin & Tan, 2013); only rast makam in one study (Pinar & Tel, 2019); only usak makam in one study (Cinar et al., 2016); huseyni makam in four studies (Diri et al., 2019; Dogan & Senturan, 2012; Ergin et al., 2018; Ugras et al., 2018); mahur makam in one study (Inangil et al., 2020); and acemasiran makam in four studies (Ozdemir et al., 2019; Parlar Kilic et al., 2015; Surucu et al., 2018; Zengin et al., 2013).

The music therapy was compared with standard medical care (Aktas & Karabulut, 2019; Cantekin & Tan, 2013; Cigerci & Ozbayir, 2016; Cinar et al., 2016; Diri et al., 2019; Dogan & Senturan, 2012; Ergin et al., 2018; Kocabas & Khorshid, 2012; Ovayolu et al., 2006; Ozdemir et al., 2019; Parlar Kilic et al., 2015; Pinar & Tel, 2019; Surucu et al., 2018; Toker & Komurcu, 2017; Ugras et al., 2018; Zengin et al., 2013) or with no music (Bekiroglu et al., 2013; Ergin & Yucel, 2019; Inangil et al., 2020; Sezer, 2012; Ugur et al., 2016) (Types of control conditions varied as shown in table 5). None of the included studies investigated Sufi music therapy with concurrent therapies.

There was variation among studies in the number and duration of music therapy sessions provided. Whereas some studies used music therapy before, during and after an operation (Cinar et al., 2016; Diri, Cetinkaya & Gul, 2019; Dogan & Senturan, 2012; Ergin et al., 2018; Inangil et al., 2020; Kocabas & Khorshid, 2012; Ovayolu et
al., 2006; Ozdemir et al., 2019; Parlar Kilic et al., 2015; Surucu et al., 2018; Ugras et al., 2018; Zengin et al., 2013), others used it in regular sessions. The number of sessions ranged from one to 28 over five days to eight weeks, and each session lasted 15 to 60 minutes. Although there were differences in the number and times of measurement, almost all of the studies measured outcomes before and after the intervention; one study measured outcomes only after the intervention (Parlar Kilic et al., 2015), and one did not report when outcome assessments were carried out (Ovayolu et al., 2006) (see table 5).

Music was delivered either by headphones or stereo music players (Aktas & Karabulut, 2019; Cantekin & Tan, 2013; Cigerci & Ozbayir, 2016; Cinar et al., 2016; Diri et al., 2019; Dogan & Senturan, 2012; Ergin & Yucel, 2019; Ergin et al., 2018; Inangil et al., 2020; Kocabas & Khorshid, 2012; Ovayolu et al., 2006; Ozdemir et al., 2019; Parlar Kilic et al., 2015; Pinar & Tel, 2019; Surucu et al., 2018; Toker & Komurcu, 2017; Ugras et al., 2018; Zengin et al., 2013) or collectively in a group (Bekiroglu et al., 2013; Sezer, 2012, Ugur et al., 2016) (see table 5 for detailed information).
Table 5; Interventions of included studies

<table>
<thead>
<tr>
<th>Authors</th>
<th>Number included, gender and mean age of participants</th>
<th>Interventions</th>
<th>Control</th>
<th>Primary aim of study</th>
<th>Primary outcome (p) and secondary outcome (s)</th>
<th>Time-period</th>
<th>Time-point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aktas and Karabulut, 2019</td>
<td>120</td>
<td>Mixed gender</td>
<td></td>
<td>Treatment as usual (TAU)</td>
<td>Pain and anxiety following CTR among patients with cardiac surgery</td>
<td>30 min. during CTR</td>
<td>Before and immediately after CTR and 20 minute after CTR</td>
</tr>
<tr>
<td></td>
<td>91 males, 29 females</td>
<td>-Turkish Sufi music with ney-unspecified makam</td>
<td></td>
<td>Pain-Visual Analog Scale (VAS) (p)</td>
<td>Anxiety-State Trait Anxiety Inventory (STAI) (s)</td>
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<td></td>
<td>Mean ages:</td>
<td>-Cold therapy</td>
<td></td>
<td>Anxiety-State Trait Anxiety Inventory (STAI) (s)</td>
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<tr>
<td></td>
<td>Cold therapy:</td>
<td>-Lidocaine spray</td>
<td></td>
<td>Anxiety-State Trait Anxiety Inventory (STAI) (s)</td>
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<tr>
<td></td>
<td>62.60 (SD 12.11)</td>
<td></td>
<td></td>
<td>Anxiety-State Trait Anxiety Inventory (STAI) (s)</td>
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<td></td>
<td>Music therapy:</td>
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<td></td>
<td>Anxiety-State Trait Anxiety Inventory (STAI) (s)</td>
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<tr>
<td></td>
<td>64.13 (SD 9.59)</td>
<td></td>
<td></td>
<td>Anxiety-State Trait Anxiety Inventory (STAI) (s)</td>
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<td></td>
<td>Lidocaine spray</td>
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<td></td>
<td>Anxiety-State Trait Anxiety Inventory (STAI) (s)</td>
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<tr>
<td></td>
<td>64.80 (SD 7.07)</td>
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<td></td>
<td>Anxiety-State Trait Anxiety Inventory (STAI) (s)</td>
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<tr>
<td>Study</td>
<td>Participants</td>
<td>Intervention</td>
<td>Outcome Measures</td>
<td>Intervention Duration</td>
<td>Time Points</td>
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<tr>
<td>Bekiroglu et al., 2013</td>
<td>60 Mixed gender; 34 male, 26 female Age: between 60-89 yrs</td>
<td>Bed rest + no music intervention (Turkish music therapy Nihavend and Buselik makams)</td>
<td>Blood pressure of hypertension patients Blood pressure (p) Hamilton anxiety scale scores (s)</td>
<td>25 min every day for 28 days</td>
<td>Before and after intervention (exact time not specified)</td>
<td></td>
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<tr>
<td>Cantekin and Tan, 2011</td>
<td>100 Mixed gender; 53 male, 47 female Age: between 19-40+</td>
<td>Turkish music therapy (Turkish music therapy Rast and Usak makam) TAU</td>
<td>Treatment-related stress and anxiety of haemodialysis patients Haemodialysis Stressor Scale (HSS) (p) State–Trait Anxiety Inventory (STAI Form TX) (s)</td>
<td>3 times a week during haemodialysis sessions for 4 weeks</td>
<td>Before and after intervention (exact time not specified)</td>
<td></td>
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<tr>
<td>Study</td>
<td>Sample Size</td>
<td>Gender</td>
<td>Age Details</td>
<td>Interventions</td>
<td>Measures</td>
<td>Time Details</td>
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<tr>
<td>Cigerçi &amp; Özbayır, 2011</td>
<td>68</td>
<td>mixed</td>
<td>52 males, 16 females; mean age: 61.6 (SD 10.7) years;</td>
<td>TAU + No music Intervention</td>
<td>Anxiety in the patients undergoing coronary artery surgery</td>
<td>One hour before operation, 30 minutes every day in the ward</td>
<td></td>
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<tr>
<td>Cinar et al., 2016</td>
<td>60</td>
<td>mixed</td>
<td>40 males, 20 females; Age: between 30 - 75+</td>
<td>TAU + No music Intervention</td>
<td>Anxiety of the patients undergoing intracoronary stenting</td>
<td>During the coronary angiography</td>
<td></td>
</tr>
<tr>
<td>Diri, Cetinkaya &amp; Gul, 2019</td>
<td>70</td>
<td>mixed</td>
<td>30 males, 40 females; Mean age; Music therapy</td>
<td>TAU</td>
<td>Anxiety, pain, and stress level during UDS</td>
<td>Started 10 min before the procedure and continue during the procedure.</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Age</td>
<td>Gender</td>
<td>Intervention and Therapy Type</td>
<td>Outcome Measures</td>
<td>Timeline Details</td>
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<tr>
<td>Dogan &amp; Şenturan, 2012</td>
<td>18-60+</td>
<td>Mixed</td>
<td>200 Mixed gender; 140 male, 60 female</td>
<td>Turkish music therapy (Huseyni makam)</td>
<td>Mean arterial pressure and heart rates (s)</td>
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<td></td>
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<td></td>
<td>TAU + no music intervention</td>
<td>Intraoperative anxiety in coronary angiography patients</td>
<td>During the coronary angiography (exact time not specified)</td>
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<td></td>
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<td>10 minutes before the procedure and after intervention (exact time not specified)</td>
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<tr>
<td>Ergin &amp; Yucel, 2019</td>
<td>60+</td>
<td>Mixed</td>
<td>56 Mixed gender</td>
<td>Classical Turkish music-Nihavend makam</td>
<td>48 Item General Comfort Questionnaire (p)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>No music intervention</td>
<td>Comfort and anxiety in older adults living in nursing homes</td>
<td>30 min in a day for 21 Days</td>
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<td></td>
<td></td>
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<td>21 item Beck Anxiety Inventory (BAI) (p)</td>
<td>Before and the following day of intervention ended</td>
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<tr>
<td>Authors</td>
<td>N</td>
<td>Gender</td>
<td>Intervention</td>
<td>Measures</td>
<td>Time Duration</td>
<td>Before and after intervention (exact time not specified)</td>
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<tr>
<td>Ergin, Midilli, &amp; Baysal, 2018</td>
<td>60</td>
<td>Mixed gender; 36 males, 24 females</td>
<td>TAU+ Bed rest + no music intervention</td>
<td>The severity of dyspnea, anxiety, blood pressure, breathing rate, pulse rate, and blood oxygen levels in patients with dyspnea</td>
<td>One session of 30 min</td>
<td>Before and after intervention (exact time not specified)</td>
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<tr>
<td>Inangil, Vural, Dogan &amp; Korpe, 2020</td>
<td>90</td>
<td>Mixed gender; 16 males, 74 females</td>
<td>-Turkish classical music- in Mahur makam</td>
<td>Nursing student's test anxiety</td>
<td>20 item Situational Anxiety Scale - nursing student's</td>
<td>15 min. before an OSCE exam</td>
<td>Before and after intervention</td>
</tr>
<tr>
<td>Source</td>
<td>Participants</td>
<td>Interventions</td>
<td>Measures</td>
<td>Results</td>
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<tr>
<td>Kocabas &amp; Khorshid, 2011</td>
<td>90 Female</td>
<td>Turkish music therapy (Nihavend makam) + special gynaecological garment</td>
<td>Group one: TAU with a traditional one-piece drape</td>
<td>Group two: TAU+ special gynaecological garment</td>
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<td></td>
<td>Mean age; for control group 31.8</td>
<td></td>
<td>anxiety related to gynaecological examination</td>
<td>State-Trait Anxiety Inventory (p)</td>
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<td></td>
<td>(SD 8.7)</td>
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<td>During gynaecological examination</td>
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<td>For garment group 34.7</td>
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<td>Before and after intervention (exact time not specified)</td>
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<td></td>
<td>(SD 8.9)</td>
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<td>For garment and intervention group</td>
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<tr>
<td></td>
<td>34.8 (SD 9.8)</td>
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<tr>
<td>Ovayolu et al., 2006</td>
<td>60 Mixed gender; 28</td>
<td>Turkish Music (ney - reed flute)</td>
<td>TAU + No music intervention</td>
<td>Patient's anxiety, pain and dissatisfaction feelings</td>
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<td></td>
<td>State-Trait Anxiety Inventory (p)</td>
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<td>Before and during the procedure (apx. 30 min)</td>
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<tr>
<td>Study</td>
<td>Participants</td>
<td>Intervention</td>
<td>Outcome Measures</td>
<td>Time Points</td>
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<tr>
<td>Ozdemir et al., 2019</td>
<td>30 Mixed gender; 21 males, 9 females</td>
<td>TAU + No music intervention</td>
<td>Patient's pain and anxiety levels during bone marrow aspiration and biopsy procedures</td>
<td>Pain-VAS (p), 20 Item State Anxiety Inventory (State part of STAI) (p), blood pressure, pulse rates, and respiration rates; serum cortisol, ACTH (s) During the procedure (aprox. 30 min) Rest of the outcomes measured before and after intervention (exact time not specified)</td>
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<tr>
<td>Parlar Kilic et al., 2012</td>
<td>200 Mixed gender; 106 male, 94 female</td>
<td>Turkish classical Music (Acemasira n makam)</td>
<td>TAU + No music intervention</td>
<td>Pain, anxiety, and satisfaction in patients who present to the</td>
<td>State-Trait Anxiety Inventory (p), Visual Analogue Scale (s) During the appearance at emergency services</td>
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<tr>
<td>Group</td>
<td>Mean Ages</td>
<td>Intervention</td>
<td>Outcome Measure</td>
<td>Time of Measurement</td>
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<tr>
<td>Music Therapy Group</td>
<td>37.0 (SD 10.65)</td>
<td>TAU + No Music Intervention</td>
<td>Scale for assessment of positive symptoms of schizophrenia (SAPS) (p), 7-item scale for the assessment of auditory hallucinations (p), 26-item Quality of life-WHOQAL-BREF (p)</td>
<td>15 min whenever auditory hallucinations appeared during their stay in hospital.</td>
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<tr>
<td>Control Group</td>
<td>32.78 (SD 7.90)</td>
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<tr>
<td>Pinar &amp; Tel, 2019</td>
<td>28</td>
<td>Mixed Gender Turkish Music – Rast makam</td>
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<tr>
<td>Study &amp; Year</td>
<td>Participants</td>
<td>Gender</td>
<td>Mean Age</td>
<td>Treatment</td>
<td>Outcome Measures</td>
<td>Intervention Duration</td>
<td>Time of Measurement</td>
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<tr>
<td>Sezer, 2012</td>
<td>14</td>
<td>Mixed</td>
<td>20.7 (SD 1.48)</td>
<td>Turkish Sufi Music (ney- reed flute)</td>
<td>No music intervention</td>
<td>Undergraduate students’ anger and psychological symptoms</td>
<td>Brief Symptom Inventory (p) State Trait Anger Scale (p)</td>
</tr>
<tr>
<td>Surucu et al., 2018</td>
<td>50</td>
<td>Female</td>
<td>22.08 (SD 2.32) for the experimental Group: 21.04 (SD 3.06) for the control group</td>
<td>Turkish Classical music- Acemasira n makam</td>
<td>TAU + No music intervention</td>
<td>Pain and anxiety of women during labour on their first pregnancy.</td>
<td>Pain- VAS (p) State-Trait Anxiety Inventory- STAI (p)</td>
</tr>
<tr>
<td>Toker &amp; Komurcu, 2017</td>
<td>70</td>
<td>Female</td>
<td>30.64 (SD 5.81)</td>
<td>Turkish classical music therapy (Nihavend and Buselik makams)</td>
<td>TAU+ Bed rest + no music intervention</td>
<td>Anxiety in pregnant women with preeclampsia</td>
<td>State-Trait Anxiety Inventory (STAI TX-I) (p) Newcastle satisfaction with</td>
</tr>
<tr>
<td>Study</td>
<td>Participants</td>
<td>Intervention Details</td>
<td>Outcome Measures</td>
<td>Duration of Music Intervention</td>
<td>Before/After Procedure</td>
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</tbody>
</table>
| Ugras et al., 2018            | Mixed gender; 127 males, 53 females
Mean age: 35.7 (SD 11.2) | TAU + No music intervention - Turkish instrumental music with ney-Huseyni makam
-Natural sounds
-Classical western music
-Four seasons from Vivaldi | Preoperative anxiety State-Trait Anxiety Inventory (STAI-State anxiety part) (p)
systolic blood pressure (SBP),
diastolic blood pressure (DBP),
heart rate (HR) and cortisol levels (s) | For at least 30 min before the procedure in waiting room | Before and after the music intervention |
| Ugur et al., 2015             | Mixed gender; 42 males, 22 females
Mean age: 75.00 (SD 8.19) | No music intervention - Turkish Traditional Music and Turkish Sufi Music | Depression in elderly people Geriatric Depression Scale scores (GDS) (p)
Physiological parameters via recorded in
3 times a week for 8 weeks (20 min) | Before and after intervention (exact time not specified) | Before and after intervention |
<table>
<thead>
<tr>
<th>Study (Zengin et al., 2013)</th>
<th>Participants</th>
<th>Intervention</th>
<th>Outcome Measures</th>
<th>Time Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elderly Information Form(s)</strong></td>
<td>100 Mixed gender; 52 male, 48 females</td>
<td>TAU + surgery</td>
<td>Patients' stress hormones, physiologic parameters, pain, and anxiety state during port catheter placement procedures (PCPPs)</td>
<td>Before, during and after the procedure</td>
</tr>
<tr>
<td><strong>Turkish classical music</strong> (Acemasira makam)</td>
<td>TAU + intervention + No music</td>
<td>Before and after intervention (exact time not specified)</td>
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</table>
3.3.4. Quality Assessment

Eleven of the studies were of low methodological quality (Bekiroglu et al., 2013; Cantekin & Tan, 2013; Cinar et al., 2016; Cigerci & Ozbayir, 2016; Dogan & Senturan, 2012; Ergin & Yucel, 2019; Kocabas & Khorshid, 2012; Ovayolu et al., 2006; Parlar Kilic et al., 2015; Pinar & Tel, 2019; Sezer, 2012,), while eight studies had moderate methodological quality (Ergin et al., 2018; Inangil et al., 2020; Ozdemir et al., 2019; Surucu et al., 2018; Toker & Komurcu, 2017; Ugras et al., 2018; Ugur et al., 2016; Zengin et al., 2013). Only two of the studies were of high methodological quality (Aktas & Karabulut, 2019; Diri et al., 2019). The most common reasons for low scores were a lack of blinding of participants or health personnel due to the nature of interventions and unclear risk of selective reporting of outcomes. Insufficient information on whether outcome assessments were conducted blind to group membership was also a reason for low scores. Long term attrition bias was not applicable to most studies because outcomes were assessed immediately following the intervention.

See Table 6 for the full assessment of the risk of bias of individual studies.
### Table 6: Assessment of risk of bias

<table>
<thead>
<tr>
<th>Author</th>
<th>Random Sequence Generation</th>
<th>Allocation Concealment</th>
<th>Blinding of participants and personnel</th>
<th>Blinding of outcome assessment</th>
<th>Incomplete outcome data (short term 1 day - 6 weeks)</th>
<th>Incomplete outcome data (long term &gt;6 weeks)</th>
<th>Selective reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aktas and Karabulut, 2019</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>N/A</td>
<td>+</td>
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</tr>
<tr>
<td>Bekiroglu et al., 2013</td>
<td>?</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>N/A</td>
<td>+</td>
</tr>
<tr>
<td>Cantekin and Tan, 2011</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>N/A</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cigerci and Ozbayir, 2015</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>N/A</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cinar et al., 2016</td>
<td>?</td>
<td>?</td>
<td>-</td>
<td>+</td>
<td>N/A</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Diri, Cetinkaya and Gul, 2019</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>N/A</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Dogan and Senturan, 2012</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>?</td>
<td>+</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Ergin and Yucel, 2019</td>
<td>-</td>
<td>-</td>
<td>?</td>
<td>+</td>
<td>N/A</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Ergin, Midilli, and Baysal, 2018</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>?</td>
<td>+</td>
<td>N/A</td>
<td>+</td>
</tr>
<tr>
<td>Inangil et al., 2020</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>?</td>
<td>+</td>
<td>N/A</td>
<td>+</td>
</tr>
<tr>
<td>Kocabas and Khorshid, 2011</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>N/A</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Ovayolu et al., 2006</td>
<td>+</td>
<td>?</td>
<td>-</td>
<td>+</td>
<td>N/A</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Ozdemir et al., 2019</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>N/A</td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>
### 3.3.5. Primary Outcome: Anxiety

Anxiety was the primary outcome of 15 studies (Cigerci & Ozbayir, 2016; Cinar et al., 2016; Diri et al., 2019; Dogan & Senturan, 2012; Ergin & Yucel, 2019; Ergin et al., 2018; Inangil et al., 2020; Kocabas & Khorshid, 2012; Ovayolu et al., 2006; Ozdemir et al., 2019; Parlar Kilic et al., 2015; Surucu et al., 2018; Toker & Komurcu, 2017; Ugras et al., 2018; Zengin et al., 2013) and was measured in each case by the State-Trait Anxiety Inventory (STAI). Only one study measured anxiety as a primary outcome using the Beck Anxiety Inventory (Ergin & Yucel, 2019). Three studies measured anxiety as a secondary outcome using the STAI (Aktas & Karabulut, 2019; Cantekin & Tan, 2013) or the Hamilton Anxiety Scale (HAM-A) (Bekiroglu et al., 2013).
3.3.6. Synthesis of Results

3.3.6.1. Meta-analysis of Sufi music therapy with makams’ effects on anxiety in comparison to TAU/ no intervention

A total of 18 studies (Aktas & Karabulut, 2019; Bekiroglu et al., 2013; Cantekin & Tan, 2013; Cigerci & Ozbayir, 2016; Cinar et al., 2016; Diri et al., 2019; Dogan & Senturan, 2012; Ergin & Yucel, 2019; Ergin et al., 2018; Inangil et al., 2020; Kocabas & Khorshid, 2012; Ovayolu et al., 2006; Ozdemir et al., 2019; Parlar Kilic et al., 2015; Surucu et al., 2018; Toker & Komurcu, 2017; Ugras et al., 2018; Zengin et al., 2013) with 1454 participants were included in a random-effects model for anxiety. The overall standardised mean difference (SMD) of those studies suggests that there is likely to be a real effect favouring Sufi music interventions with makams (SMD= -1.15, 95% CI, -1.64 to -0.65). However, the test for statistical heterogeneity indicated the results were significantly inconsistent across the studies ($I^2 = 94\%$). The forest plot and results of this meta-analysis are shown in Figure 8.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Music therapy</th>
<th>Treatment as usual</th>
<th>Std. Mean Difference IV, Random, 95% CI</th>
<th>Std. Mean Difference IV, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aktas and Karabulut, 2019</td>
<td>35.1 2.83</td>
<td>30 36.73 2.22</td>
<td>39 5.6%</td>
<td>-0.66 (-1.15, -0.11)</td>
</tr>
<tr>
<td>Bekiroglu et al., 2013</td>
<td>11.93 1.14</td>
<td>50 15.23 0.11</td>
<td>39 5.6%</td>
<td>-0.56 (-1.06, -0.06)</td>
</tr>
<tr>
<td>Cantekin &amp; Tan, 2011</td>
<td>50.2 6.1</td>
<td>50 52.4 3.7</td>
<td>59 5.6%</td>
<td>-0.43 (-0.83, -0.03)</td>
</tr>
<tr>
<td>Cigerci &amp; Ozbayir, 2015</td>
<td>38.6 5.1</td>
<td>24 46.2 6.2</td>
<td>34 5.6%</td>
<td>-0.38 (-0.83, 0.12)</td>
</tr>
<tr>
<td>Cinar et al., 2016</td>
<td>31.5 5.85</td>
<td>30 36.57 6.15</td>
<td>39 5.6%</td>
<td>-0.65 (-1.07, -0.04)</td>
</tr>
<tr>
<td>Diri, Codrinca &amp; Bil, 2019</td>
<td>46.4 6.5</td>
<td>32 47.7 7.75</td>
<td>39 5.6%</td>
<td>-0.18 (-0.68, 0.30)</td>
</tr>
<tr>
<td>Dogan and Senturan, 2012</td>
<td>31.07 5.0</td>
<td>160 39.6 1.4</td>
<td>109 5.6%</td>
<td>-0.70 (4.14, -3.24)</td>
</tr>
<tr>
<td>Ergin &amp; Yucel, 2019</td>
<td>5.57 4.69</td>
<td>28 11.32 8.15</td>
<td>29 5.6%</td>
<td>-1.16 (-1.75, -0.59)</td>
</tr>
<tr>
<td>Ergin, Misalli, and Baykut, 2018</td>
<td>31.73 9.29</td>
<td>30 38.16 9.54</td>
<td>39 5.6%</td>
<td>-0.67 (-1.26, -0.08)</td>
</tr>
<tr>
<td>Inangil et al., 2020</td>
<td>44.5 7.25</td>
<td>30 56 14.5</td>
<td>39 5.6%</td>
<td>-0.99 (-1.52, -0.46)</td>
</tr>
<tr>
<td>Kocabas and Kohnecht, 2011</td>
<td>32.33 7.36</td>
<td>30 38.76 9.47</td>
<td>39 5.6%</td>
<td>-0.70 (-1.26, -0.24)</td>
</tr>
<tr>
<td>Okyildiz et al., 2009</td>
<td>36.7 2.2</td>
<td>30 51 1.6</td>
<td>39 4.1%</td>
<td>-0.57 (-0.32, -0.83)</td>
</tr>
<tr>
<td>Ozdemir et al., 2015</td>
<td>44.26 5.15</td>
<td>14 43.76 7.85</td>
<td>19 5.6%</td>
<td>0.38 (0.64, 0.70)</td>
</tr>
<tr>
<td>Parlar Kilic et al., 2012</td>
<td>39.98 5.7</td>
<td>102 43.91 5.7</td>
<td>102 5.6%</td>
<td>-0.50 (-1.19, -0.01)</td>
</tr>
<tr>
<td>Surucu et al., 2019</td>
<td>43.2 6.61</td>
<td>25 68.46 7.91</td>
<td>25 5.6%</td>
<td>-3.11 (3.36, -2.86)</td>
</tr>
<tr>
<td>Toker and Komurcu, 2017</td>
<td>43.06 6.69</td>
<td>25 42.24 7.55</td>
<td>35 5.6%</td>
<td>0.24 (0.23, 0.71)</td>
</tr>
<tr>
<td>Ugras et al., 2018</td>
<td>35.44 7.65</td>
<td>45 44.06 8.47</td>
<td>45 5.6%</td>
<td>-1.21 (-1.66, -0.76)</td>
</tr>
<tr>
<td>Zengin et al., 2013</td>
<td>30.74 8.44</td>
<td>60 43.26 8.92</td>
<td>50 5.6%</td>
<td>-0.36 (-0.96, 0.24)</td>
</tr>
</tbody>
</table>

Total (95% CI) 728 728 100.0% -1.15 [-1.64, -0.65]

Figure 8: The forest plot and results of meta-analysis of music therapy with makams’ effects on anxiety against treatment as usual (TAU)
In figure 9, the funnel plot for Sufi makam music's effect on anxiety reveals possible publication bias, probably on the basis that positive results are more likely than negative to be published (Egger et al., 1997). Another source of this asymmetry could be the variation in methodological quality. Finally, there are limitations to the interpretation of this plot, and this asymmetric result may arise by chance.

According to the GRADE criteria for quality (Atkins et al., 2004:1490), the evidence of Sufi music with makams' effect on anxiety is rated as very low, because of serious risk of bias and very serious inconsistency across the studies (see table 7, figure 13 and figure 14).

*Figure 9: The funnel plot for music therapy with makams' effects on anxiety against treatment as usual (TAU)*
Table 7: GRADE table for music therapy with makams’ effect on anxiety against treatment as usual (TAU)

<table>
<thead>
<tr>
<th>Certainty assessment</th>
<th>No of studies</th>
<th>Study design</th>
<th>Risk of bias</th>
<th>Inconsistency</th>
<th>Indirectness</th>
<th>Imprecision</th>
<th>Other considerations</th>
<th>No patients</th>
<th>Effect of patients</th>
<th>Effect size</th>
<th>Certainty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>RCTs</td>
<td>serious</td>
<td>very serious</td>
<td>not serious</td>
<td>not serious</td>
<td>publication bias strongly suspected strong association</td>
<td>726</td>
<td>728</td>
<td>SMD -1.15 SD (-1.64 to -0.65)</td>
<td>ØØØØ</td>
</tr>
</tbody>
</table>
| CI: Confidence interval; SMD: Standardised mean difference; SD: Standard Deviation; MD: Mean difference

3.3.6.2. Sensitivity Analysis of primary outcome

As part of the sensitivity analysis of studies that used the STAI as well as HAM-A and BAI to measure anxiety, studies with a high risk of bias (Bekiroglu et al., 2013; Cantekin & Tan, 2011; Cigerci & Ozbayir, 2015; Cinar et al., 2016; Dogan & Senturan, 2012; Ergin & Yucel, 2019; Kocabas & Khorshid, 2012; Ovayolu et al., 2006; Parlar Kilic et al., 2015) were excluded. The combined SMD for the nine remaining studies (Aktas & Karabulut, 2019; Diri et al., 2019; Ergin et al., 2018; Inangil et al., 2020; Ozdemir et al., 2019; Surucu et al., 2018; Toker & Komurcu, 2017; Ugras et al., 2018; Zengin et al., 2013) with a total sample size of 590 participants was -0.74 (95% CI, -1.22, -0.26; $I^2$= 87%). The overall SMD of those studies suggests a significant effect but considerable variance across them (heterogeneity) (see figure 10).
3.3.6.3. Sub-group analysis of music therapy’s effects on anxiety

Type of outcome

To explore where the inconsistency lies among studies, subgroup analyses were conducted. Heterogeneity was unlikely to be due to music types which did not differ across the studies; 15 studies used music with a specific makam/s intervention (Bekiroglu et al., 2013; Cantekin & Tan, 2013; Cinar et al., 2016; Diri et al., 2019; Dogan & Senturan, 2012; Ergin & Yucel, 2019; Ergin et al., 2018; Inangil et al., 2020; Kocabas & Khorshid, 2012; Ozdemir et al., 2019; Parlar Kilic et al., 2015; Surucu et al., 2018; Toker & Komurcu, 2017; Ugras et al., 2018; Zengin et al., 2013), one study used Turkish music with unspecified makams (Cigerci & Ozbayir, 2016) and two used Sufi music with an unspecified makam (Aktas & Karabulut, 2019; Ovayolu et al., 2006). However, grouping studies by the type of outcome (state anxiety [n=1278] and anxiety in general [n=176]) revealed the source of the inconsistency between studies (see figure 11). For state anxiety, the combined SMD for 15 studies with a total of 1278 participants (Aktas & Karabulut, 2019; Cantekin & Tan, 2013; Cigerci & Ozbayir, 2016; Cinar et al., 2016; Diri et al., 2019; Dogan & Senturan, 2012; Ergin et al., 2018; Inangil et al., 2020; Kocabas & Khorshid, 2012; Ozdemir et al., 2019; Parlar Kilic et al., 2015; Surucu et al., 2018; Toker & Komurcu, 2017; Ugras et al., 2018; Zengin et al., 2013) was -0.90 (95% CI, -1.40 to -0.41; \( p < 0.00001 \); \( I^2 = 94\% \)). This result indicated a
significant effect but with continued high variance across studies (heterogeneity), possibly due to the outliers whose results were disparate from the remaining studies (Surucu et al., 2018; Dogan & Senturan, 2012). The results without these two studies (Surucu et al., 2018; Dogan & Senturan, 2012) showed a reduced effect size (SMD -0.55; 95% CI, -0.77, to -0.33; \( p = 0.0007 \)) but also a reduction in variance resulting in an improvement in the moderate level of heterogeneity \( (I^2 = 65\%) \).

**Repetitions of intervention’s effects on anxiety**

We conducted subgroup analyses of studies with a single therapy or those with repeated applications in order to explore further where the inconsistency lay across studies. The combined SMD of five studies with a total of 354 participants (Bekiroglu et al., 2013; Cantekin & Tan, 2013; Cigerci & Ozbayir, 2016; Ergin & Yucel, 2019; Toker & Komurcu, 2017) with a repeated music intervention model applied for varied periods was significant with a substantial level of heterogeneity [SMD-0.44 (95% CI, -0.84 to -0.03; \( p = 0.006; I^2 = 72\% \)]. However, studies that examined Sufi music with
makam in a single application during operations or procedures with a total of 1100 participants (Aktas & Karabulut, 2019; Cinar et al., 2016; Diri et al., 2019; Dogan & Senturan, 2012; Ergin et al., 2018; Inangil et al., 2020; Kocabas & Khorshid, 2012; Ovayolu et al., 2006; Ozdemir et al., 2019; Parlar Kilic et al., 2015; Surucu et al., 2018; Ugras et al., 2018; Zengin et al., 2013) had a statistically significant effect on anxiety [SMD-1.44 (95% CI, -2.09 to -0.79; p < 0.00001; I² = 95%)], albeit with significant variation across studies. The forest plot and results of subgroup analyses are illustrated in Figure 12.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Music therapy Mean</th>
<th>SD</th>
<th>Total</th>
<th>Treatment as usual Mean</th>
<th>SD</th>
<th>Total</th>
<th>Weight</th>
<th>IV, Random, 95% CI</th>
<th>Std. Mean Difference IV, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.1 The studies with the therapy applied in a single session or during a procedure</td>
<td>Aktas and Karabulut, 2019</td>
<td>35.1</td>
<td>2.93</td>
<td>30</td>
<td>38.73</td>
<td>2.22</td>
<td>30</td>
<td>5.6%</td>
<td>-0.63 (1.15, -0.11)</td>
</tr>
<tr>
<td></td>
<td>Cinar et al., 2016</td>
<td>33.2</td>
<td>5.95</td>
<td>30</td>
<td>35.57</td>
<td>6.15</td>
<td>30</td>
<td>5.6%</td>
<td>-0.59 (1.47, -0.04)</td>
</tr>
<tr>
<td></td>
<td>Diri, Cetinkaya, and So, 2019</td>
<td>48.4</td>
<td>8.5</td>
<td>35</td>
<td>47.77</td>
<td>7.75</td>
<td>35</td>
<td>5.7%</td>
<td>-0.16 (0.05, -0.29)</td>
</tr>
<tr>
<td></td>
<td>Dogan and Senturan, 2012</td>
<td>31.07</td>
<td>0.98</td>
<td>100</td>
<td>35.8</td>
<td>1.42</td>
<td>100</td>
<td>5.7%</td>
<td>-3.76 (4.16, -3.34)</td>
</tr>
<tr>
<td></td>
<td>Ergin, Kolideli, and Bilir, 2019</td>
<td>31.73</td>
<td>9.28</td>
<td>30</td>
<td>33.16</td>
<td>9.64</td>
<td>30</td>
<td>5.6%</td>
<td>-0.67 (1.20, -0.15)</td>
</tr>
<tr>
<td></td>
<td>Inangil et al., 2020</td>
<td>44.5</td>
<td>7.25</td>
<td>30</td>
<td>68</td>
<td>14.5</td>
<td>30</td>
<td>5.6%</td>
<td>-0.69 (1.63, -0.45)</td>
</tr>
<tr>
<td></td>
<td>Kocabas and Khorshid, 2011</td>
<td>52.33</td>
<td>8.38</td>
<td>30</td>
<td>38.76</td>
<td>9.87</td>
<td>30</td>
<td>5.8%</td>
<td>-0.76 (1.35, -0.24)</td>
</tr>
<tr>
<td></td>
<td>Ozalbas et al., 2016</td>
<td>36.7</td>
<td>2.2</td>
<td>30</td>
<td>61</td>
<td>1.8</td>
<td>30</td>
<td>4.1%</td>
<td>-0.67 (0.38, -0.56)</td>
</tr>
<tr>
<td></td>
<td>Ozdemir et al., 2019</td>
<td>44.28</td>
<td>5.75</td>
<td>14</td>
<td>43.76</td>
<td>7.65</td>
<td>16</td>
<td>5.8%</td>
<td>0.06 (0.04, 0.70)</td>
</tr>
<tr>
<td></td>
<td>Parlar Kilic et al., 2012</td>
<td>42.58</td>
<td>3.7</td>
<td>160</td>
<td>43.31</td>
<td>5.7</td>
<td>100</td>
<td>5.9%</td>
<td>-0.69 (1.19, -0.61)</td>
</tr>
<tr>
<td></td>
<td>Surucu et al., 2018</td>
<td>43.2</td>
<td>5.15</td>
<td>25</td>
<td>66.48</td>
<td>7.16</td>
<td>25</td>
<td>5.1%</td>
<td>-1.11 (1.85, -0.22)</td>
</tr>
<tr>
<td></td>
<td>Ugras et al., 2018</td>
<td>35.44</td>
<td>7.61</td>
<td>45</td>
<td>44.69</td>
<td>8.47</td>
<td>45</td>
<td>5.7%</td>
<td>-1.21 (1.68, -0.70)</td>
</tr>
<tr>
<td></td>
<td>Zengin et al., 2012</td>
<td>38.74</td>
<td>9.84</td>
<td>30</td>
<td>43.26</td>
<td>9.92</td>
<td>30</td>
<td>5.6%</td>
<td>-0.66 (0.06, -1.06)</td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>549</td>
<td>551</td>
<td>71.0%</td>
<td>5.44 (2.09, -0.79)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: T² = 1.31, Ch² = 250.84, df = 12 (P < 0.00001), I² = 65%
Test for overall effect Z = 4.39 (P < 0.0001)

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Music therapy Mean</th>
<th>SD</th>
<th>Total</th>
<th>Treatment as usual Mean</th>
<th>SD</th>
<th>Total</th>
<th>Weight</th>
<th>IV, Random, 95% CI</th>
<th>Std. Mean Difference IV, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.2 The studies with repeated applications where more than one session was provided</td>
<td>Akbaba and Karnic, 2013</td>
<td>11.93</td>
<td>1.14</td>
<td>30</td>
<td>15.23</td>
<td>1.31</td>
<td>30</td>
<td>5.6%</td>
<td>-0.56 (1.40, -0.60)</td>
</tr>
<tr>
<td></td>
<td>Cetinkaya and Tan, 2011</td>
<td>53.2</td>
<td>6.1</td>
<td>60</td>
<td>52.24</td>
<td>3.7</td>
<td>50</td>
<td>5.8%</td>
<td>-0.43 (0.93, -0.83)</td>
</tr>
<tr>
<td></td>
<td>Cigdem and Ozbayr, 2015</td>
<td>38.1</td>
<td>5.1</td>
<td>34</td>
<td>40.3</td>
<td>6.5</td>
<td>34</td>
<td>5.7%</td>
<td>-0.38 (0.03, 0.12)</td>
</tr>
<tr>
<td></td>
<td>Ergin and Varol, 2017</td>
<td>53.7</td>
<td>4.59</td>
<td>20</td>
<td>11.32</td>
<td>0.38</td>
<td>20</td>
<td>5.6%</td>
<td>-1.16 (1.73, -0.59)</td>
</tr>
<tr>
<td></td>
<td>Taker and Koruncu, 2018</td>
<td>423.86</td>
<td>463.6</td>
<td>35</td>
<td>423.34</td>
<td>7.65</td>
<td>35</td>
<td>5.7%</td>
<td>0.24 (0.23, 0.71)</td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>177</td>
<td>177</td>
<td>28.4%</td>
<td>-0.44 (0.6, -0.83)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: T² = 0.15, Ch² = 14.34, df = 4 (P = 0.0001), I² = 72%
Test for overall effect Z = 2.10 (P = 0.04)

| Total (95% CI) | 728 | 728 | 100.0% | -1.65 (1.64, -0.65) |

Heterogeneity: T² = 1.65, Ch² = 361.94, df = 17 (P < 0.00001), I² = 64%
Test for overall effect Z = 4.55 (P < 0.00001)
Test for subgroup differences: Ch² = 6.68, df = 1 (P = 0.01), I² = 84.9%

Figure 12: The forest plot and results of subgroup analyses in terms of repetition of music therapy intervention

### 3.3.7. Secondary Outcomes

Other mental health outcomes, including depression, stress, anger, and other psychological symptoms, are secondary outcomes of this review.
Music therapy's effects on depression were measured as an outcome in one study. Ugur et al. (2017) measured depression as a primary outcome using the Geriatric Depression Scale (GDS) and reported that Sufi music with makams had a significant effect on depression (with Mean Difference [MD] -0.71, 95% CI -1.21, -0.20; \( p < 0.006 \)).

Cantekin and Tan (2013) measured stress in 100 patients undergoing haemodialysis by means of the Haemodialysis Stressor Scale (HSS) and found that Sufi music therapy with makams had a statistically significant effect (MD = -1.17; 95% CI, -1.59 to -0.74; \( p < 0.00001 \)). The primary outcomes of Sezer's (2012) study with a total of only 14 participants were anger measured by the State-Trait Anger Scale and psychological symptoms measured by the Brief Symptom Inventory. However, neither result was statistically significant. Pinar and Tel (2019) found that Sufi music using makams had no beneficial effect on positive symptoms of schizophrenia with total of 28 participants using the Scale for Assessment of Positive Symptoms of Schizophrenia (MD = 2.86, 95% CI, -12.08 to 17.80, \( p < 0.71 \)).

![Risk of bias graph]

*Figure 13: Risk of bias graph: risk of bias percentages across all included studies*
Figure 14: Risk of bias summary: review authors' judgements about each risk of bias item for each included study.

<table>
<thead>
<tr>
<th>Study</th>
<th>Random sequence generation (selection bias)</th>
<th>Allocation concealment (selection bias)</th>
<th>Blinding of participants and personnel (performance bias)</th>
<th>Blinding of outcome assessment (detection bias)</th>
<th>Incomplete outcome data (attrition bias): short term 1 day - 6 weeks</th>
<th>Incomplete outcome data (attrition bias): long term &gt;6 weeks</th>
<th>Selective reporting (reporting bias)</th>
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3.4. Discussion
3.4.1. Summary of main findings
This systematic review identified 21 eligible randomised trials evaluating the effect of Sufi music therapy with makams on mental health outcomes, of which 18 were included in a meta-analysis totalling 1454 participants. The meta-analysis found that Sufi makam music significantly reduced anxiety. However, the evidence for all the outcomes is of limited quality. For our primary outcome anxiety, we judged the evidence using GRADE as very low quality because of publication bias, risk of bias and inconsistency. Only one study reported that Sufi music therapy with makams had a significant effect on depression, but this was also of lower quality.

In the 18 trials investigating Sufi makam music's effect on anxiety, those that measured outcomes after a single session appeared to have a more beneficial effect on levels of anxiety than interventions where more than one session was provided. However, the mechanism by which this music reduced anxiety was unclear. It might be related to music's distractive nature, similar to the effects of other distractive activity during surgery or an intervention such as aromatherapy (Wotman et al., 2017) or nature-based sounds (Amiri et al., 2017). Moreover, the results might be due to a chance as it seems counterintuitive. Nevertheless, our findings suggest that Sufi makam music might have the most beneficial effect when giving once during a medical or surgical procedure rather than given repeatedly and thereby this less intensive intervention may be more usefully tested in future trials.

It is noteworthy that Sufi makam music’s effect on anxiety was limited to state anxiety, which is defined as people's anxiety about a specific situation (Spielberger, 1971). Three studies (Bekiroglu et al., 2013; Ergin & Yucel, 2019; Ovayolu et al., 2006) that presented results without distinguishing state-trait anxiety found insufficient evidence to support any beneficial effect. In the remaining 15 studies (Aktas & Karabulut, 2019;
Cantekin & Tan, 2013; Cigerci & Ozbayir, 2016; Cinar et al., 2016; Diri et al., 2019; Dogan & Senturan, 2012; Ergin et al., 2018; Inangil et al., 2020; Kocabas & Khorshid, 2012; Ozdemir et al., 2019; Parlar Kilic et al., 2015; Surucu et al., 2018; Toker & Komurcu, 2017; Ugras et al., 2018; Zengin et al., 2013) there was evidence of a beneficial effect of Sufi makam music therapy on state anxiety. This suggests that Sufi music therapy with makams might be most useful in reducing anxiety in specific situations like a surgical or medical procedure. However, in recent decades, several studies have illustrated the beneficial effect of music listening on preoperative and postoperative anxiety, irrespective of the type of music (Bradt et al., 2013; Graff et al., 2019; Hole et al., 2015). This indicates that the beneficial effect of listening to music during the perioperative period, may not be specific to Sufi music but rather to music in general. Therefore, there is a need for comparative trials to evaluate the specific effects of Sufi makam music compared with other types of music on state anxiety, alongside a need for further evaluation of the effects of Sufi makam music in other situations.

Our results suggest that while Sufi makam music may reduce depression, anxiety and the stress of haemodialysis, it has no benefit in reducing anger and positive symptoms of schizophrenia. However, the overall quality of the studies, their small sample sizes that were likely to be under-powered and the high levels of heterogeneity between study results mean that their findings should be interpreted with considerable caution and further evaluation is needed.

3.4.2. Delivery of the music, outcomes and generalisability
All the participants passively listened to recorded music preselected by the researcher, except in one study (Cigerci & Ozbayir, 2016), where participants indicated their
preference for music. Because of this lack of focus on participants' preferences or their musical backgrounds, the effects of individualised interventions were not examined.

The most common outcome measure in the studies included in this review was anxiety measured using the STAI, which is a valid and reliable scale. One study (Bekiroglu et al., 2013) used the HAM-A scale, which also has good psychometric properties (Thompson, 2015), and one study (Ergin & Yucel, 2019) used the BAI scale, which is a reliable and valid measure (Julian, 2011). Therefore, general reliability and validity of the studies' measurements give credence to the evidence evaluated.

The results of our review have limited generalisability as all the studies took place in Turkey, and most of the studies included speaking and understanding the Turkish language as an inclusion criterion. Thus, our results cannot be generalised to other cultures, populations or age groups due to insufficient evidence.

3.4.3. Quality of the studies and evidence derived
Only two of the studies (Aktas & Karabulut, 2019; Diri et al., 2019) were rated as high quality. For this reason, extracting data from the papers was at times problematic, for example, some papers' results contained unusually narrow confidence intervals (Bekiroglu et al., 2013; Dogan & Senturan, 2012; Ovayolu et al., 2006) or unclear study methods and designs. To clarify missing or unusual data, and to check unclear information about studies, authors (Bekiroglu, T.; Ergun, G.; Gulsen, M.; Ovayolu, N.; Senturan, L.) were contacted via email. All responded, confirming that the published data were correct.

Although our results indicated there was considerable heterogeneity in the results, subgroup analyses did not explain clearly where this lay. Possible explanations were small sample sizes, low-quality, varied makam types used in the interventions and the varied designs of the studies.
3.4.4. Strengths and Limitations of the review
To our knowledge, this is the first systematic review and meta-analysis of the impact of Sufi music therapy with makams on mental health outcomes. A rigorous method and comprehensive search strategy were implemented, which included both Turkish and English language publications. Studies mainly centred on anxiety; thus, meta-analyses of the studies were performed for these common outcomes.

This research, however, is subject to several limitations. First limitation was the lack of the MeSH terms (Medical Subject Headings) in the search strategy, only key words were used which might affect the result of the search as some of the reviews could be missed. For further studies, using MeSH terms in the search will allow the study to include all possible studies in the review. Another limitation might be the lack of theological database in the search even though a Turkish database ULAKBIM searched theological journals, it was not a specified database for theology like ATLA. Thus, some of the related studies might be missed due to this limitation and further research should include theological databases to the search strategy.

A possible limitation of this review might be the lack of attention to the spiritual aspects of makam music in the studies. The studies mentioned makam music as under the name of 'makam music', 'Turkish classical music', 'Turkish music therapy', 'Sufi music', or simply 'music therapy'. Spiritual aspects of makam music were mentioned only in two studies (Sezer, 2012; Ugur et al, 2016) where the music was called as Sufi music. While in total four studies called the intervention as 'Sufi music', only two of them gave attention to how Sufi music may have a spiritual/religious effect on the listeners. One of the aims of this review was to establish an evidence base for the Sufi music with makams intervention as a spiritual intervention, however, the included studies mostly preferred to not mention spiritual aspects of the makam music. The
secular atmosphere in the science might be the reason for that, as all studies conducted in Turkey and Turkey has a secular position in science (Davison, 2003; Mardin, 1981). Authors might hesitate to mention spiritual features of the music or might ignore these features to make the music more acceptable in the community. This limitation is addressed in the qualitative study (Chapter 4) and feasibility study (Chapter 6) with the emphasis on spiritual features of this music.

Additional limitation identified from the sub-group analysis was that it could not explain heterogeneity among the studies. As included studies had different makams, varied population groups, various settings, and even wide-ranging intervention models, thus, the reason behind the heterogeneity might be one of those factors. Even though in this review a rigorous method applied to find out where the high level of heterogeneity is lying among the study, further research might can use different methods to address this better, such as undertaking a network meta-analysis.

Another limitation of this review might be that studies published in other languages could not be included. Further research might focus on the adaptation of Sufi makam music to other cultures. Another potential limitation was the inclusion of studies of low methodological quality, which may have had an impact on the overall effect found in the meta-analyses and our conclusions.

3.5. Conclusion
Sufi Makam music may be a vehicle to reduce state anxiety of patients undergoing an operation or treatments like chemotherapy or haemodialysis. However, due to methodological limitations in the studies, such as variation in mental health problems, outcome measures, the timing of the interventions, and makams used in the interventions across the studies, we advise caution in concluding that Sufi makam
music is effective in reducing anxiety or other forms of mental distress. Further, well
designed, fully powered studies are needed comparing Sufi makam music with other
types of music therapies, as well as research investigating its effects when adapted to
other cultures. A particular gap in knowledge concerns the spiritual and/or religious
nature of Sufi music, which is not ‘just another’ type of music whose effects are worth
evaluating. Given that all the trials in this review were conducted in a Moslem setting,
it may have been that the spiritual and religious components to the music were taken
for granted and thus not explored. Sufi music with makams may have a particular
effect by eliciting spiritual feelings or perceptions in its listeners. Thus, more research
is also required to identify which specific makams are more effective than other forms
of music in reducing anxiety and whether participants need to have a connection or
belief in Sufism in order to benefit from this type of therapy.

To illustrate how Sufi music with makam music is perceived by regular participants of
two Turkish community centres in the UK as a potential intervention for mental
distress, a qualitative study will be described next in Chapter 4.
4. Makam Music as a Therapeutic Intervention to Reduce Mental Distress: A Qualitative Study

4.1. Introduction
The concept of culture was defined for the first time by the anthropologist Tylor in 1871 as ‘a complex whole, which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society’. (Cited in Loewenthal, 2006: 4; Eshun & Regan, 2009: 3). Even though the definition is from Victorian times, it is still very famous and inclusive of very wide aspects of culture. Culture is complex, multi-layered concept that tailors our characteristics from how we behave to how we feel, and therefore in healthcare it can play a crucial role. Music is a one of the most significant transmitted codes of culture in human life alongside all other branches of art, as almost all peoples of varying cultures engage in activities that we could call music (Begbie, 2000; Trehub et al., 2015). Using music in healthcare is delicate as cultural elements in the prescribed music should be considered carefully.

Sufi makam music therapy has a bond with Turkish culture as its roots stem from the Seljukian dynasty and Ottoman Empire. Although deeply anchored by its religious and spiritual roots, it also has a popular identity in societies that have become more secularised. Nowadays, on the world stage, Sufi music has become a well-established musical genre containing spiritual affiliations of Sufi rituals with a booming national popularity (Senay, 2015). Therefore, Sufi music has a spiritual meaning and popularity among Turkish people. However, there is little evidence for its meaning for the people who live outside of Turkey (Frishkopf, 2009; Islam & Zelenkovska, 2014; Lewisohn, 1997; Newell, 2007; Qureshi, 2003; Shannon, 2013; Sonneborn, 1995). Thus, this study was designed to identify the views and attitudes of participants who live in the UK towards Sufi makam music, including its spiritual aspects, whether and how they
would wish to receive this music as a form of therapy, and their most preferred ways for this therapy to be delivered.

In chapter 3, I report on my systematic review and meta-analysis of randomised trials, which aimed to assess the effectiveness of makam music on mental well-being. The results suggested that makam music might be a vehicle to reduce state-anxiety of patients undergoing medical procedures. There was evidence that it might also ameliorate the symptoms of depression and schizophrenia. All of the published trials had been conducted in Turkey. Further studies are required to draw firmer conclusions and to establish whether makam music has relevance to Turkish and Muslim communities in the UK. People migrate to other parts of the world so potentially effective interventions developed for these communities in their home countries need to be adapted and tested for those who have settled in other countries.

Therefore, the aim of this study was to identify how Sufi makam music might be perceived as a possible therapy for mental distress by attendees to Turkish community centres in the UK. This information is crucial to designing a therapy model for Sufi makam music. At present, there is no model or approach available in the literature about the way Sufi music should be delivered. To address this gap, the results of this qualitative study will contribute to the development of a manualised intervention.

4.2. Methods
4.2.1. Objectives
In this study, semi-structured interviews were conducted which included a part of listening to music with participants attending Turkish community centres. The objectives of these interviews were to:

- explore the general understandings and attitudes held by participants towards makam music as a form of intervention.
- identify whether adults regard makam music therapy as a potential way of reducing mental distress.

- investigate how Sufi makam music therapy might best be delivered in an urban community centre.

4.2.2. Participants and Setting

Prior to data collection, the study received ethical approval from the University College London Ethics Committee on the 26th of June 2018 (reference: 13199/001). Information sheet, consent form and ethics approval letter can be found in Appendix 2.

In order to conduct the study, two Turkish Community Centres in the UK (the Newcastle Turkish Community Association and the London Yunus Emre Institute) were identified and contacted with regard to the recruitment of participants. Both of the centres approved the study. Potential participants were those who regularly attend the centres. Both centres have regular meetings and events which involve Turkish spiritual and cultural events and meetings are open to all of their members. The Newcastle Turkish Community Association (http://turkishcommunity.org.uk/?fbclid=IwAR2glHOdpCEuOetAMLCAg_xn5RMqj14lBqmHvGywASz8r0K8AR9CJeQRIHE) is a well-known centre for Turkish people in the North East of England, being the first and only one of its kind in the region. Yunus Emre Institute (https://londra.yee.org.tr/) is one of 54 branches which have opened around the world and has a specific aim of promoting the history and culture of Turkey and supporting cultural exchange. This institute is funded by the Turkish Government. These two centres were chosen as sites of recruitment as it is the aim of these centres to promote Turkish culture in the UK. The theory of makam music therapy has cultural and religious relevance and therefore consideration must be given to how best to
deliver this to Turkish people in the UK or people who have an interest in Turkish culture in the UK prior to attention being turned to the wider population.

The participants were approached first by the staff at the centres, who were tasked with informing potential participants about the study. If the participants were interested in taking part in the research, their details were passed on to the researcher who then made contact and provided an information sheet. To obtain a range of views, snowballing techniques were employed in order to identify other suitable participants – such as the friends, family or colleagues of the participants taking part at the Turkish community centres. Participants who attended the interviews, were given extra information sheets to be shared with their friends, family members or colleagues about participating in the study. These individuals were invited to attend an interview via the referring participant.

Convenience sampling was used to recruit the respondents to this study as the aim was to understand the views of a range of people for whom Sufi music intervention may be applicable.

This study thus recruited adults (aged 18 and over) from any nationality and religion who lived in the Newcastle or London area and who attended one of the centres or who knew an attender of these centres. Forty-one adults (including five adults for the pilot stage – described below) were recruited for interview, which were all conducted individually and face-to-face.

Before each interview, an information sheet detailing the study was given to the potential participants, who were given the opportunity to ask any questions before participating. The participants were informed that there was a very small chance that listening to certain music pieces may cause distress – in particular, the listening activity
had the potential to evoke unpleasant memories. In this regard, the participants were informed that they could withdraw from the study at any point, should they wish to do so, and that this would not involve any penalty or loss of benefit to them. The participants then completed a detailed consent form before the interview commenced.

In total, 45 people were approached, but 4 of them declined to attend the interview due to a lack of time. Consequently, the final number of participants was 41. The average age of the participants was 31 (range 18-66), with the majority being women (60%), and Turkish (76%). Just over half of participants (53%) had lived in the UK between 5-20 years. A smaller number of participants were born and raised in the UK (14%) (see Table 8 and Figure 15 for participant characteristics).
Figure 15: Proportion of participants' demographic characteristics
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<tr>
<th></th>
<th>Language of the interview</th>
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<th>The place of birth</th>
<th>Gender</th>
<th>Marital status</th>
<th>Occupation</th>
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<th>Nationality</th>
<th>Years in the UK</th>
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- 'Mixed' indicates a mixed musical interest.
- 'Mystic' music.
- 'Pop' music.
- 'Rock' music.
- 'Classical' music.
- 'Folk' music.
- 'Iranian' music.
- 'Alternative' music.
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- Mainstream music
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| 37| Turkish   | 64   | Turkey    | Male   | Single       | Volunteer at a mosque | Yes   | Turkish   | 40        | -Turkish art music
- Classical music
-Sufi music                      |
| 38| Turkish   | 34   | Turkey    | Female | Single       | Religious worker | Yes   | Turkish   | 2         | -Quran
- Instrumental music                  |
| 39| English   | 53   | Turkey    | Male   | Married      | Shop owner | Yes   | Turkish   | 27        | Mixed                                     |
| 40| Turkish   | 65   | Turkey    | Male   | Married      | Shop owner | No    | Turkish   | 13        | Qur’an                                    |
| 41| Turkish   | 64   | Turkey    | Male   | Married      | Shop owner and musician | Yes   | Turkish   | 50        | -Qur’an and Ezan
- Classical music                      |
4.2.3. Data Collection

4.2.3.1. Procedure

Although the interview was intended to be as open as possible, given the specific aim, a topic guide comprising a number of prompts and questions were used to cover four main themes. These were the content of the music, the pictures or scenes evoked by the music, the emotions/feelings evoked by the music and, finally, the music as a form of therapy and how the participants would like it delivered (see appendix 3 for the prompts and questions).

The researcher had given weekly seminars at one of the community centres (Newcastle), and thus many of the participants knew the researcher before the study. The researcher endeavoured to reduce interviewer bias by asking open-ended questions, not expressing personal opinions, and encouraging participants to discuss the topic as openly as possible. However, she may still have influenced how participants responded to the questions, for example by their giving favourable answers with the intention of helping the project.

Pilot Study

Initially, the topic guide was piloted with 5 participants, undertaken in order to ensure that the questions and prompts were easily understood. The interviews took place in a quiet room provided by the Turkish Community Centres. Three music pieces in three makams (Rast, Nihavend and Buselik) were played for each participant and after each music piece, their ideas on the music were asked according to the topic guide in the interviews. Music pieces were played on a good quality CD player. For each participant, music pieces in different makams were played randomly by the researcher to assess how people responded to each makam piece and to ensure the effect is not related with the order of music playing.
The participants of the pilot study were asked to listen to the music pieces and asked about their experience of listening to the musical pieces. From this, their understanding of the questions in the topic guide and their music listening experiences were asked. Participants were given the option to be interviewed in English or in Turkish.

This pilot study showed that interview design worked well. However, some words in the questions like ‘therapy’ were not well understood and thus prompts and questions used in the main study were changed slightly or not used. Participants listened 15 music pieces in total and a music piece was deleted from the potential listening list due to its low recording quality as a result of pilot study. The qualitative results of the pilot study were evaluated with main study’s results.

Main Study
The interviews took place in a quiet room provided by the Turkish Community Centres, with the music pieces that could be heard by both the researcher and the participant. Participants were requested to close their eyes if they want, during the music listening. The interviews started with three pieces of music (the Nihavend, Buselik and Rast makams/modes). These three makams were chosen as their beneficial effect on mental distress has been described in the published literature (Ergeshov, 2011; Güvenç, 1985; Tanriover, 2010; Turabi, 2011). In this research design, the makams were played simultaneously with a water sound. As discussed earlier in the thesis, this idea derived from the application of makam music in hospitals over centuries. The makams were played in a different order for each participant, so as to be sure the choice was not affected by the order of playing the makams. The recordings were played to the participants to explore their thoughts and feelings evoked by each piece. Interviews lasted between 20 and 41 minutes, including
listening to the music pieces. The interviews, which were conducted in Turkish, audio-
recorded, transcribed in Turkish and back-translated into English by the researcher.

4.2.4. Data Analysis

The transcripts were anonymised and exported to QSR NVivo 12, in order to enable data management and to facilitate the analysis process. The collected data were subsequently coded using inductive thematic analysis to describe the semantic meanings found (Braun & Clarke, 2006). All the transcripts were coded in the program by the researcher. After generating initial codes, the relationships between the codes were explored. The possible relationships between codes were discussed with another researcher (NK) who has an experience in thematic analysis. With these codes then being organised into themes or categories. Themes and categories were then checked with same researcher to see whether any other themes emerged from the relationship between codes.

Minor grammatical changes have been made to some of the interview extracts for ease of reading and the words in parentheses are the researcher’s explanations or observations.

4.3. Findings

Four main themes emerged from the analysis of the attitudes and views of the participants towards makam music. These were labelled (1) spirituality and religion (2) mother nature (3) music’s whispers to the listeners and (4) music, ‘the healer’. These themes are illustrated in a table at appendix 4.

4.3.1. Spirituality and Religion
The spirituality and religion themes were found to contain three subthemes: religion (Islam), spirituality and Sufism.

Most of the participants reported that makam music evoked thoughts and feeling to do with religiosity and/or more general spirituality. However, the association varied for each makam.

‘So, I think I am associating them with Islam as well, but they don’t have to be necessarily religious, I think’ (Female, 22).

‘I think of the musical instrument as water and anything else that was inside, the musical instrument was definitely a spiritual one’ (Female, 18).

‘Yeah, because when I listened to this, it reminds me a little bit of, like, some sort of music that I listen to when I do dhikr (remembrance of Allah) – so when I try to remember Allah. It’s got, that rhythm to it. So it’s, obviously, when you close your eyes, you’ll be thinking of, nature and will be thinking, you know, of like the sounds of water. It does remind you of the creator who created all of that as well. So yeah, there’s that connection with God when you listen to it’ (Female, 21).

Moreover, the participants mentioned concepts such as ‘mosques’, ‘religious gatherings’, ‘prayer mats’, ‘praying’, ‘ezan’, ‘religious serenity’, ‘morning prayers’, ‘heaven-paradise-Jannah-cennet’ and ‘Arabic’. Such concepts could be seen as relating to ‘religion’ and suggested that the music made participants think of praying, worshiping or a place of worship.
“I would listen to this music when I’m in Makka (Mecca), maybe praying or going around in that beautiful city. Yeah” (Female, 18).

“Like, I felt I was in a mosque praying on my own (the voice is shaking)” (Female, 29).

“Like, it’s something like this, this tune, that I feel is like a morning prayer” (Male, 26).

“I found myself, like, in a cami (mosque), in a Masjed (mosque)” (Male 43).


“Like, I felt like I was in Konya (this was the city where Rumi lived and preached) and I felt like I’m watching mevlana (Mawlana Rumi), whirling people. Something like that” (Female, 45).

“Like, I was sitting with my friends in a circle around a sheikh and one of my friends was playing the flute. And you were the one sat in this circle and with music in the background, we were listening to the sheikh. It gave me these feelings” (Male, 36).

“I thought of Sufi whirling. Turning around, was that Sufi whirling?” (Female, 29).

Spirituality was mentioned in the context of a sense of calm. The participants described some pieces they listened in terms such as ‘spiritual’, ‘moving out of this world’, ‘spiritual serenity’, ‘gratitude’ and ‘feeling so deep’.

“It’s like you’re kind of connecting with something that you can’t see. You know, it’s like a spiritual feeling. Something that is reaching out to you. It’s healing you and you are
actually kind of grateful. I think it's like stating gratitude more than sadness because when you are up, you're really grateful you have the same emotions” (Female, 21).

‘It calms, like it gives spiritual serenity’ (Female, 40).

‘I felt a gratitude toward the creator who made all those things only for us’ (Male, 38).

‘It takes you out of reality and takes us into a different world’ (Female, 24).

According to the participants’ responses towards the music, there was a triangle of association consisting of spirituality, religion and Sufism. Although most of the participants were able to distinguish spirituality from religion and, furthermore, found the music to be more spiritual than religious, when the respondents were asked about the feelings or images evoked by the music pieces, they referred to religious thoughts and concepts rather than spiritual ones. Moreover, the participants accepted Sufism as a part of Islam. This was seen whenever a participant mentioned Sufism, a religious description, explanation or thought followed. Spiritual thoughts and Islamic thoughts were found to be more connected to each other than spirituality and Sufism, although religiosity and Sufi concepts were also found to be connected to each other among the participants (see figure 16). In the figure 16, this connection was explained as bold lines illustrates direct connection, while the dotted line illustrates indirect connection between the terms.
4.3.2. Mother Nature
Under the mother nature theme, four subthemes emerged; ‘nature’, ‘water sound’, ‘simplicity’ and ‘detoxing/cleansing’. All of these subthemes invoked the idea of being part of nature and feeling nature within them. Notably, the water sounds played in the background of the music pieces led a number of participants towards thinking of concepts related to nature. The type of instrument that was used also triggered thoughts of nature for the participants, as in Sufi thought the ‘ney’ instrument is closely associated with nature.

Almost all of the participants mentioned nature in relation to at least one makam when they were asked to describe the images evoked by the music. ‘A rose garden’, ‘desert’, ‘flower’, ‘flower garden’, ‘garden’, ‘natural’, ‘near the sea’, ‘sky’ or ‘green’ were terms used by the participants here, illustrating how the participants linked the music to nature.
“I found myself, like, in some kind of forest, like, with a river” (Male, 20).

“You are at peace and ease with yourself. You almost level yourself with, what should we say, you almost blend yourself in your surroundings, what surrounds you – you know, all the sayings, the animals, the water, the trees. You know, you are almost at that level with yourself, like, you blend in, like, you are part of them” (Male, 45).

“It is because the sounds were so natural. They are not like the sounds that people can really make. You know, the sound of water is natural. So you just connect, like, with the nature and things we can’t really sometimes see and understand, you know” (Female, 21).

Some of the participants mentioned the beneficial/therapeutic effect of the water sounds on them. For example;

“It is very relaxing, very peaceful. Especially the water. I have never listened to instrumental music with water in the background” (Female, 28).

“I feel like the sound of water, as well, just brings so much relaxation, like, it takes you out of it, it feels like it takes you out of reality and into a different world” (Female, 21).

Moreover, images related to ‘rivers’, ‘sea’, ‘waterfalls’ or ‘fountains’ were evoked in the participants by the makams.
“I was in a forest, there was a waterfall and animals around. It was peaceful” (Female, 19).

One participant noted that the water sounds had more of an effect on her than the music itself. However, all the remaining respondents approached the water sounds as a part of the music and related any beneficial effects to the music itself.

Almost half of the participants mentioned notions of simplicity – such as ‘village’, ‘village people’ and ‘village memories’, ‘simplicity’.

‘I was just going to say that it gave calmness, like, it gave freedom and relaxation. After that, if my mind is full, I can listen to this to throw the thought away. Like, it removed the complexity from me’ (Male, 26).

‘I think, maybe, like, in a village, like, walking around. People are all nice and just regular, but they may be living, like, slightly difficult lives – difficult but simple at the same time, so they don’t have much money. But they’re living just simple lives – they go pray, that sort of thing’ (Female, 21).

‘Things came to my mind. We used to get water with my grandad and grandma in the village. There wasn’t any water in the house. There was a spring from a stream and you could drink that water and we used to go there when I was small. I remembered that’ (Female, 29).
Simplicity and village-related thoughts could pertain to nature itself. As, underneath the descriptions of villages, phrases such as ‘simple lives’ and ‘lives among a basic natural environment’ were found in the transcripts.

The water sounds also evoked ideas about detoxing or cleansing for a few of the participants. This reflects the importance given to physical and spiritual cleaning in Islam.

‘I would like to turn to myself. So I will clean my inside’ (Female, 33).

‘it makes you feel clean, with water. You know it's, like, it's detoxing out all of the negative feelings you have inside of you’ (Female, 21).

These answers demonstrate that the makam music pieces, which combined water sounds, evoked thoughts and images of nature and of cleansing in the listeners.

4.3.3. Music’s whispers to the listeners

Under the main theme of the emotions or feelings evoked by the makams, four sub-themes were identified, (1) being transported to a different place, (2) sad and melancholic, (3) relaxing, therapeutic and smooth, (4) music speaks with me.

4.3.3.1. Being transported to a different place

The participants were requested to close their eyes as they listened to each piece of music and imagine themselves wherever they felt comfortable. Several found themselves in a place related to the particular emotion evoked by both the makam and
the natural environment. However, there were a number of subthemes that could be grouped in terms of a ‘ceremony’, a ‘courtyard’, an ‘infinite place’, ‘emptiness’ and a ‘graveyard’.

‘You feel like you are in an endless place’ (Female, 33).

‘I was trying to find myself in the world, in the space, like myself. I was just trying to understand where I am in it, in the world. You have got that kind of feeling. It made me go down, as like a small dot in the universe. It has that effect’ (Male, 20).

‘I found myself in a graveyard’ (Female, 21).

Although some places were related with neither positive nor negative emotions (like a ‘courtyard’), places related to ‘death’ (like a ‘graveyard’) were also invoked. A graveyard may remind participants of a resting place as two of the participants found themselves envisaging a graveyard when they listened to the Buselik makam (see below), while 5 of the participants said that the music (not only the Buselik makam but all the makams) reminded them of death or dying.

4.3.3.2. Sad and melancholic

The Buselik makam mostly evoked sad feelings/emotions among the participants, with it being described by almost half of the participants as being ‘too emotional’, ‘sad and melancholic’, ‘sorrowful’, ‘mournful’ or as instigating a ‘grieving mode’. Furthermore, negative terms – such as ‘graveyard’, ‘lost someone’, ‘hopelessness’ and ‘yearning for someone who died’ – were raised after listening to the Buselik makam by a large number of the participants (17/41).
‘When I first heard it, I felt sad and melancholic things came to my mind’ (Female, 33).

‘There is a ceremony in the beginning, then it changed to make me feel like something bad had happened, like somebody had died. It is very sad’ (Female, 30).

More female participants found the Buselik makam emotional and melancholic than male participants. This makam made some female participants cry as well. Although evoking sadness, participants thought that by making them cry, this makam also relaxed them. Nine of the participants described the makam as ‘sad but relaxing as well’. For example;

‘I feel like there is a person and he is sharing the problems in his life and I am telling him what I can do. His problem is big, very big, the problem of this person. But, at the end of it [the music], he became relaxed a little bit’ (Female, 40).

Some of the participants also shared that they experienced negative feelings towards the Nihavend makam. Feelings of ‘longing for someone/somewhere’ or of it being ‘a little bit sad’, a ‘little bit disturbing’ or able to invoke ‘desperation’ were among the negative feelings encountered.

4.3.3.3. Relaxing, therapeutic, and smooth

A few of the participants found the Buselik makam to be relaxing and that it did not evoke sad feelings, emotions or images for them.

‘It made me relax, like, I felt relaxed. Actually, it was really good’ (Male, 26).
When the participants were asked about their most and least favourite makam, seven of the participants reported Buselık makam as having had the most beneficial/therapeutic effect on them, while fifteen thought this makam had the least beneficial/therapeutic effect upon them.

The participants’ general approach to the Nihavend makam was positive, notions of ‘happiness’, ‘soothing’, ‘welcoming’, ‘calming’, ‘joy’, ‘lots of smiling’, ‘energetic’ and ‘motivational’ were counted among the positive feelings engendered.

‘Very relaxing, also a little bit sad as well’ (Female, 30).

‘Kind of, yes, we can say motivational’ (Male, 26).

Eleven of the participants chose the Nihavend makam as the most beneficial, while three of the respondents identified the makam as having had the least beneficial/therapeutic effect upon them. Moreover, all of the participants but four wanted to listen to this music again.

The Rast makam was chosen by over half of the participants as the most beneficial/therapeutic of the three makams. The participants mostly described this makam with terms such as ‘very gentle, very soft’, ‘therapeutic’, ‘nicely flowing’, ‘smooth’, ‘relaxing’, ‘calm’, ‘soothing’ and ‘very peaceful’.

“Very gentle, very soft, and you just, like, forget and just think about the good and you kind of, like, just, like, let yourself go” (Female, 28).

Almost all of the participants reported positive feelings towards the Rast makam, while a few of the respondents felt the makam invoked ‘sad’ ‘yearning’ or ‘irritating’ notions.

‘It made me feel uncomfortable. I didn’t like it. Like, I felt uncomfortable. It was irritating’ (Female, 28).
All of the participants but two wanted to listen to this music again.

In summary, while all of the makams, specifically Buselik makam, created some level of negative feelings among the participants, the Rast makam was liked by most and almost all wanted to listen to it in the future.

4.3.3.4. Music speaks with me

Participants found the music pieces in one particular makam, “Nihavend”, as “engrossing”. Descriptive codes like ‘engrossing’, ‘instructive’, ‘thoughtful’ and ‘talking with listeners’ were used in relation to the Nihavend makam.

“At the beginning it was peaceful, then it was like trying to tell you something at certain musical notes.” (Female, 35)

“I also feel like it’s instructive music. It teaches you, but, of course, it is caressing the spirit, but, like, when it does, it also teaches. It’s like a Sufi sound” (Female, 40).

“(hmm) to be honest, thoughtful maybe” (Male, 38).

“It just, like, it is talking to you, telling you to just breathe – everything’s going to be okay” (Female, 28).

“The instruments are just talking to you telling you to relax” (Female, 21)

The point all participants mentioned while listening to Nihavend makam was that musical language of the makam had communicated with listeners. Even though the participants reported that music had a common language with them, what they understood from this language varied; for some participants music was teaching them something, for some others it was giving relaxation instructions.
4.3.4. Music, ‘The healer’
This theme divided into three subthemes; same or different, the healing effect and makam music as a therapy.

4.3.4.1. Same or different?
One aim of this qualitative study was to identify the most beneficial makam according to the participants. Consequently, questions like ‘which one is your favourite?’ and ‘which music piece gave you more peace and relaxation?’ were asked of the participants. This resulted in comparisons being made between makams and a description of the music pieces. A participant reported differences/similarities between the makams as follows;

“The first one was, like, an appeal to Allah – like, you’re telling your wish or talking with Allah, I don’t know, it was something like that in my mind. The second one was calmer, maybe because of listening too much. It kept me full. After that, the last one was like that too. It makes people feel like crying and then calms them down.” (Female, 40).

A small number of the participants were unable to distinguish between the different makams and thought that they were listening to the same makam each time. The common aspects here were the ages and daily-life music preferences of these four respondents as they all liked to listen to popular music and all were under twenty years old bar one. They may also have had a less sensitive ear for pitch which is a genetic trait.

“I thought you played the same one” (Female, 18).

“It was really similar with the previous one, right? It wasn’t the same? Wasn’t it the same?” (Female, 45).

A few of the participants found the pieces to be very similar. This could be because the same instrument was used in all three or because all three have a similar timbre.
4.3.4.2. The Healing Effect

Although participants’ views differed for each makam, all of the participants described at least one makam as being ‘beneficial’, ‘calming’, ‘relaxing’ or ‘peaceful’.

“It’s really soothing, I don’t know what to say. It’s really calming music. It really, like, slows your heart rate” (Female, 18).

“It makes me calm” (Male, 38).

“So if I was, like, stressed, for example or something, I think I’d like to listen to them as they, like, make me relax” (Female, 21).

“It makes you feel calm and soothed. It’s like it’s somehow connecting to you in some way. It’s like it’s healing you, like its healing music” (Female, 24).

Alongside the relaxing, calming and comforting effect of the music pieces, a number of participants mentioned that such music took them out of themselves.

“It brings me something, real serenity. Like, how can I explain? It was really peaceful, and it relaxed me deeply, like I forgot everything and just focused on it and I felt really relaxed” (Female, 45).

“To be honest, it is turning. You are trying to find yourself, you are looking for yourself, you know, like you are in this desert somewhere, not so much in the desert, like a, like you are somewhere obviously with the birds, the animals, the water, but you are only with yourself and you are just trying to see where you are” (Male, 45).

“Very gentle, very soft and you just, like, forget and just think about the good and you kind of, let yourself go” (Female, 28).

“This music took me somewhere beautiful, nice. I don’t know where, really” (Male, 64).
“Yeah, I felt like it made me kind of switch off from thinking about anything, like, just being in that moment. Yeah” (Female, 19).

4.3.4.3. Makam music as a therapy
Under the makam music as a therapy subtheme, the participants denoted their preferences towards the best place, time and position for listening to the music – as well as the best duration of such music, which music is most beneficial to them, whether group or individual listening is better and which activities should be undertaken alongside the music listening.

The Most Beneficial
All of the participants found at least one of the three music pieces to be beneficial/therapeutic, while twenty-six of the participants thought that at least 2 out of the 3 makams had a beneficial effect upon them.

“It (Buselik makam) brings, like, a feeling of love to you. It's like it's serving you this positive energy of love not fear or hate. It's like it's trying to remove the fear and hate you have in you and replace it with positive, good feelings.” (Female, 21)

“I guess the first one (Buselik makam), maybe because I listened that first and that made me feel more relax” (Female, 45)

“I think the second one was the second music was to my preference was for the second one if I was going to listen it. (Nihavend)” (Male, 43)

“I would say this one is more relaxing in a way where you feel more connected to it. I'm not going to say the others weren't, because they were too. If I could pick one, I think I would pick the last one (Rast).” (Female, 21)

All of the participants wanted to listen to the music again, despite most having conveyed reluctance to listen to their least favourite again.
“I wouldn’t look for this music.” (Rast) (Female, 28)

“Definitely, I will even take this from you and listen it was really nice” (Rast) (Female, 40)

“I would definitely, after listening to three of these, tapes. I’d listen to the second one if I ever have to, yeah.” (Nihavend) (Female, 18).

“Definitely, I will even take this from you and listen it was really nice” (Rast) (Female, 40)

“I would definitely, after listening to three of these, tapes. I’d listen to the second one if I ever have to, yeah.” (Nihavend) (Female, 18).

Because most of the participants were able to see differences between makams, they picked one of three as their favourite and the most beneficial one. Their choices differed among first, second or third played makam, which illustrates that the order of the makam was insignificant as the makam pieces were played in random order.

**Waterfall**

While preference for place of listening differed from makam to makam for each participant, the most common answers given were ‘waterfall’, ‘in my room/my house’, ‘in nature/a forest’ and ‘at a riverside/seaside’.

“At home, on my own, I can listen in the garden, in the car, places like that” (Female, 43).

“I like to sit on my prayer mat. So, I like to listen in my room” (Female, 21).

“I think it would be somewhere in nature. So, where there is green, green grass near the trees, near a waterfall. Like, it’d be nice to listen to that sort of music there” (Female, 19).
There was a link between the most beneficial makam for the participants and their preferred place of listening to it. While participants would prefer to listen to the least beneficial makam (according to their respective views) as a form of background music (like in the car or in a crowded place – i.e., at a gathering, event or ceremony), they wanted to listen to the most beneficial makam (for them) in a quiet place, in their room or in a natural environment such as a riverside/seaside.

“Maybe in the car, like on a car journey or something” (Female, 21).

“I would listen to it as background music” (Male, 38).

Participants wanted to listen makam, they did like least, as a background while they were doing another work like driving.

**Endless Listening**
The preferences of the participants for listening duration varied widely in terms of the makam – spanning from less than a minute to many hours. If they liked the makam, the respondents stated a desire to listen to it from 5 minutes to two hours, yet there were many non-specific responses given by 10 of the participants – including that the music could be played ‘endlessly’, ‘for hours’ or ‘as long as I can’.

“I’ve listened to this kind of music for hours” (Male, 53).

The codes related with times varied considerably as there were participants who did not listen to the makam for more than a minute and others who did listened to it for hours.

**When calmness settles in the world**
In terms of the preferred time of day to listen to the makams, ‘just before sunrise/around sunrise (early morning)’, ‘before sunset (late afternoon)’ and at ‘night’ were the most common answers given. Participants reported that this is because they
wanted to listen to the makams to help them relax before, or wind down after, a busy
day.

‘Like, I would listen especially at night time’ (Female, 29).

“Actually, this would be nice after the Morning Prayer’ (Female, 28).

Although the answers given differed, the participants mostly reported that they wanted
to listen to the makams when ‘no one was around’, ‘everyone goes back home’ or
‘calmness settles in the world’.

**Sitting or lying**
Many of the participants (25/ 41) wanted to be seated when they listened to the music.
Some of the participants wanted to lie down or to move while they listened. Moreover,
most of the participants wanted to listen to this music when alone. A few (3/ 41) of the
participants stated that they could listen to the makam as a group as long as the others
were quiet too.

“I would listen to it as sitting yeah like I wouldn’t listen to it when I’m walking or nothing
like that. Just sitting” (Female, 18).

“I don’t mind being in a group. I don’t mind as long as the person next to me doesn’t
disturb me” (Male, 28).

Thus, most of the participants reported that they would like to receive the music when
seated and alone.

**Relaxation activities accompanied the listening**
Only two of the participants wanted to listen to the music during other activities (such
as yoga, walking or relaxation activities), while some wanted to have a massage or to
be in a spa while listening to such music.
“Well, when I'm doing yoga” (Female, 18).

“I would say, walking” (Female, 21).

Relaxation activities were stated by some participants as the activities may accompany the listening.

4.4. Discussion
4.4.1. Sufi music with makams among other music interventions

Participants’ responses demonstrated that Sufi makam music was perceived as a potential way of reducing mental distress. According to Grocke (2016), using music receptively could invoke a distraction from pain/sorrow, thereby acting as a way to focus the mind or as a mental escape from stressful life events. Being “in” the music or allowing the music to take oneself away from reality (alongside all of the beneficial effects mentioned by the participants) can be considered as part of this music’s therapeutic effects on participants. Moreover, there are themes emerged on how musical language embodied to the participants and music has started to establish a communication way as some participants reported that music is speaking with them. Therefore, Sufi music with makams may be considered among the receptive music therapy interventions.

Participants’ views on the water sound were also important as for some of the participants at least, the accompanying water sound had beneficial effects. However, it is important to state that the effect of the water sound could not be differentiated from makam music’s direct effect as both were given together. Various nature related themes were identified in the study, and one of the main reasons behind these was the water sound. However, it was not the only connection, as the instrument used in the music pieces, the ney, also has a close relationship with nature due to its simple
form as an instrument (Uygun, 2004). As already noted, the ney is a vertical reed flute which has very limited procedure to be an instrument (Çetinkaya, 2011; Koca, 2002; Senay, 2015). Thus, the music generated by a very simple and natural instrument, as well as the sound of water, may remind the listener of nature.

Using natural sounds in music therapy interventions is a potential way to reduce stress and anxiety according to studies in different countries around the world (Aghaie et al., 2014; Alvarsson et al., 2010; Largo-Wight et al., 2016; Thenmozhi, 2019). Thus, the water sounds in the Sufi music with makams, may boost the relaxation effect of the music as the themes on relaxation and nature illustrated.

Modern music therapy was established and developed in the Western countries, and therefore, the music genres used in those therapies are mostly associated with western cultures. Sufi music can be an alternative music type/genre for therapists or facilitators to integrate cultural identities into music therapy. Using music pieces from the client/patient’s cultural background (Sufi music pieces for Muslim communities) may increase the beneficial effect of the therapy. Moreover, the spiritual and nature-related elements of the music may also have an influence on clients alongside the therapeutic effect of the music.

4.4.2. Is Sufi music a spiritual or religious music?
Overall, the accounts of makam music that emerged from these interviews related to the participants finding makam music to be spiritual or religious. However, the images evoked by the makams were directly related with religion [such as via the invocation of ‘mosques’, ‘Allah’, ‘praying (salah)’ and ‘prayer mat’]. Although most of the respondents thought that ‘religion is different from spirituality’ and they found makam music to be ‘spiritual’, their descriptions of the makams or their content were directly associated with religion rather than spirituality. Nevertheless, the responses to direct
questions like ‘is this music religious?’ were more often ‘no’. These conflicting results demonstrate that making a distinction between spirituality and religion was not easy. Moreover, the results indicate that religious music does not have a distinct definition in the minds of participants. As, while they did not find the music religious, they reported religious images evoked by the music pieces.

The connection between the makam music pieces and Sufism was identified by participants too. Most of the participants associated Sufism with the music pieces. However, their images of Sufism were directly related to religion/ Islam. According to the responses, participants regarded Sufism as a very intense level of Islam or Islamic spirituality. Therefore, the three terms, religion (Islam), Sufism, spirituality, have emerged as connected to each other and makam music has something from all three.

The distinction between religion and spirituality is complex and controversial as in most cultures people struggle to perceive a difference between them (Simon Dein, 2005; Hyman & Handal, 2006; Zinnbauer et al., 1997). In this study, as expected makam music was perceived by participants as both spiritual and religious. For most Muslim people, it would appear that the two are inseparable. Furthermore, as discussed in chapter one, music has deep historical roots in Sufism and so here music, spirituality and religion are completely entwined. Thus, for the purposes of this study, this intervention can be regarded as a spiritual/religious music model in mental health care for people who have connections with Turkish culture.

Nevertheless, spiritual parameters in Sufi music with makams are unique as the participants distinctly identified the spiritual features of this instrumental music. In other words, this represents how spirituality in Sufi music purely associated with the music and the instrument rather than with the words/songs. Although religious music studies
focus primarily on the words, hymns or songs (Bradshaw et al., 2015; Hamilton et al., 2013, 2017; Khouzam et al., 2005); there are studies on spiritual effects of instrumental music pieces (Bonny, 2001; McClean et al., 2012). Sufi music could be evaluated among these instrumental music pieces. However, it is essential to emphasise that Sufi music with makams is not limited to a music piece/pieces, but the whole genre is considered as spiritual.

Identifying attitudes of potential receivers of this intervention gave a persuasive insight into designing the intervention. Participants’ emphasis on the spiritual nature of this music may help to improve healing effect of the intervention. Moreover, the results reveal the underlying mechanisms of Sufi music, which might work in mental health. Spirituality was one of these mechanisms identified in the study.

4.4.3. Emotional considerations of Sufi music with makams
In terms of beneficial effect of the makams on the participants, three makams were chosen for this study as their historical lineage suggested a potential beneficial effect upon mental health. According to participants’ answers, the order of the three makams from most to least liked is Rast, Nihavend and Buselik. These results provided a guide as to which makams (i.e., Rast and Nihavend makams) would be most suitable for the pilot intervention undertaken in the next stage of this research.

Despite these beneficial effects, some of the participants experienced negative thoughts and emotions after listening to each makam. However, this is a common issue in every music therapy application, whereby the effects of any kind of music cannot be guaranteed for everyone. While all makams caused negative feelings among the participants at different levels, Buselik makam evoked many more negative images/feelings than the others as noted above. However, negative feelings evoked by one specific makam (Buselik) do not necessarily mean that this makam has
negative effects on the participant’s mental health. As in some approaches in psychotherapy, negative feelings and thoughts may be a necessary part of the process of recovery (Leahy, 2007). One of the receptive functions of such music can be considered as a way of expressing emotions/feelings indirectly via images or memories or as a way of communicating with one’s inner self (Grocke, 2016). Therefore, these negative feelings or a show of sadness in the interview may be a way of expression or a way of recovery. Because no form of screening was conducted before the interviews to identify if there were pre-existing mental health problems, it is not possible to conclude that the emotional response to makams was due to the makam itself or due to underlying mental health problems. However, it is possible that the makam which evoked sadness may be the most effective in distressed people and therefore it was decided not to exclude this makam when selecting those to use in the feasibility trial.

The negative feelings evoked by the music might be related with personal memories of the listeners as music is intertwined with memories. The evoked memories by the music may cause sadness or longing feelings as some of the participants described their childhood memories and their yearning feelings to these times or places. As, cueing memories may be facilitated by the tradition in many cultures of coupling music to significant life events (funerals, weddings etc.) or by the frequency of listening to music (Jakubowski & Ghosh, 2019). Thus, the makams might enhance both encoding and subsequent retrieval process of negative feelings as the memories related with negative feelings were evoked.

Additionally, more female participants found Buselik makam emotional and melancholic than male participants. Negative emotions were not expressed by any men during the interview; however, men may be less likely to express their negative
emotions, or express them differently, than women. ‘Men cannot be emotional’ or ‘men do not cry’ are very common sayings around the world (Fischer et al., 2004; Kring & Gordon, 1998; Shields, 1987; Simon & Nath, 2004).

Music's emotional trigger role is essential for receptive music interventions. The expression of these triggered feelings by the listener can help to release the tension and increase the healing (Bruscia, 1998; Wigram & Grocke, 2007). This study showed that Sufi music evoked different emotions, associated explicitly with relaxation, peace, spirituality and calmness. The expression of these feelings can lead to healing, and thus music listening intervention becomes more like a therapy rather than a random act of listening to music.

4.4.4. Strength and Limitations
The strength of this study derives from the fact that it is the first of its kind to investigate the views of people about a specific type of musical intervention. However, there are several limitations to this study. First, generalisability of the results is limited to people who live in the UK and have a close relationship with Turkish culture. Therefore, the results may not be generalised to other countries or cultures.

One limitation of this study is the lack of member checking as copies of the transcripts were not sent to each participant so they could review the document. This technique would give to the participants to review what they said, add more information if they want to, or to edit what they said. Lack of member checking might limit this study’s credibility in trustworthiness and reliability.

Another limitation concerns that participants had a relationship with the researcher and the centre. Thus, they may have tried to help the researcher by, for example, avoiding saying something unhelpful (awkward) while others gave details as much as possible to be helpful to the researcher. This close relationship, therefore, may have
lead participants on occasion to provide positive answers to the questions rather than revealing their real thoughts. This may have biased the results of this study.

Moreover, the type of centre could have had an influence. As participants were already familiar with the centre as a place where they participated in spiritual or religious seminars, gatherings and celebrations, the spiritual and religious effects reported may have been a consequence of the setting as much as the music’s unique spiritual impact. Another limitation is the participants’ possible expectancy effect that might have been created in the participants, as all participants have known each other from the centre, and they may talk about how the interviews go and music’s effects on them. The details on beneficial effect of makams was given at the end of the interviews to prevent participants this kind of expectations.

Finally, even though I considered my own biases during the study, it is still possible that they may have influenced the interviewing, coding and interpreting processes of the data.

4.4.5. Implications for Practice
This stage of the project was aimed at exploring the participants’ preferences towards receiving this music, from which an appropriate intervention model can be designed. The place in which such therapy should be delivered is a key element here, with most of the respondents stating that it is important to listen to this music in a quiet environment. Almost all of the participants wanted to receive the music when they were alone and in a quiet and comfortable place – such as in their home/own room or in a natural environment (like a forest, riverside or green space far away from a city’s crowds and noise). The participants may here be denoting that they want to listen to such makams in places in which they are free from disturbance and feel safe. Alternatively, listening to the makams alone might enable participants to focus on the
music, or participants might be worried about being judged by others if they listened to the music as a group. Therefore, this music intervention should be conducted in individual sessions where participants are free from disturbance (in a quiet place).

Specific details also emerged from the study, for example the time period or the time of therapy. For the most appropriate duration of listening, the answers varied. A session of between 15 and 40 minutes might be acceptable as this was the duration that most of the respondents selected. There was no predominant preference for time of day and thus the intervention could be possible at any time that suited client and facilitator.

4.5. Conclusion
This study aimed to show the attitudes and approaches of Turkish Community Centre attenders towards makam music as a form of therapy and the best way of delivering this therapy. Makam music was regarded as beneficial by the listeners, despite variation from makam to makam. All of the participants chose one makam (of the three listened to) as their most preferred and noted that they would like to listen to this piece again. Thus, according to these results, makam music could be used as a form of receptive, therapeutic music. However, within the sample utilised, 75% of the participants were Turkish and all were Muslim, and this limits my ability to conclude that makam music might produce similar results for those with a non-Turkish nationality or other religious affiliation. Nevertheless, at this stage in my study I was interested in bringing the intervention together into a repeatable, easily applied whole for use in this community. In the following chapter, I will discuss how I developed guidelines for Sufi music with makams’ intervention delivery in the light of these qualitative data.
5. Guideline for the delivery of Sufi music with Makams for people with symptoms of depression or anxiety

5.1. Overview
There is some evidence that listening to Sufi music with makams may improve physical and mental well-being. As described in the preceding chapters, although the evidence was very preliminary, makam music may be a means of reducing state anxiety in patients undergoing an operation or treatment, such as chemotherapy. It may also have an impact on the symptoms of depression, schizophrenia and the stress of haemodialysis. Moreover, according to results of qualitative study, makam music could be developed as a form of therapeutic listening exercise. Experts in the field of makam music were also interviewed about their experience of using it, and how it should be delivered which will be presented in later pages.

With the information derived from these studies, this Sufi music guideline was developed and used in a feasibility, randomised controlled trial of a four-session face-to-face Sufi music intervention in community centres for people with moderate to mild anxiety depression. This trial will be presented in a later section. In this chapter, I will represent the details of guideline and how it was developed gradually.

5.2. Method
The guideline design follows parts of the Medical Research Council (MRC) framework for developing and evaluating complex interventions (Craig et al., 2008). As illustrated below, the series of studies in this thesis was undertaken in accordance with the phases of the MRC framework.

5.3. Development of the Sufi music with makams guideline

5.3.1. Identifying the theory base: mechanisms behind the intervention
The MRC framework suggests that identifying the theory behind the practice is a crucial task before designing a complex intervention (Craig et al., 2008). To do this I
drew on details of the intervention’s historical background and practice, such as which makams were used for which conditions, and the time duration or the characteristics of the location where it is delivered.

The theoretical framework used to develop the intervention is based on the traditional use of makams to treat mental illness. Makams that were historically used to treat mental conditions were selected for the guideline, namely Rast, Nihavend and Buseilik. The combination of water sounds with makam music was also a significant feature of the historical use of the intervention. In theory, the musicians played makam music in a yard with a fountain in the middle, and the patients were exposed to live makam music with water sounds around the yard. Therefore, in the guideline, Sufi music with makams was combined with water sound in order to improve the efficiency of the music intervention. Finally, it was traditional for patients to listen to the music rather than actively participate in its creation. Therefore, this Sufi music with makams intervention was designed as receptive/passive music therapy.

The underlying mechanisms of Sufi music with makams as an intervention for psychological distress are complex and inter-connected (see chapter 1). It is considered to function as a mode for spiritual expression and communication, a form of mental distraction or escape, a way to change mood, and a method to feel in touch with nature and to relax.

- **Spirituality:** The uniqueness of this music type lies in its spiritual form. Sufi music with makams triggers images related to forgiveness, hope, and the Divine. The ney, may create these images as its music has become a symbol for Sufism and Muslims around the world (Senay, 2015). These images may
reduce tension and invoke a sense of peace in the listener, which leads in turn to an improvement in mood (Moss, 2019).

- *Distraction*: Sufi music with makams also works as a mental distraction and escape from daily life stresses, just as in other music interventions. Concentrating on the music distracts the mind from stressful thoughts.

- *Expression*: The music is a form of communication in which listeners express their emotions and spirituality. All music therapies share this common mechanism; music triggers emotions and evokes memories in the listener. This may be observed in the listener as thoughtful silence, speaking, singing, screaming, crying, or even making music (Pavlicevic, 2000). This illustrates how this music might work as a way by sharing the memories or images it evokes (Pavlicevic, 2013). The music helps patients/clients to access their feelings and becomes a way of expression and communication (Landis-shack et al., 2017).

- *Recall*: The music may also boost recall of positive memories or generate a positive attitude to daily life events by changing our emotional evaluation of the memories (Boltz, 2001). Moreover, Sufi makam music is working as an emotional mood changer as specific makams create specific emotions (see chapter 1). The above mechanisms may be common to all other music therapy interventions as well (Pavlicevic, 2013).

- *Nature*: The water sound accompanying the music evokes images of nature (waterfall, forest, riverside, river, garden), which aid relaxation and a sense of ‘cleansing’ ideas. This in turn may improve concentration and memory, decrease stress levels, boost the mood and increase self-esteem (Bratman et al., 2012).
In brief, these theoretical mechanisms that are thought to lie behind the effects of Sufi makam music informed the guideline by emphasising its spiritual, emotional and natural components.

5.3.2. Identifying the evidence base: an umbrella review and a systematic review of the literature
The most systematic method of developing an intervention is to use the best available evidence and the most relevant theory in the literature. Firstly, an umbrella review of the systematic reviews on receptive music therapy and mental health relationship was conducted. This study revealed that receptive music interventions may reduce pre-post procedural anxiety which allows me to evaluate the position of receptive music intervention’s position in mental health. Then, a systematic review and meta-analysis was conducted. Although there is evidence in the literature that Sufi music with makams might improve mental health, no systematic review had been conducted to evaluate its effects on mental health outcomes. Therefore, identifying the evidence base for the intervention was the priority in designing a guideline for the intervention.

According to MRC guidance, evidence base step is essential to explore what is already known about similar interventions and available evidence for this intervention. As described in Chapter 3, the systematic review revealed some evidence that Sufi music with makams might reduce anxiety, depression, and stress disorder. However, the evidence was limited to people living in Turkey, and the trials in the review were of only low methodological quality. Therefore, in the designing process, these points were considered, and this guideline was designed for Turkish people with symptoms of anxiety, depression, and stress.

5.3.3. Modelling process and outcomes
After establishing the evidence base and theoretical background, the guideline was created as an outline. According to this first outline of the therapy:
- Sufi music with makams' intervention was designed as receptive music therapy.

- Music pieces played solely with the ney were chosen.

- Sufi music with makams was played simultaneously with water sounds.

- Rast, Nihavend and Buselik makams were used in the intervention.

- The intervention was designed for Turkish people with symptoms of anxiety and/or depression.

The reason why Turkish people in the UK were chosen as a population is that all studies in our systematic review and meta-analysis were undertaken in Turkey. Therefore, due to the cultural bond of Turkish people to the music and the evidence of using this music for mental distress in Turkey, Turkish people living in Britain were chosen as the population for this initial test of its acceptability and potential effectiveness.

This main outline arose from the qualitative study (see chapter 4) designed to explore potential participants’ attitudes and views towards this type of music in England.

5.4. Feasibility and piloting

5.4.1. Qualitative study

Qualitative research methods are widely used in the evaluation, methodology or design of complex interventions as they “can explore opportunities for, and barriers to, change” (Campbell et al., 2007:457). Studies using qualitative research methods can provide useful information for and insights into the views and perspectives of participants towards such interventions. Therefore, in the designing process of Sufi music with makams guideline, a qualitative study was a necessary step to ascertain how participants might access and respond to such music. The systematic review (Chapter 3) had already revealed that all clinical studies on Sufi music therapy with
makams had been conducted in Turkey, and thus that any benefits reported were limited to Turkish people. Therefore, an attempt was made to identify whether Turkish people or those interested in Turkish culture in a country other than Turkey might appreciate Sufi music with makams, and also to investigate the optimal methods of delivering Sufi music with makams in an urban community. Consequently, this qualitative research was conducted in two Turkish community centres (Newcastle and London) in the UK.

As already discussed, the results revealed that all three makams were found to be beneficial and could be used in the intervention. In addition, the participants pointed out the water sound helpful in inducing the relaxation.

In the interview, there are prompts related with the intervention design such as place, time duration or environmental preferences. According to answers of the participants to related questions, they would like to receive this form of in a quiet environment such as their own room, a quiet room or in a tranquil place outside. Their preference was to receive the intervention individually. The details of the intervention design mainly evolved at this stage, although we have some hint in the historical application of the intervention.

5.4.2. Consultations with experts
Three Turkish experts were approached to provide advice. They were chosen according to their expertise and knowledge of Sufi music with makams. They all had experience of delivering Sufi music with makams as a clinical intervention for mental disorders. The experts were from three different areas: Hacettepe University Faculty of Music Theory, Marmara University Faculty of Theology, and Trakya University, Faculty of Medicine.
All three experts supported the selection of the three makams (Rast, Nihavend and Buselik) for use within makam music therapy for mental health as they were historically the most used makams for mental disorders. Two of them also reported that listening to water sounds during the intervention might help to increase the beneficial effects on the mental health of makam music.

The views of the experts as to the place for listening were not specified in any great detail, but all reported that such therapy should be held in a quiet place, preferably in an acoustical well-echoed room.

According to the interviewed experts, the best time of day to listen to makam music depends on the makams, with different makams having different optimal time periods for listening according to theory. Therefore, when designing such therapy, if the evidence is good, the most appropriate time of day can be identified for the chosen makam. However, clearly this may not always be practicable.

Only one expert spoke of the best duration of listening, noting this as ranging from 30 minutes to an hour for adults.

Regarding the optimal position in which to listen, lying, or sitting positions were preferable, according to the experts interviewed.

In the experts’ interviews, little mention was made of any activity the listener should participate in while listening to the music. The only exception to this was that all three experts stated that makam music therapy might be combined with relaxation exercises.

An important limitation of this phase of the manual development is the method the researcher used in the interviews. The interviews with the experts were not recorded, therefore not transcribed. During the interviews, even though similar questions were
asked to the experts they were not in a structured/semi-structured format. Thus, not all the questions were answered by all the experts. The researcher took notes throughout the interviews and analysed them, however, because these notes are personal, they were biased with thoughts. As at some point the researcher might have added sentences or thoughts to the notes which did not belong to experts. These points made the results of the consultation with experts unreliable and biased. However, to get an idea how in reality this music intervention was applied, these interviews helped a lot. For further studies, semi-structured interviewing method could have used when consulting the experts.

5.4.3. Evaluation and implementation
The guideline outline was revised and extended according to the results of the qualitative study conducted with the participants and the experts. The details are as follows:

-Rast, Nihavend and Buselik makams can be used in the therapy in this order.

-Water sounds should be played with Sufi music with makams.

-The intervention can be held in a quiet room or a natural environment, for example, in a quiet garden.

- The duration of listening to Sufi makam music should be between 15 and 30 minutes. If the session is too short or too long, then the expected efficacy of the music may not be gained.

Even though these points helped to shape the final structure of the intervention, in order to welcome each participant into the intervention and warm-up the atmosphere in the room, it was felt that some form of icebreaker at the outset might also help. While considering the format of icebreakers, stories seemed the most suitable for this
intervention as they have a special role in Sufism. Sheikhs regularly tell stories at the beginning of musical rituals (e.g., dhikr) in Sufi circles in order to enhance their spiritual meaning. Therefore, to warm up the atmosphere in the intervention room and to induce the Sufi side of the music, these stories were used as icebreakers. Several spiritual Sufi stories were chosen from the book, Mesnevi (Mathnawi), written by one of the most well-known Sufis, Rumi (Mawlana).

The number of sessions was chosen as between 4 to 8 sessions according to the studies identified in the systematic review and meta-analysis and the experts’ experiences.

As a result, the guideline outline was further revised according to these points, and the final draft was used in the feasibility-controlled trial (the final guideline can be seen at appendix 5).

5.4.4. Feasibility study
A series of studies were required to develop and test the intervention. The most critical part of these gradual refining processes of the intervention was to apply this design in a real-life environment to see whether the intervention was feasible and acceptable to participants. Omitting the feasibility stage may undermine issues related to acceptability, compliance, delivery of the intervention, recruitment, and retention (Craig et al., 2008). However, a clear guideline or manual on how to deliver the music intervention is needed as a first step in a feasibility study for the scientific community to understand what was done and how it might be replicated in other settings. Following the feasibility results and feedback from participants, any such manual or guideline can be adapted and refined.

The intervention took place in two community centres: one in Newcastle (Newcastle Turkish Community Centre) and one in London (Yunus Emre Institute) and is fully

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reported in Section 6. What follows now is a brief resumé of the development of the guideline:

The intervention was delivered in three-parts,

1) an introduction with Sufi stories. Sufi stories are used in the guideline as ice-breaker activities -they have more spiritual and inspiring nature comparing to other ice-breakers- because the intervention needs a warm-up activity to make participants more comfortable in the intervention room. Sufi stories as the ice-breaker activity fit with the intervention’s general flow by their spiritual, motivational, and inspiring nature. Following these stories, it is hoped that participants perceive the music’s spiritual effect more directly.

2) The music listening part of the intervention is conducted just as in the qualitative study. Water-sounds accompanied the Sufi makam music and listening lasted 16 to 18 minutes for each session. Participants received the makams in same order (Rast-Nihavend and Buselik) in each session but under the makams there are different music pieces were played (Figure 17). A CD with the music pieces used in the sessions can be found in supplemental material. The music was played on a high-quality CD player that could be heard by both the researcher and the participant. During the music listening, participants were asked to close their eyes and sit or lie down as they pleased. The door of the room was closed and there was a sign at the door for no interruption.
3) An opportunity for reflecting and expressing their thoughts at the end is provided, although this is voluntary, and participants can leave the room without sharing any experience or thoughts about the music. The researcher listens to the participants carefully and asks questions without any comments to make sure the conversation flows naturally, and the engagement of participants with the music and intervention continues.

An example session may be conducted as follows;

Session 1

- Introduction (5-10 min)
  - Welcoming to the room
  - Introducing myself and the research (explaining basic process of the session and the intervention)
  - General session overview (structure, time period and the role of the researcher in session)
  - Emphasises that the participant could break off at any time if they needed to.
- Ice-breaking activity- storytelling (5-10 min)
- Main listening (16- 18 min)
  - Listening to the music pieces
- Closing (5-10 min)
  - Allows the participant (if he/she wants) to share any emotion/ feeling after listening to the music pieces.
  - Reminders of the next session; thanks participant for attending

5.5. Conclusion

The guideline worked in a coherent order as can be seen in the next chapter (the full guideline can be seen at appendix 5). However, for the future application of the intervention;

- A better designed therapy room should be considered with a comfortable couch and less distractive coloured walls.

- If the facilitator decides to use stories as an icebreaker, the selection should be made very carefully, and spiritual stories may be the best option in this guideline. Facilitators can also decide to use other ice-breaking activities.

This guideline was developed to provide a general basis for the facilitators. Therefore, the flexible arrangements regarding the need of the participants should be made by the facilitators. The guideline was designed to allow these arrangements to create a flexible space for them.
6. Sufi music with makams for people with mild to moderate levels of depression and anxiety: a feasibility randomised controlled trial

6.1. Introduction

Anxiety disorders have different definitions and diagnostic criteria however, as a general aspect they are described as excessive anxiety, worry (generalised anxiety disorder), fear in certain situations (specific phobias, agoraphobia and social anxiety disorder) in Diagnostic and Statistical Manual of Mental Disorders- fifth edition (DSM-5) (APA, 2013). Up to one third of the population may be affected by an anxiety disorder during their lifetime and anxiety disorders are the most prevalent group of psychiatric disorders (Bandelow & Michaelis, 2015; Emmelkamp & Ehring, 2014). Like anxiety, depression is one of the most common mental health problems worldwide with a lifetime prevalence of 10% in the adult population (Kessing, 2007; Kessler & Bromet, 2013; Tolentino & Schmidt, 2018). Major depressive disorder was defined in DSM 5 as follows: symptoms of depressed mood, loss of interest or pleasure, appetite or weight changes, sleep difficulties, psychomotor agitation or retardation, and fatigue or loss of energy (American Psychiatric Association, 2013). Depression and anxiety are associated with low quality of life, poor self-care, and difficulties in carrying out daily activities (Goldney et al., 2004; Sowislo & Orth, 2013).

The data collected from the theoretical framework, umbrella review, systematic review and qualitative study have compounded to create a guideline for Sufi music with makams intervention as detailed in Chapter 5. Because listening to Sufi music with makams seems to be a promising intervention, it is important to acquire more information about its effectiveness and see whether it is feasible and acceptable for a community-based setting.
**Overall aim:** to test the feasibility of a randomised trial of the effectiveness of a Sufi music listening intervention compared to a waitlist control for mild to moderate levels of depression and anxiety in people attending Turkish community centres in England.

**The objectives** of this feasibility randomised controlled trial were to evaluate whether listening to Sufi music is feasible and acceptable as an intervention to improve mental and spiritual well-being, and whether participants would take part in a randomised trial to evaluate it. A secondary objective was to make a preliminary exploration of the effectiveness of the therapy, which may help in calculating the power and sample size needed for a full-scale trial.

### 6.2. Methods

#### 6.2.1. Study design and settings

This study is a feasibility randomised, controlled trial conducted in two Turkish community centres in the UK with assessments at baseline, the second week of the therapy, the end of the fourth (and last) session and 2 weeks follow-up (six weeks after baseline). The two centres, one in Newcastle and one in London, both have regular meetings and events, which involve Turkish spiritual and cultural values; and are open to all of their members. The Newcastle Turkish Community Centre is a well-known centre for Turkish people in the North East of England, being the first of its kind in the region. Yunus Emre Cultural Institute (London) is one of 54 branches which have opened around the world and has a specific aim of promoting the history and culture of Turkey and supporting cultural exchange. This institute is funded by the Turkish Government.

Both centres provided a quiet room with a couch to allow participants to lay down if they wish to and a chair for the researcher. All music therapy sessions were held in these rooms.
6.2.2. Ethical considerations
Approval for the study was granted by the UCL research ethics committee on 28/05/2019 and all participants gave fully informed, written consent before entering the study (participant information sheet, consent form and ethics approval letter can be found in Appendix 6).

6.2.3. Recruitment and participants
Recruitment was conducted in June 2019 in both Newcastle and London. Potential participants were approached by a member of staff at the centres, who gave them an information sheet in English or in Turkish. Additionally, a poster of the study was placed on the notice board of the centres, and an A5 size of the poster as a leaflet was available on the reception desk of the centres. The recruitment time was during the month of Ramadan (the holy month for Muslims) and therefore both centres had daily events and were at their busiest time of the year. If potential participants were interested in the study and gave permission to be contacted, the researcher then contacted them and discussed the study further. If participants agreed to take part in the study, they were asked to sign a consent form.

On pragmatic grounds, it was estimated that 60 participants would be sufficient to demonstrate the feasibility of recruitment and retention (Sim & Lewis, 2012). Thus, to take account of likely attrition, it was planned to approach up to 74 potential participants.

6.2.3.1. Inclusion Criteria
The study recruited adults who (1) were 18 years old and over, (2) were regular attendees of one of the community centres or were a friend/ family of a regular attendee (3) were able to read and understand either Turkish or English and (4) had mild or moderate levels of anxiety or depression or both. The range of scores used for inclusion were 5 to 19 for the PHQ-9 and 6 to 15 for GAD-7 as the aim of this study
to see the effect of the intervention on people with mild to moderate level of symptoms but not severe level. Thus, the thresholds for this study were chosen as mild to moderate level of anxiety and depression.

6.2.3.2. Exclusion criteria
Participants who (1) were under 18 years old, (2) were not able to read and understand either in Turkish or English, (3) had a severe level of anxiety or depression, or (4) had scores outside those ranges on the PHQ-9 and GAD-7 were excluded from the study. Excluded participants with high score of PHQ-9 or GAD-7 was guided to support groups in both Newcastle and London.

6.2.4. Randomisation
After baseline assessment, participants who met eligibility criteria, were randomly assigned to the music therapy (n=29) or the waiting list control group (n=31). Randomisation was carried out using a web-based randomisation service called Sealed Envelope (https://www.sealedenvelope.com/). This service randomised the participants to one of two treatment groups (‘A’ or ‘B’) and recorded the results. Randomisation was blocked (using random permuted blocks) to ensure that the groups are balanced periodically. However, one participant randomised to the control group, mistakenly attended the intervention and thereafter was included in the intervention group. However, adhering to an intention to treat approach, this participant’s data were analysed with the control group. Blinding of participants was not possible because of the nature of the intervention. Given that the researcher was conducting the feasibility study and providing the music in the intervention group, it was also not possible to blind her to group allocation.
6.2.5. The intervention details

6.2.5.1. Development

The development process of the manual was carried out according to the Medical Research Council’s (MRC) framework for complex interventions (Craig et al., 2019) that aims to help researchers in the development, design, and evaluation of complex interventions in health services. In summary, a qualitative study was conducted before the trial to identify the views and attitudes of participants towards Sufi Music with makams and their most preferred ways for this therapy to be delivered. Three makams (Nihavend, Buselik and Rast makams) were chosen for this initial study as their beneficial effect on mental distress had been described in the published literature (Ergeshov, 2011; Güvenç, 1985; Tanriover, 2010; Turabi, 2011). As well as the regular attendees of the centres, three experts were contacted to see how they applied the music, in particular their preferences on how to deliver the makams to the participants. According to the results of this study, the duration of the intervention, the makams used and the setting of the intervention were finalised. A brief manual was then developed for the feasibility trial.

To introduce the music and to help participants relax at the outset, storytelling was used as an ice-breaking activity. The stories were chosen from among the famous Sufi stories -from Mathnavi- (Nicholson, 1945) to introduce the participant to the thoughts behind the music itself. One of the distinctive features of the Sufi music was its strong spiritual connection. The stories aimed to establish this bridge in the therapy.

6.2.5.2. Intervention outline

Sufi music was defined in this study as instrumental music, which was played with the ney (a Sufi instrument) and has at least one specified makam/ mode. Rast, Nihavend and Buselik makams were chosen because of their importance in the practice in the published literature (Giray, 2008). In the theory, historically this music was combined
with water sound provided by fountains in the middle of the mental health wards (Darussifas) (Erdal & Erbaş, 2013; Giray, 2008; Güner, 2007; Sengul, 2008). Therefore, in the intervention a compact disc player played water sounds simultaneously with the music. A compact disc was created for four sessions of the therapy by the researcher which consisted of a different combination of music pieces in same makams (Rast, Nihavend and Buselik) for each session. Order of makams were same for all sessions.

Participants attended a session once a week, for 4 weeks. The sessions were planned to last 25-40 minutes, including 5 to 10 minutes ice-breaking Sufi stories, 16-18 minutes listening and 5 to 10 minutes talking about emotions/ images evoked by the music. The Sufi story was introduced to create a warm atmosphere in the therapy room. Participants then listened to different music pieces in each of the four sessions as well as the water sounds. The Rast makam lasted 6-8 minutes, the Nihavend makam 4-6 minutes, and the Buselik makam 3-5 minutes in each session making a total of 16 to 18 minutes of Sufi music. The music was played on a high-quality CD player that could be heard by both the researcher and the participant. During the music listening, participants were asked to close their eyes and sit or lie down as they pleased. At the end of the session, participants were invited to share any thoughts and emotions evoked by the music.

The researcher led the sessions, listened to the music with participants and took field notes in the final part of the session. During the intervention, she was in the room with the participant the whole time.

6.2.5.3. Wait-list Control Group
In the Turkish Community Centres, regular services included mostly educational classes and lectures for example, spiritual and religious classes, Turkish classes,
historical lectures and cultural celebrations. Participants in both trial arms could attend these regular classes and lectures. However, none of the regular services included exposure to music. Participants in the wait list control group were offered the opportunity to undertake the intervention if they wished after they completed their follow up.

6.2.6. Outcome measures
Despite cultural and social differences in British and Turkish cultures, according to Ulusahin and his colleagues (1994), depression and anxiety have been similarly defined and understood by the samples from two cultures (British and Turkish). Moreover, in two samples similar core depression symptoms and somatization factors were identified including loss of interest, loss of pleasure, impairment of work and interest, lack of reactivity and suicidal tendencies, the somatization items, somatic anxiety, hysterical symptoms, hypochondriasis, and overemphasis on symptoms (Ulusahin et al., 1994). Thus, the outcome assessments were measured with the same variables in both cultures.

Outcomes were measured before randomisation (baseline), at the end of the second session (2 weeks), at the end of last session (four weeks) and at the end of six weeks after baseline. The demographic variables were measured only at the baseline. The outcome assessments were chosen from among well-validated and widely used instruments to measure symptoms of depression and anxiety, and the elements of mental and spiritual well-being. All were available in culturally valid and reliable formats in both Turkish and English.

1. Demography, medication, and past history.
These included age, gender, religion, marital status, occupation, previous experience in Sufism and current medication taken for depression or anxiety. The questionnaire can be found at appendix 7.

2. Depression and anxiety

*The Patient Health Questionnaire (PHQ 9)* was used to assess participants’ level of depression. The PHQ 9 is a valid and reliable questionnaire designed to assess and monitor depressive symptoms and depression severity (Kurt Kroenke & Spitzer, 2002; Sari et al., 2016; R. L. Spitzer et al., 1999). The questionnaire consists of 9 items based on DSM criteria for the diagnosis of depression. Response categories of ‘not at all’, ‘several days’, ‘more than half the days’, and ‘nearly every day’ generate scores of 0, 1, 2, and 3, respectively. It has 5 thresholds as follows; 0-4 none, 5-9 mild, 10-14 moderate, 15-19 moderately severe and 20-27 severe depression (Kroenke et al., 2001). The questionnaire can be found at appendix 8.

The *Generalized Anxiety Disorder Scale (GAD 7)* is a reliable and valid scale to screen anxiety symptoms and was used in this study to assess anxiety severity (Spitzer et al., 2006). The questionnaire consists of 7 items, scored 0 to 3 through a 4- point scale from ‘not at all’ to ‘nearly every day’. The thresholds for the total score are as follows: 0-4 none, 5-9 mild, 10-14 moderate, 15-21 severe anxiety (Spitzer et al., 2006; Konkan et al., 2013). The questionnaire can be found at appendix 9.

3. Mental and spiritual well-being variables

*The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)* is a reliable and valid 14-item scale that was used to assess participants’ mental well-being. It is scored on a 5-point scale (from 1 to 5: none of the time, rarely, some of the time, often, all of the
time) for each item (Keldal, 2015; Tennant et al., 2007). The questionnaire can be found at appendix 10.

The Functional Assessment of Chronic Illness Therapy- Spiritual Well-being Scale, a modified version for non-illness (FACIT-SP 12), was used to assess the spiritual well-being of the participants. The FACIT- Sp12 consists of 12 items and three sub-domains (peace, meaning, and faith) and is scored using a 5- point scale (0-4: not at all, a little bit, somewhat, quite a bit, very much) (Ay et al., 2018; Bredle et al., 2011; Peterman et al., 2002). The reason for choosing this scale was that it was the only reliable and validated spiritual well-being scale available in Turkish. Even though the FACIT-Sp12 was designed for patients with chronic illnesses, in this study, we used the modified version for healthy people. The questionnaire can be found at appendix 11.

Given this was a feasibility study, we wanted to assess which of two primary outcomes might be most appropriate in a main trial. Thus, scores on the PHQ9 and GAD7 at the 4-week follow-up point were examined.

6.2.7. **Primary endpoint**
For each participant, the primary endpoint was at the end of fourth session (T3).

6.2.8. **Secondary endpoints**
For each participant, the secondary endpoints were the second (T2) and sixth weeks (T4) after the trial started.

6.2.9. **Data Collection Procedures**
Before randomisation, at the baseline, potential participants completed the PHQ 9 and GAD 7 and those eligible were randomised to either the music group or waiting list control group. Prior to the first music listening session, the participants responded to demographic questions and completed the WEMWBS and FACIT- Sp12. Table 9
shows when each outcome was measured. For the music therapy group, the researcher took field notes when participants started to share their thoughts and emotions about music.

Table 9: The timeline of measurements

<table>
<thead>
<tr>
<th>Music therapy group + Control group</th>
<th>Baseline (T1)</th>
<th>Week 2 (T2)</th>
<th>Week 4 (T3)</th>
<th>Week 6 (T4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PHQ 9</td>
<td>PHQ 9</td>
<td>PHQ 9</td>
<td>PHQ 9</td>
</tr>
<tr>
<td></td>
<td>GAD 7</td>
<td>GAD 7</td>
<td>GAD 7</td>
<td>GAD 7</td>
</tr>
<tr>
<td></td>
<td>WEMWBS</td>
<td>WEMWBS</td>
<td>WEMWBS</td>
<td>WEMWBS</td>
</tr>
<tr>
<td></td>
<td>FACIT-Sp 12</td>
<td>Qualitative evaluations</td>
<td>FACIT-Sp 12</td>
<td>FACIT-Sp 12</td>
</tr>
</tbody>
</table>
The music intervention group’s data were collected face-to-face, while the control group’s data were collected face-to-face at baseline but after that according to their preferences (online or face-to-face). All follow-up data at week six were collected online. For online data all outcome measurements were transferred to an online format via google forms in Turkish and in English and the link was send to the participants via an email or text message. In all, 29 of 70 at baseline; 13 of 31 (control group) at week two of 31 (control group) at week four; and 47 of 47 (all participants) at week six completed the measurements online (see figure 18).

6.2.10. Data analysis

Given this was a feasibility trial, our main findings concern recruitment and retention in the randomised groups and in the research, as they indicate whether a larger, fully powered trial would be feasible. Thus, feasibility was evaluated on four dimensions, namely recruitment and retention, implementation, practically and acceptability.

The demographic data were analysed using descriptive statistics. The clinical outcome scores are presented as means and standard deviations. To examine the possible effectiveness of Sufi music with makams, an exploratory analysis was undertaken in
which the primary outcomes were depression and anxiety scores at the four-week follow-up point (T3). These mean scores at four weeks were compared, adjusting for their baseline values, in a linear regression. A similar approach was taken to the secondary outcomes of mental and spiritual well-being. All exploratory analyses were conducted on the basis of intention to treat in which all participants were analysed in the groups into which they were allocated. I undertook this form of analysis to mimic as much as possible what would happen in a pragmatic clinical trial where the offer of the therapy is key. However, I strove to ensure that cross over between randomised groups would be kept to a minimum. The SPSS statistical package 26 was used.

6.3. Results
6.3.1. Characteristics of participants

A total of 74 potential participants were approached, of whom 70 provided informed consent and attended baseline assessments. Reasons for why four refused are described further on (page 216). Sixty of them were eligible to participate in the study (figure 19). Characteristics of those excluded are given in Table 10.

No eligible participants refused to participate in the study, therefore, 60 participants were randomised. Participants’ ages ranged from 19 to 54 (table 10). The majority of participants were Turkish. However, to collect nationality data, participants answered the ‘what is your nationality?’ question. Therefore, it could be possible that even though their families are Turkish, some of the participants identified themselves as British. While all but one participant was Muslim (one was Christian), only 15 had regularly attended a Sufi group. Only two were on medication for depression or anxiety (see table 10).
Figure 19; The CONSORT flow chart

In the music therapy group, 86.2% of participants were female while this proportion was 65.5% in the control group. 62.1% of the music group and 51.6% of the control group were 18 to 30 years old. While there were no participants aged over 45 in the
music group, 6.4% of participants in the control group were 46 to 60 years old. Nationalities in the music group were more varied than the control group: 79.3% of participants were Turkish, 17.3% were British and 3.4% were other nationalities in the music group; almost all the participants in the control group (96.7%) were Turkish. Proportions in both groups were similar in relation to occupation, religion and attending a Sufi group; however, the two participants on medication for their depression/ anxiety were both in the music group.

The music group had a higher level of depression and anxiety than the control group (table 10). Furthermore, the results revealed a lower level of mental and spiritual wellbeing in the music therapy group at the baseline (see table 10). Thus, at the baseline, the music group was somewhat more depressed and anxious, and had lower well-being, than the control group.

Excluded participants were broadly similar to those in the trial, except for slightly fewer women in the former.
Table 10: Characteristics of participants of feasibility trial

<table>
<thead>
<tr>
<th></th>
<th>Music group (N=29)</th>
<th>Control (N=31)</th>
<th>Excluded (N=10)</th>
<th>Total (N=70)*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Female (N, %)</strong></td>
<td>25 (86.2)</td>
<td>20 (64.5)</td>
<td>5 (50)</td>
<td>50 (71.4)</td>
</tr>
<tr>
<td><strong>Age (N, %)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-30</td>
<td>18 (62.1)</td>
<td>16 (51.6)</td>
<td>3 (30)</td>
<td>37 (52)</td>
</tr>
<tr>
<td>31-45</td>
<td>11 (37.9)</td>
<td>13 (41.9)</td>
<td>5 (50)</td>
<td>29 (41.4)</td>
</tr>
<tr>
<td>46-60</td>
<td>-</td>
<td>2 (6.4)</td>
<td>2 (20)</td>
<td>4 (5.7)</td>
</tr>
<tr>
<td><strong>Married (N %)</strong></td>
<td>21 (72.4)</td>
<td>21 (67.7)</td>
<td>8 (80)</td>
<td>50 (71.4)</td>
</tr>
<tr>
<td><strong>Nationality (N%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkish</td>
<td>23 (79.3)</td>
<td>30 (96.7)</td>
<td>10 (100)</td>
<td>63 (90)</td>
</tr>
<tr>
<td>British</td>
<td>5 (17.3)</td>
<td>1 (3.3)</td>
<td>-</td>
<td>6 (8.6)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (3.4)</td>
<td>-</td>
<td>-</td>
<td>1 (1.4)</td>
</tr>
<tr>
<td><strong>Occupation(N%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In paid work</td>
<td>7 (24.1)</td>
<td>9 (29)</td>
<td>4 (40)</td>
<td>20 (28.6)</td>
</tr>
<tr>
<td>Student</td>
<td>9 (31.1)</td>
<td>9 (29)</td>
<td>2 (20)</td>
<td>20 (28.6)</td>
</tr>
<tr>
<td>Housewife</td>
<td>13 (44.8)</td>
<td>13 (42)</td>
<td>4 (40)</td>
<td>30 (42.9)</td>
</tr>
<tr>
<td><strong>Muslim (N %)</strong></td>
<td>28 (96.6)</td>
<td>31 (100)</td>
<td>10 (100)</td>
<td>69 (98.6)</td>
</tr>
<tr>
<td><strong>Attends a Sufi group (N %)</strong></td>
<td>7 (24.1)</td>
<td>8 (25.8)</td>
<td>3 (30)</td>
<td>18 (25.7)</td>
</tr>
<tr>
<td><strong>On medication (N %)</strong></td>
<td>2 (6.9)</td>
<td>0</td>
<td>2 (20)</td>
<td>4 (5.7)</td>
</tr>
<tr>
<td><strong>PHQ 9 (mean SD)</strong></td>
<td>10.0 (3.5)</td>
<td>8.8 (3.4)</td>
<td>6.5 (9.6)</td>
<td>8.9 (4.8)</td>
</tr>
<tr>
<td><strong>GAD7 (mean SD)</strong></td>
<td>7.9 (4.1)</td>
<td>6.4 (3.2)</td>
<td>4.7 (7.8)</td>
<td>6.8 (4.5)</td>
</tr>
<tr>
<td><strong>Warwick-Edinburgh WBS (mean SD)</strong></td>
<td>48.9 (9.3)</td>
<td>52.07 (7.5)</td>
<td>NA</td>
<td>50.5 (8.5)</td>
</tr>
<tr>
<td><strong>FACIT-SP (mean SD)</strong></td>
<td>32.66 (7.3)</td>
<td>37.35 (4.4)</td>
<td>NA</td>
<td>35.08 (6.4)</td>
</tr>
</tbody>
</table>

* N= 60 for Warwick-Edinburgh Mental well-being Scale and FACIT Spiritual well-being scale

**Higher scores indicate that higher level of mental and spiritual well-being.
6.3.2. Feasibility Outcomes

6.3.2.1. Recruitment and retention rate

Recruitment, retention in the therapy and retention in the trial are presented in a Consort flow diagram (see figure 19). The recruitment duration for the study was three weeks (20\textsuperscript{th} of May 2019- 11\textsuperscript{th} of June 2020). This period was relatively brief as the recruitment time coincided with the holy month of the Muslims (Ramadan) and the Eid celebration at the end of that month. Community members shared every dinner together during the month and celebrated the Eid together. Therefore, considering the crowd in the centre during the recruitment duration, it was an opportune period for recruitment. However, there were some challenges at recruitment, as four of the approached participants were reluctant to attend the study because they believed that ‘being a Muslim was enough to protect mental health’ and, ‘Why would I need any other help for my mental and spiritual health apart from Allah?’ Their main reasons were that a Muslim cannot be depressed or anxious or mentally ill as s/he has to trust his/her God in every situation, and also that praying will solve the problem. Even though only four of approached participants declined to attend the therapy, it is important to note these reasons as it may impact on a future study.

The recruitment and retention in the intervention rate during the four weeks were 94.5\% and 93.3\%, respectively, in the music group. All participants but one in the music group attended all sessions until the fourth week, but at the 4\textsuperscript{th} week, one of the participants gave birth and therefore could not attend the session. Thus, at the end of the 4\textsuperscript{th} week, only 2 participants did not attend all four sessions.

The control group’s retention rate was less than that of the music therapy group at the 6\textsuperscript{th} week follow up, as 70\% at 4\textsuperscript{th} week and 86\% at 6\textsuperscript{th} week.
6.3.2.2. Adherence to the intervention and the study

Field notes taken during the trial revealed that participants’ engagement with the music therapy sessions was high. Some participants reported that they were looking forward to attending the next session, during the week between sessions. Others found the music sessions to be a time they spent purely for themselves, and they said they enjoyed the time in the sessions. However, not all participants were engaged fully with the therapies. One reported at the end of the four-week session that she did not feel anything positive during the session, and sometimes had found it difficult to attend. None of the participants dropped out of the sessions because they do not want to attend anymore but there was two participants, who discontinued to the sessions as one participant went to holiday and one gave birth, which showed engagement with the music intervention was high. Engagement with the research was less consistent in the control group, as reflected in attrition from the trial at the six-week point (four dropouts in the music therapy group and nine dropouts in the control group).

The uptake of the offer of the music intervention by control participants at the end of the trial was low. Participants were contacted from time to time by the researcher via phone or email, but at the end of the trial, 6 of 31 (20 %) control group participants expressed a wish to take up the intervention but only 4 of them (13.3 %) attended the offer of a two-week intervention.

6.3.2.3. Practicality and Acceptability

The intervention lasted 25 to 55 minutes as some participants spent more time than others in expressing their emotions at the end of music listening. The practicability of the music intervention was assessed at the end of the four-week period with a single question: ‘Would you like to change anything in the therapies?’ According to answers, the design of the intervention worked well for the majority of the participants. A few of the participants commented that environmental factors like the design and atmosphere
of the room could be improved with candles and incense. Others made comments about the room design, including the colour of the couch and walls such as ‘what about a more comfy couch’ or ‘the very bright colour of the walls made it hard to focus on the music’. The rooms were full of light during the sessions, and three participants mentioned that this was a distraction while listening to music as they could not give themselves entirely to the music. However, this comment was limited to only a few participants. Although all participants but one stated that they enjoyed the music listening very much, several of the participants (7/29) stated that the stories were their favourite part.

Attrition from the control and intervention groups was low. Two of 29 (6.6 %) in the intervention group at the fourth week dropped out because of changing holiday plans or personal emergencies.

The acceptability of, and satisfaction with, the music intervention was assessed with a single question at the end of the 4-week intervention. Participants were asked ‘Did you find the therapy helpful?’ and the answers to this question were recorded in field notes. The most common answer to this question was ‘yes, it did’ (23/29); however, some of the participants also made comments to the effect that: ‘it worked, but the effect of the therapy was short term, I do not believe it will work for a long time.’ The answers thus revealed an overall high level of satisfaction in at least the short term. No adverse events were reported or recorded during the trial.

6.3.3. Exploratory Analysis of Primary and Secondary Clinical Outcomes

6.3.3.1. Depression

Table 11 illustrates the mean scores of the outcomes in music and control group over the intervention and at two weeks follow up.
Table 11: Clinical Outcomes - mean scores

<table>
<thead>
<tr>
<th>Trial arm</th>
<th>Baseline (SD)</th>
<th>2nd week (SD)</th>
<th>4th week (SD)</th>
<th>6th week (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PHQ9</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Group</td>
<td>10.0 (3.5)</td>
<td>8.4 (3.4)</td>
<td>5.9 (3.1)</td>
<td>6.5 (3.6)</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Control Group</td>
<td>8.8 (3.4)</td>
<td>7.1 (3.1)</td>
<td>6.6 (2.7)</td>
<td>7.5 (3.1)</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td><strong>GAD7</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Group</td>
<td>7.9 (4.1)</td>
<td>5.8 (3.4)</td>
<td>4.6 (3.4)</td>
<td>5.5 (3.4)</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Control Group</td>
<td>6.4 (3.2)</td>
<td>6.4 (4.3)</td>
<td>6.1 (3.7)</td>
<td>6.1 (3.7)</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td><strong>Warwick-Edinburgh mental well-being</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Group</td>
<td>48.9 (9.3)</td>
<td>-</td>
<td>54.5 (9.4)</td>
<td>53.8 (8.9)</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Control Group</td>
<td>52.1 (7.5)</td>
<td>-</td>
<td>51.7 (7.3)</td>
<td>52.8 (9.1)</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>-</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td><strong>Facit Spiritual well-being</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Group</td>
<td>32.7 (7.3)</td>
<td>-</td>
<td>38.7 (6.6)</td>
<td>36.3 (7.6)</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Control Group</td>
<td>37.4 (4.4)</td>
<td>-</td>
<td>35.1 (6.7)</td>
<td>35.6 (7.3)</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>-</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 12 shows the unadjusted and adjusted linear regression results for the PHQ-9 at T3 (the 4th week of the trial). There was a descending trend in both group’s scores.

The linear regression for outcome at four weeks, adjusted for baseline, shows that in the music therapy group, the PHQ9 score was lower in the music than the control group, although the difference was not statistically significant (MD -1.49; 95% CI -3.21 to 0.22; \( p =0.87 \)). The results also show that the level of depression of the participants
in the music arm started to increase again after the fourth week of the intervention ended (see T3, figure 20).

![Patient Health Questionnaire (PHQ-9) Means](image)

*Figure 20; PHQ-9 means over the 4 time-points*

### Table 12; Linear Regression results of all clinical outcomes at T3 (4 weeks)

<table>
<thead>
<tr>
<th></th>
<th>Depression (PHQ-9)</th>
<th>Anxiety (GAD-7)</th>
<th>Mental well-being (WEMWBS)</th>
<th>Spiritual well-being (Facit-Sp12)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>95% CI</td>
<td>p</td>
<td>Coefficient</td>
</tr>
<tr>
<td>Linear regression unadjusted values</td>
<td>1.007</td>
<td>-0.5 to 2.5</td>
<td>0.1</td>
<td>1.548</td>
</tr>
<tr>
<td>Linear regression adjusted for baseline values</td>
<td>-1.494</td>
<td>-3.21 to 0.22</td>
<td>0.8</td>
<td>-2.222</td>
</tr>
</tbody>
</table>

CI = 95% confidence intervals
6.3.3.2. Anxiety
Table 12 shows unadjusted linear regression results for the comparison music and control group at the T3 (4th week-end of the trial); the difference between the two groups on GAD-7 scores was not statistically significant. However, after adjustment for baseline GAD-7 scores, the GAD 7 mean scores were significantly lower in the music than the control group (MD \(-2.222\) \(p=0.013\); 95% CI -3.95 to -0.48). Anxiety levels in the music group decreased over the four weeks of the trial but started to increase after the last session of the intervention (figure 21). There was a very slight downward trend in the GAD 7 mean score in the control group.

![Generalised Anxiety Disorder Scale Means (GAD-7)](image)

*Figure 21; GAD-7 means over the 4 time-points*

6.3.4. Secondary Clinical Outcomes
6.3.4.1. Mental well-being
At T1 (baseline), the music group had lower mental wellbeing than the control group. However, at T4 (6th week-follow up), the mental well-being level of both groups was very similar (music group: 53.8 (8.9) and control group: 52.8 (9.1)). When we compared the mean differences between the music and control groups at T3 (4th week-end of the trial) without adjustment by T1 (baseline), the differences were statistically insignificant (\(p=0.3\); 95% CI -6.6 to 2.2). During music therapy, however,
the mental well-being of the music group participants significantly increased, as revealed by the linear regression results at T3 (4th week-end of the trial) adjusted by T1 (baseline) (Table 12). These results illustrated that the increase in the music therapy group was statistically more significant than in the control group (MD 5.174 \( p = 0.002; 95\% \text{ CI } 1.98 \text{ to } 8.36 \) ) (Table 12). Mirroring the results for the symptom scores, there was an increasing trend in the mental well-being levels of the music group participants until the T3 (4th week-end of the trial), after which the levels began to decrease (figure 22).

![Warwick-Edinburgh Mental Wellbeing Scale Means](image)

*Figure 22: WEMWBS means over the 4 time-points*

### 6.3.4.2. Spiritual well-being

At T1 (baseline), in the same way as the mental well-being levels, the spiritual well-being levels of the music group were lower than the control group at T1 (baseline) and became higher than the control group at T3 (4th week-end of the trial) (Table 12). Without adjustment, the mean differences between the music and control groups’
spiritual well-being levels were insignificant \((p=0.9; 95\% \text{ CI} -0.47)\), however, there was a statistically significant advantage in spiritual well-being in the music therapy group at T3 (4th week- end of the trial), as adjusted by T1 (baseline) \((\text{MD 6.279, } p=0.000; 95\% \text{ CI 3.59 to 8.96})\). Similar to general well-being, the spiritual well-being levels started to decrease after the last session of the intervention in the music group (figure 23).

![FACIT Spiritual Wellbeing Scale Means](image)

**Figure 23**: FACIT-SP12 means over the 4 time-points

### 6.4. Discussion
This study aimed to test the feasibility of a randomised trial of the effectiveness of a Sufi music listening intervention compared to a waitlist control for mild to moderate levels of depression and anxiety in people attending Turkish community centres in England. The intervention was generally well-received by participants according to qualitative feedback; moreover, the high rates of intervention participation and follow-up were encouraging. With regard to clinical outcomes, there are potential trends
towards reduction in participants’ depression and anxiety levels and improvements in their mental and spiritual well-being. Such trends favoured the intervention group over the first four weeks of the trial. However, during the subsequent two weeks, these improvements gradually dissipated.

6.4.1. Feasibility Outcomes
A range of criteria was used to assess feasibility, including retention and recruitment rates, acceptability and the practicability of the intervention, and its implementation. The recruitment process went very well, relative to other similar studies, as 70 participants undertook baseline assessments (of whom 60 were recruited) in three weeks. One explanation for this was that the recruitment occurred during the last two weeks of the month of Ramadan, which is the holy fasting month for Muslims, and thus recruitment was helped by the centres serving a dinner for their attendees daily. Therefore, regular attendees were at the community centre every day, and at the end of Ramadan, there was a celebration (Eid) where families who are not regular attendees also attended. As a researcher, I had the opportunity to reach all the potential participants in the centres during those three weeks and used this opportunity wisely. Moreover, as a volunteer worker at the Newcastle community centre, where most of the participants were recruited, I was a familiar figure to many of the attendees; therefore, people generally did not hesitate to participate in the study. There is stigma in the Turkish community towards mental disorders, where people prefer not to seek help for their depressive or anxious symptoms, even though these symptoms may be causing problems in their daily lives (Bilican, 2013; Montesinos et al., 2012). Therefore, the opportunity to attend a therapy session provided by a trusted individual for the first and perhaps only time in their lives might also have been an attractive
option for the participants, as some of them had seen the posters on the board and requested to attend the study.

However, there were some challenges in the recruitment process as a few approached participants were hesitant to join the study because they believed that a Muslim cannot be depressed or anxious or mentally ill as s/he has to trust his/her God in any circumstance, and also that prayer will cure the issue. This is a common perception among religious Turkish people; therefore, in view of this and of the stigma, some members of the Turkish community in the UK and in Turkey prefer not to seek any help for their mental disorders (Eylem et al., 2016; Gur & Kucuk, 2016; Zorba, 2015).

Consequently, the recruitment process was generally easy and smooth because of its timing, the researcher’s relationship with the community, and the attraction of the intervention. Furthermore, retention rates were high in both arms of the trial.

The implementation, practicability and acceptability of the intervention were measured with qualitative informal questions and the researcher’s field notes. Practicability and acceptability were assessed by asking a single question for each at the end of the four-week sessions, while implementation was assessed through the researcher’s field notes taken during these sessions. The participants found the listening model to be acceptable and practicable; however, some of them reported that although the intervention worked very well, it offered only a temporary solution to their depressive or anxious thoughts. The participants found the intervention useful, but some also suggested changes to the ambience, such as the addition of candles or scent. Although only six participants on the waiting list expressed an interest in receiving the music therapy at the end of the trial, and only four eventually attended, it is likely that
its salience had declined with the passage of time, the end of Ramadan and the school holidays.

In this feasibility trial, the therapy incurred no direct cost as the researcher voluntarily gave the sessions, and the music pieces were played from the laptop with the speakers which belonged to the researcher. However, in a normal therapy session, the therapist needs to be costed. Even though the NHS offers free music therapy sessions, private music therapy costs on average £45-£65 per session (e.g. https://www.belltrey.org.uk/services_and_costs/). The centres provided a room without charge for this study; however, normally renting a room of this kind of centre costs £10 to £25 per hour. Even though in this study the cost of the therapy was minimum, the costs related with the room (including couches/ mats), the music player or laptop, and if necessary, the cost for the facilitator might also need to be considered.

Feasibility outcomes suggest that listening to a combination of Sufi music with makams plus the sound of running water, in the presence of a coordinator who told a Sufi story at the outset and asked them for their views afterwards, was acceptable and practical for people with mild to moderate symptoms of depression and/or anxiety. Moreover, implementation and retention rates of the participants, demonstrated there was considerable interest in the intervention model. However, although the model worked well, its long-term effectiveness and implementation requires further study in other settings and with other coordinators. Whether or not the water sounds are necessary also needs separate consideration (see below).

6.4.2. Clinical outcomes
The primary clinical outcomes in this study were depression and anxiety. While Sufi music therapy had a significant effect on the anxiety level of participants in the music group, there was no significant difference in depression scores between the music and
control groups at the primary endpoint of four weeks. Moreover, the effect of music therapy is limited to the intervention period as by two weeks after its completion the positive effect of the music intervention had abated. For the secondary clinical outcomes, namely mental and spiritual well-being, the results had a similar trend. The mental and spiritual well-being of the participants in the music therapy group increased during the intervention but decreased again during the subsequent two weeks.

The results suggest that Sufi music with makams may reduce anxiety and increase mental and spiritual well-being of those with a mild to moderate levels of anxiety or depression.

However, it is unclear whether the music had a therapeutic impact, or if this effect was due to other factors such as coming to a silent place to obtain therapy or to the stories that were told before listening to the music. There were possibly non-specific mechanisms alongside the Sufi music with makams. Firstly, for most of the participants, this was the first time in their lives that they had received a therapy. Therefore, the simple act of attending the sessions may have had a positive effect on reducing anxiety and increasing participants’ well-being. Moreover, attendance at the centre for the purpose of therapy is meant to enable the participants to leave all of their daily life duties and struggles at home. They turned to and listened to themselves in the sessions for a while. However, this is an important component in every therapy intervention.

Alongside this effect, the Sufi stories were used as icebreaking activities, and all four stories had a spiritual lesson. As a result, these stories may have had a therapeutic effect in themselves on the participants, as some of them mentioned how the stories had positively affected them at the end of the therapy. As part of the intervention, water
sounds accompanied the music pieces, and these may also have had a relaxing effect on the participants. Some participants mentioned how they liked the water sound and how it created an image of a waterfall, river or forest while they were listening to the music.

As the measurements are self-reported, the responses might not necessarily be honest due to the relationship between the facilitator and the participants. Some participants may give favourable answers with the intention of helping the researcher/facilitator.

Finally, the effect of the music therapy could be related to the music listening activity itself rather than to the type of music or the makams.

Thus, although the preliminary results of the clinical outcomes were promising, further studies are required in order to draw a strong conclusion. Moreover, as this is a feasibility study, the clinical outcome analysis was only preliminary; a larger randomised controlled trial is required to investigate the effectiveness of this music intervention on depression, anxiety, and mental and spiritual well-being.

6.4.3. Strengths and Limitations of the Study
To my knowledge, this is the first feasibility randomised controlled study of the impact of Sufi music therapy with makams on mental health outcomes to be conducted outside Turkey and first study conducted in a community setting. A rigorous method was implemented, which included well-standardised and validated instruments. Furthermore, exploratory analysis followed rigorous statistical methods; for example, the outcome variables were adjusted for their baseline scores, thereby increasing the precision of the findings. Linear regression provided a robust statistical comparison between the intervention and the control groups, albeit with a small sample.
The current feasibility study had several limitations, including the lack of blinding of researcher and participants to the treatment as well as blinding of outcome assessments. Moreover, the missing data of those who were lost to follow-up was included in the analysis, which may have biased the statistical results of the study as the missing data may have led to an overestimation or underestimation of the results. The feasibility design and small sample size limits the conclusions that could be drawn from the effectiveness analysis. Although the results suggest trends towards certain improved outcomes favouring the intervention, the study was bound to be underpowered. Because this was a small trial, it was inevitable that a degree of imbalance of patient characteristics and outcome variables at the baseline would occur by chance. Here, the anxiety and depression levels in the intervention arm were higher than those in the control group; moreover, the mental and spiritual well-being levels were lower in the intervention than in the control group. Although statistical adjustment attempts to make good this imbalance, it remains a limitation. However, a larger, fully powered trial would be much less likely to run this risk. There was also no independent assessment of fidelity to the treatment, whether the therapy was delivered consistently and according to the study manual for all participants. There was also limited qualitative data on what the participants thought about the intervention.

Additionally, the fact that many participants knew the researcher limits the results’ reliability and generalisability. Therefore, without this relationship, both the feasibility and clinical results could be different. Moreover, the study recruited Turkish community attendees only in Newcastle and in London; therefore, the results may not be representative of the whole Turkish population in the UK. The researcher was a facilitator in this whole trial, but not a psychotherapist or a music therapist. Therefore, the field notes did not record the psychological or psychiatric status of the participants.
The last limitation of this study is familiarity of participants with the music type. The ney (instrument) is related to the spiritual and religious Sufi meanings in Turkish popular culture, as generally religious and spiritual TV programmes in Turkish use ney music (Senay, 2015). Therefore, the Sufi music may not have a similar effect on people who are unfamiliar with it, such as individuals from “Western cultures” specifically regarding levels of spiritual well-being. Moreover, my umbrella review of systematic reviews of receptive music therapy interventions found that all forms of music may have similar beneficial effect on mental health disorders (please see chapter 2). Thus, my finding that music listening has a statistically significant effect on anxiety, symptoms in this trial may be due solely to the act of listening to music rather than the type of music. Against that interpretation is how often participants in the qualitative study and in the feasibility trial mentioned the spiritual component to the music and its impact of them. Thus, an alternative conclusion might be that Sufi music with makams has a spiritual effect over and above the sound of the music itself.

6.4.4. Future Directions
The current study indicates the feasibility of implementing an intervention which consists of listening to Sufi music with makams to reduce depression and anxiety and improve mental and spiritual well-being of regular Turkish community centre attendees. However, to measure the intervention’s effectiveness on mental health disorders, further randomised controlled trials in a variety of clinical populations are needed to provide more definitive evidence.

Further studies on comparisons of Sufi makam music with different music types are required in order to see whether there is a unique effect for this type of intervention. In the literature, Sufi music therapy with makams were mainly applied for state anxiety during surgical or medical procedures. Therefore, further well-designed studies for this
music intervention should consider longer term application and a longer term follow up in order to investigate the longer-term benefits of the therapy. Future evidence on clinical effectiveness of Sufi music with makams needs to extend to other cultural groups to assess whether it might provide an easily accessible, multi-cultural and spiritual intervention for mental health care of adults with depression and anxiety.

6.4.5. Conclusions
This trial provides evidence for the feasibility and acceptability of delivering a Sufi music with makams intervention for community centre attendees with mild to moderate levels of anxiety and/or depression. It also establishes the preliminary clinical evidence and key research parameters needed to design a full-scale trial. The designed Sufi music therapy with makam intervention was found to be feasible, acceptable and convenient to deliver, and the recruitment and retention rates to the study and the intervention were high. Furthermore, assessment of the clinical outcomes suggests that the intervention may reduce anxiety and improve mental and spiritual well-being.
7. Reflexivity

Reflexivity is the process of critical self-reflection on the position/predisposition, bias and personal values of the researcher which provides transparent information of their impact on the results (Kleinsasser, 2000). Therefore, in this chapter I will reflect on my own bias to illustrate its potential effects on the outcome.

Regarding my cultural background, I am a native of Turkey, where I belong to a Sufi group and I am an amateur ney player. Therefore, I already had a strong connection with Sufi music before starting this project, which began with my belief that Sufi music with makams is spiritually and mentally beneficial to people. Moreover, my bias, both conscious and unconscious, would have conducted a feasibility study to show a positive effect. This may have an impact on my ability to critique the intervention accurately and effectively because I am "psychologically invested" in the intervention. Consequently, even though I have no neutral position or equipoise in this project, I was aware of my biases throughout it.

I would like to emphasise that when conducting this research, my Turkish origin provided me with the privilege of "inside knowledge" and enabled me to ask the appropriate questions while being aware of Turkish norms, customs and beliefs. Thus, the participants may feel more comfortable to share their ideas with a person from their own cultural background in the qualitative study. Furthermore, my Turkish background helped me to create a strong connection with some of the participants as I have offered two languages, Turkish and English, to the participants in the interviews and in the feasibility study. Participants who preferred to express themselves in Turkish more comfortably had the chance to do that.
Since I am a volunteer worker at the Newcastle Community Association, I developed some personal connections with some of the participants as I had friends and neighbours among them. However, most of those who knew me best were participants in the weekly classes that I was giving at the centre. This strong connection was of considerable help to me in the recruiting process; nevertheless, in the data collection process in both studies (the qualitative study and the feasibility study), this created some problems.

In the data collection process of the qualitative study, the participants may have given favourable answers to the questions (as stated in Chapter 4, as a limitation) because they thought that this would be of help to me. When I realised that this was a possibility, I attempted to reassure them that all types of answers would be valuable. However, some participants may have continued to overemphasize their responses to show that they were engaged with the interview, and how helpful they were. Thus, this situation may have influenced the results. Moreover, In the feasibility study, I found it particularly difficult to discuss mental health issues with people whom I knew. In fact, in some situations, I wanted to offer them friendly support. However, to reduce the researcher’s bias, I needed to conform to the required boundaries in the session and approached to the participants whom I knew more neutrally.

My presence was felt like a researcher, asking questions and probing, however on the other hand, I was a female researcher. I had to acknowledge that perhaps the female participants may find it easier to speak and answer the questions, while the male participants may be hesitant to share their experiences openly with a female. In Muslim communities, there is a strict boundary between men and women and some Muslims find it inappropriate to communicate with the opposite sex. Therefore, this may
influence the boundary of the answers of the male participants, even though I did not realise the male participants’ hesitation during the interviews or interventions.

Last but not least, I should mention my academic background. As a social scientist (graduated from faculty of theology and did a MA in theology) with limited knowledge of running scientific research, every step of this project was a learning journey for me. I conducted an umbrella review, a systematic review and meta-analysis, a qualitative study and a feasibility randomised controlled trial for the first time in my academic life. Even though this situation motivated me to study more and to achieve the best I can, it may affect the results.

In this section I elaborated and reflected on my bias during the project. Analysing my implicit and explicit bias as well as my conscious and unconscious expectations from the research helped to improve the general evaluation of the data produced.
8. Overall Discussion

8.1. Introduction
This thesis contributes to the literature by reviewing the place of Sufi music with makams in the field of mental health, systematically developing a Sufi music with makam intervention, and undertaking its piloting and feasibility assessment at urban community centres in the United Kingdom. This chapter begins by discussing and summarising the key findings of the main threads of the thesis, namely the historical framework, the umbrella review, the systematic review, the qualitative study and the feasibility trial. I then attempt to understand and explain them within the wider context. Although results were discussed briefly at the end of each chapter, in this final chapter an overall critical evaluation is conducted. Subsequently, a critical reflection on the key strengths and limitations of the thesis is presented. Then the implications of its theoretical and clinical findings are analysed within a wider context of community and mental health. The chapter concludes with the recommendation of potential areas for future research.

8.2. Summary of Key Findings
This Sufi music with makam intervention has a number of interacting components such as the Sufi features of the music, the opening stories and the discussion between participant and facilitator of anything evoked by music. In considering Sufi music with makams as a complex intervention, an essential task is to develop a theoretical understanding in order to modify the intervention for modern settings by utilising existing evidence and theory. According to the Medical Research Council’s framework on developing and evaluating complex interventions (Craig et al., 2008), this process should commence with a systematic evaluation of the available evidence and qualitative research involving ‘stakeholders’ including potential participants or experts involved in its delivery.
The modern application of Sufi music with makams had no potential guidelines for helping to apply or implement it in healthcare. This gap was one of the principal motives for undertaking this study; therefore, with the guidance of the MRC’s framework on developing and evaluating complex interventions (Craig et al., 2019), a guideline was designed based on historical background, a systematic review of extant literature and qualitative research (Figure 24).

Chapter 1 focuses on the historical, spiritual and theoretical origins of Sufi music with makams intervention with the emphasis of key mechanisms of this intervention. The purpose of this is to evaluate the position of this therapy, from a historical perspective, in relation to the other music therapy interventions which evaluate the theoretical aspects of Sufi music with makam interventions. This step is crucial for the intervention, because it answers the questions concerning what is available theoretically as well as the expected changes regarding the modification of the intervention to adapt to modern culture.

The historical background research found a chronological line running from ancient times to the present. However, a gap was identified in this line in medieval times, which were defined by western historians as the ‘dark ages’. However, in reality there were extensive writings by scholars from Anatolia and the Middle East that unfortunately received very limited attention from a western perspective. Writing history from one viewpoint may have led to some loss of knowledge of the theoretical basis for this type of intervention. This is because science is cumulative; therefore, the works of scientists in all parts of the world are relevant, irrespective of any regional differences in music therapy. However, with the increased number of translations from Arabic, Ottoman Turkish and Persian into Latin/ English, that gap in the history line is progressively closing. Furthermore, the use of music in psychiatric hospitals and wards was first
described by scholars and physicians from Anatolia and the Middle East, which is described in chapter 1.

Moreover, it is useful to develop a coherent understanding of the theoretical background of Sufi music with makam interventions. The mechanisms underlying Sufi music with makams were identified through the theory of this music intervention which differed from other receptive music therapy interventions with its spiritual features and nature-reminded attributes. Moreover, theory books on this intervention, as well as past records, indicate that this therapy was applied in psychiatric hospitals and wards; however, such application was interrupted at the end of the nineteenth century. With the fall of the Ottoman Empire, all traditional methods that were employed throughout the empire were discontinued, including traditional Ottoman medicine (Turabi, 2005). Although such intervention has been revealed by physicians over the past two decades, no guidelines have been made available to help people to understand the therapeutic process of the intervention and methods of delivery.

A comprehensive umbrella review was conducted in order to ascertain the position of Sufi music with makam interventions among other studies on music therapy. This review involved a narrative analysis of systematic reviews on receptive music therapy and mental health. This research provided evidence for the effectiveness of receptive music therapy in reducing the anxiety of patients undergoing surgery or experiencing depression and stress disorder, regardless of the music type. This illustrates that Sufi music with makams, as a receptive music therapy intervention, may work in the same way as other receptive music therapy interventions for reducing anxiety, depression and stress disorder in the context of patients undergoing procedures. There were very few studies examining the effects of receptive music on general symptoms of anxiety and depression.
As part of this project, the first systematic review and meta-analysis on Sufi music with makams and mental health outcomes were conducted with the purpose of evaluating the available evidence on the topic. The results revealed that Sufi music with makams may have a beneficial impact on procedural anxiety, depression and stress disorder. However, the findings were limited due to the low methodological quality of the included studies, and the fact that all studies had been conducted in Turkey. Consequently, it was hard to draw a strong conclusion on the effect of mental health outcomes of Sufi music with makam interventions.

In this qualitative study, the research was conducted with 41 regular attendees of Turkish community centres in Newcastle and London. The themes arising from the data related to the beneficial effect of the music, its spiritual features and its culture-centred approach. Moreover, the participants provided detailed answers about how such an intervention can best be delivered. This qualitative study played an essential role in the project as it helped gain a profound understanding of the approach of the potential participants in the UK to Sufi music with makams. All previous studies were conducted in Turkey; consequently, no evidence or theory was available as to how this music might apply to people who live in countries other than Turkey. Therefore, this research provides an exploratory baseline for further studies, together with this project. Moreover, themes emerging from the qualitative study illustrated how Sufi music with makams is considered by participants as spiritual and nature-reminded music. These two themes (being spiritual and mother nature) accorded with the unique mechanisms of Sufi music with makams intervention additional to its mode-based nature. Thus, the results of the qualitative study, as well information provided by experts on Sufi music, built on the evidence from the historical roots of the music, as
well as the systematic and umbrella reviews, to aid the development of a guideline for the intervention.

In the final stage of my project, the guideline was applied in a feasibility randomised controlled trial to test the acceptability and feasibility of applying Sufi music with makams to people in an urban community centre with mild to moderate levels of anxiety or depression. The results of this study revealed that the participants found that the intervention design was feasible and acceptable. Furthermore, the results indicated that Sufi music with makams might help to reduce symptoms of anxiety and increase mental and spiritual well-being. However, the evidence was limited by a small sample size and also to Turkish people living in the UK. Therefore, a pilot trial, with a larger sample, should be conducted. Also, a comparison study should be considered in order to ascertain the relevance of the role of cultural bonds in Sufi music with makam interventions. As, the cultural bond of Sufi music intervention with Turkish people may distinguish from its healing properties if the intervention is applied in comparison with another culture which has no cultural connection with such music.
Consequently, this thesis has developed a guideline for Sufi music with makams and has also tested this in a feasibility randomised controlled trial. This meant that the guideline may be applied in a larger comparative study in order to decide whether or not it is a beneficial intervention for people with anxiety and depression in the same way as other receptive music therapy interventions.

8.3. Strengths and Limitations
From several perspectives, this thesis provides comprehensive evidence on how Sufi music with makams can be used as a therapeutic intervention for mental health outcomes. Our study conducted a first systematic evaluation of the reviews of receptive music on mental health outcomes and also a meta-analysis of the impact of
Sufi music with makams on such outcomes. This is the first qualitative study on the attitudes to Sufi music with makams, and the first feasibility study exploring the effectiveness of such music for people with mild to moderate psychological distress.

However, the thesis has several limitations which ought to be highlighted. The first of these is the lack of a well-developed theoretical model which could be used in the intervention development. The lack of theory may lead to misunderstandings and misevaluation of the intervention due to the ambiguity in the underlying key mechanisms of intervention (Clarke, 1987). As this project is the first attempt to develop a Sufi music with makams intervention guideline, there was no previous research on such guideline. Therefore, this limited the project’s sources and shaped the project’s aims and objectives.

The studies for this research project were conducted in two Turkish community centres, with the researcher having a volunteer role in one of these, namely the Newcastle Turkish Community Centre. Therefore, most of the participants who were recruited for the qualitative and feasibility studies were already known to the researcher. This was an advantage in facilitating a high response to recruitment, but it also represented a limitation in which it was harder to maintain the usual professional boundaries. Thus, on occasion it was rather difficult for the researcher to facilitate the music intervention with a person who was known to her personally. Consequently, this might have affected the openness of the interviews and the results of the feasibility study. It is important to bear in mind that the positive findings may have been due to the researcher rather than the intervention itself and hence the importance of replicating these findings in other centres.
The fidelity of the intervention was not assessed objectively by an independent rater and detailed feedback in the form of qualitative interviews were not obtained from the participants in the feasibility study about their experiences of the study.

Last but not least, this project's results are limited to the Turkish population that lives in the UK; therefore, they may not generalise to other populations. This project may provide a base for future studies which will be looking at such music intervention's effects on different populations in different national settings.

8.4. Theoretical Implications

8.4.1. Music therapy vs music medicine

Music therapy and music in medicine are defined differently. The first one refers to clinical use of music interventions to establish a therapeutic relationship in order to reach individualised goals, while the latter is defined as using music for health related goals such as boosting the effect of this intervention with music or using music to promote health without a therapist involved (Bruscia, 1998; Gold et al., 2011).

Throughout history, music interventions were applied receptively, and the focus was always on the music which was seen as main beneficial component in the whole intervention. As we discussed in the chapter 1, music listening interventions without a therapist or a therapeutic relationship are considered under music medicine according to modern music therapy professionals (Gold et al., 2011).

Could Sufi music with makams be considered as a music therapy intervention? According to music therapy professionals, the answer is no due to the lack of a therapist in the intervention design. Thus, all the historical music intervention models were excluded from the definition of music therapy. They were evaluated under a new term, music medicine. Nevertheless, the researcher’s discussant role at the end of the intervention may change the category of Sufi music intervention. This part creates a
space for researcher-participant interaction, along with music-participant interaction in music listening interventions.

Through a holistic, comprehensive, and culture-sensitive music therapy theory, the profession has developed intensely in recent decades. Bonny (1986) has stated that the aim of holistic medicine is to pursue the total well-being of a person (i.e., in relation to their complete mind, body and spirit), with music being an ideal way of doing so (Amir, 1996). Thus, establishing a theory as to the use of music as a unique way of healing but also as a way of maintaining one’s well-being, particularly in a way that has a global application and that responds to the easy accessibility of a wide diversity of music, is hard to accomplish. However, the music therapy profession has dealt with this issue very systematically with the contributions of other scientific divisions like psychiatry, medicine, psychology, ethnomusicology, anthropology and spirituality. Today, the profession includes a wide range of people – musicians, music therapists, ethnomusicologists, music therapy researchers, music psychologists, medical anthropologists in music, physicians, nurses, psychiatrists and traditional healers – all of whom develop this field in an inclusive way (Moreno, 1991). Thus, music listening interventions need to be included in a wider, more holistic and comprehensive approach to music therapy. Figure 25 illustrates a proposed holistic model for music
therapy with the emphases on mainly music, client and therapeutic interaction with music and facilitator.

8.4.2. Complexity of the intervention
Sufi Music with makams is a complex intervention because it comprises numerous components such as spirituality, water sounds and Sufi stories, as well as the experience-sharing at the end of the intervention design. Therefore, any theory behind this music intervention needs to be embedded in makam music, spirituality, psychotherapy and Sufism. The impact of Sufi music with makams on mental health is complex, in that the various components may work in different ways. For example, the spiritual nature of the music may interact with the participants’ spirituality in a certain culture, whereas the selected makam may create a greater general therapeutic effect for another culture. Moreover, simply listening to music may have a beneficial impact on depression and anxiety, irrespective of the music type, mode or genre. As
shown in the umbrella review (Chapter 2), listening to any music has a beneficial effect on the anxiety of patients undergoing an operation/surgery, or those being treated for depression or stress disorder.

The working mechanisms of a Sufi music with makams intervention still needs more studies to be explicit on how the mechanisms are working, when and for whom. All these components may work together for a person who has a cultural and religious bond with this music type, but in others only some of the components may be relevant. Therefore, such intervention requires further research and evaluation in various contexts such as in a non-Muslim community or in a comparison with secular music pieces.

8.4.3. Religious or spiritual music therapy, can we talk about such therapy?
Religious music is an integral part of many worship services, as even Muslim religious institutions (mosques), from the prayer call (ezan/adhan) to the prayers, have a musical identity. The question here is whether we can talk about religious and spiritual music as two distinct terms and whether we can define Sufi music as spiritual music. According to Alvin (1975), music may be a medium through which we communicate with the transcendent, invisible world. People used to utilise music as a vehicle to reach from the natural realm to the supernatural. Chailley (1964, cited in Alvin, 1975:12) explained this more clearly as “The gods have spoken to man, and man to the gods through music.” Music was/is a language to communicate with God/s, but it also creates a spiritual link between the human’s world and God’s world.

Nevertheless, despite the different meaning of these two words in the music field, spiritual music and religious music have considerable overlap as these two terms have been used interchangeably in the literature. Studies on religious music as a therapy have mentioned this type of music’s spiritual effects alongside mental or physical
effects (Bradshaw et al., 2015; Krause & Hayward, 2014). While there is a group of music pieces called religious music in the literature, there is no specific definition for spiritual music, although some papers have used the term spiritual music instead of religious music (Safara et al., 2014). However, over the last few decades, increasing attempts have been made to integrate spirituality into therapies, thus the spiritual music type has become a focus of discussion.

Sufi music is an example of spiritual music, which differs from Islamic religious music by its nature. While in Islam religious music includes sacred meanings/words and no instruments are used (Mosque music, nasheed, Quran recitations, etc.), Sufi music is mainly instrumental but may use Sufi poems as words. In some Muslim countries like Turkey, we can see these differentiations very clearly. However, in most Arab countries, music is regarded as a trigger for worldly desires and consequently any form of music is forbidden (haram) (Farmer, 1952). Therefore, in countries where music is not part of daily life, only religious music is in a position to feature in a clinical context.

It should be mentioned that there is a lack of a universally agreed definition of spirituality in the literature (Dein et al., 2012; Dein, 2005; Moreira-Almeida et al., 2016). Therefore, defining any kind of music therapy as spiritual music therapy is a challenge. This Sufi music intervention has more than one spiritual component, as Sufi stories, natural elements like water sounds or nature-based instruments, and spiritual music made by Sufi instruments are integrated into one approach. Thus, it is possible to describe Sufi music therapy as spiritual music therapy. However, this definition may still differ from one culture to another, in the same manner as spirituality’s definition (Dein et al., 2012; Dein, 2005).
As a result, to define whether a music piece is spiritual or not, the spiritual ingredients in the music itself (like words, instruments or connection with a spiritual tradition) are enough, although this remains at a descriptive level. There may be no underlying ‘substance’ to which spiritual music can be reduced. As a next step, we need further exploratory studies to determine whether the concept of spiritual music therapy is effective and to compare such music to so-called secular music.

8.4.4. Sufi music intervention as a spiritual music intervention
The theology of music contains different approaches towards music as a deeply meaningful communication. However, it is impossible to ascertain the meaning in terms of rational ideas. Instead, it may be that music communicates emotionally (Anttila, 2013; Begbie, 2000). It is evident that Sufi music conveys emotions. In the qualitative study, participants found the music to be very emotional in that it triggered sadness and happiness as well as spiritual feelings. This poses questions as to who holds the emotions; the music, musician, composer or listener. In Sufi music, it is the music itself. Different pieces of music were used in each session (both in the qualitative and feasibility study) from various musicians and composers. Although different participants listened to the music, it had similar emotional effects on all of them. This suggests that the emotions reside in Sufi music and appear when someone listens to it.

Therefore, it may be assumed that spirituality resides in the music itself, since from a very early age music has had a function of facilitating communication with God through transcendence (MacMillan, 2000). According to Begbie (2000:3) “music can serve to extend our wisdom about God, God’s relationship with us and with the world at large.” However, modern popular music is unable to convey this spiritual depth in of itself due to its simpler harmonies, melodies, and structure (Bonny, 2000).
One spiritual effect of music is to form a means of communication with the Divine for listeners (MacMillan, 2000; Murtonen, 2018; Stowe, 2004). Hence, when defining Sufi music with makams as a spiritual music intervention, it is necessary to ask how it might work differently from other music interventions in mental health. Although the role of music in communication with the Divine is an unusual perspective in the music therapy field, the work in this thesis shows that it is close to the hearts of many people who receive the intervention. However, it is a new experience to create this effect on a non-verbal basis. As in other forms of spiritual music, hymns or songs are used to create this connection (Murtonen, 2018; Pershev, 2000; Sakata, 1997; Taylor, 2003). Therefore, Sufi music’s spiritual effect differs from other types of spiritual music.

In Sufi music, the circular movement explains the communication with the Divine (Chapter 1). The meaning of the circles can be summarised as that every human came from God and will finally return to Him, and that every human has a part of God in their heart (Qur’an, 2:156). The main aim of the life for a Sufi is to know God by finding and knowing the self, and subsequently to establish a means of reaching God’s love and closeness through Sufi rituals (Uçman, 2004) (Figure 26). This means a Sufi has an internal journey to reach his/ her aim in the journey towards transcendental. There is a bilateral communication which Sufi engages during the life; one is towards inner self and the other towards transcendental. Music’s role in this communication is finding a way of communicating with God. Namely in the circulation through which a Sufi explores the self, music helps to create communication channel to the self and in the way towards God it helps to create a closeness via touching deep feeling of the person.
According to Sufi tradition, at the creation God blew out his soul into the human’s soul, and every human comes to this world with a part of the God which hidden in the heart waiting for be discovered. In that context, playing music improves the musician’s inner journey towards the Divine as s/he has been carrying part of the divine since the creation. However, listening to music appears to be a direct way towards the Divine by means of improving the self and reading the Divine words from nature where God represents himself (Guray, 2012). The circles (makams) in Sufi music support the spiritual features of this music, particularly the non-verbal communication with the transcendent. The instrumental improvisation of Sufi music is used in rituals to form this bond between God and human-beings which Sufi music carries. This feature is assumed to be the uniqueness of Sufi music, yet the spirituality of such music intervention cannot be reduced to this alone. As Begbie (2000) emphasised, all music
contains this spirituality to some extent; therefore, this spiritual effect may be a result of general features of music.

Although the most crucial component in this intervention was Sufi music with makams, the water sounds accompanying the music and the Sufi stories at the outset also contained spiritual features. As already noted, nature has a significant place in reaching out to God in Sufism. In Sufi thought, nature is accepted as a reflection of God’s art on the earth. Therefore, being part of nature means exploring God’s touch on the earth and feeling more connected to the transcendental. Feeling part of the greater whole, the universe or the Divine in nature is contained in a number of definitions of spirituality; for example “the experience of being related to or in touch with an ‘other’ that transcends one’s individual sense of self and gives meaning to one’s life at a deeper than intellectual level” (Schroeder, 1992: 25; Spencer, 2012). This definition returns to the circle ideas as in the circle. Being part of nature is spiritual because it connects the human with the greater whole. This idea creates a way of communicating with this ‘whole’, akin to the Sufi circle, which exploring nature/ feeling being part of nature is a kind of non-verbal communication with God. Water sounds accompanying Sufi music and the instrument used to play it (Ney) have created this spiritual feeling in the participants in this project. This feature also differentiates Sufi music from other music interventions as it increases the spiritual effect of this intervention.

When the spirituality of Sufi stories was considered in the intervention, its spiritual nature become more transparent. The Sufi stories used in this intervention have a spiritual meaning; therefore, this meaning may enhance the spiritual impact of the intervention. Consequently, it differentiates from other types of music interventions because it conveys unique spiritual feelings and has a spiritual effect on the listeners.
8.5. Clinical Implications

8.5.1. Implications on acceptability of Sufi music with makams intervention in mental healthcare and in different cultures

The data collected for this thesis appear to suggest that this Sufi music with makams intervention is feasible and acceptable among Turkish people in the UK and it suggests a potential benefit in reducing anxiety and in improving mental and spiritual well-being, outside the context of a medical procedure or intervention. However, no strong conclusion can be drawn because the research did not (and was not intended to) have the statistical power to examine definitively the clinical effects of Sufi music with makams on mental health outcomes. The results from this thesis indicate that a further full trial could be conducted in order to evaluate whether this music intervention works therapeutically for mental health outcomes, particularly for anxiety and depression.

In the feasibility study, the preliminary results indicated that Sufi music with makams could be helpful for reducing anxiety and for increasing spiritual and mental well-being. However, given the aforementioned limitations, these results cannot be applicable to the general population, but only to the Turkish population in the UK. It would be interesting to see if the findings can be replicated in a different cultural sample, for example Muslims from non-Turkish communities. This would require piloting the study in other cultural groups using a similar approach to this study.

Applying this music intervention in some Muslim cultures, such as those in Iran, India or Pakistan, is easier than it is in cultures where Wahhabism (a conservative Islamic creed centred in Saudi Arabia) is dominant, because Sufism and makam music are known by these cultures, since they are part of their cultural identity. Similar clinical results may be obtained with this study in these cultures because the population has a cultural connection with the music. However, in the Arabian Peninsula, music and
Sufism are less accepted due to the effect of Wahhabism, therefore offering Sufi music with makams requires caution (Kurban, 2019; Uludag, 2015). As stated previously, in cultures where Wahhabism is dominant such as Saudi Arabia, most Muslim Arab scholars/jurists have given an opinion seen by Muslims as an Islamic rule on music being forbidden, according to a hadith (The Prophet Muhammed’s words, sentences) (Sahih Bukhari, Volume 7, Book 69, Number 494v). However, the hadith literature contains some other examples where the Prophet Muhammed encouraged the use of music in events (Sahih Bukhari, Volume 4, Book 56, Number 730; Sahih Muslim, Book 4, Number 1938) – which is ignored by the same scholars. Therefore, offering Sufi music with makams as an intervention to these cultures would be problematic. A further difficulty is the Sufi nature of the music intervention, as Sufism is seen as a non-Islamic ideology in Arab cultures where Wahhabism has a strong influence (Searle-Chatterjee, 1994). Therefore, it would also be problematic to offer this music intervention in these cultures. Consequently, when applying Sufi music with makam interventions as a complex intervention in any culture, prior to clinical applications, it is necessary to conduct a qualitative study to ascertain whether this type of music is acceptable to the population (Craig et al., 2019).

8.5.2. Implications for Further Research
This thesis aimed to review the place of Sufi music with makams as an intervention for psychological stress around the world and then to develop and test its use in a Turkish community in England. In so doing, the medical research council’s framework was used, to my knowledge, as a first time in music intervention research in its development and evaluation phases. Whilst it was not without challenges, this study has shown that this framework needs to be followed in the music therapy field more often in order to increase research quality of the studies in the field. Further research
needs to be done on the method in the development and evaluation of music therapy studies.

On a historical theme, further research ought to focus on the music therapy theories that were produced in medieval times in non-Western languages. Such studies would extend the history of music therapy and enlighten its theories regarding the medieval times, known in the literature as the ‘dark ages’. The results of the umbrella review of systematic reviews on receptive music therapy’s effect on mental health outcomes revealed that this therapy might help to relieve anxiety, depression and stress disorder. A similar result was obtained from my systematic review on the impact of Sufi music with makams on mental health outcomes. This indicates that Sufi music with makams may be effective as a receptive music therapy, and that it has a similar impact on mental health outcomes as other receptive music therapy models. Therefore, in order to evaluate the similarities and differences, a study should compare Sufi music with makams intervention with receptive music interventions involving a Western style of music.

The systematic review on the effect of Sufi music with makams on mental health outcomes showed that most studies focused on state anxiety which appeared before, during or subsequent to a medical operation or surgery. There were very few studies examining the effects of Sufi music outside this setting, which is a unique aspect of this study. This study suggests that Sufi music may have wider application in community and non-health care settings to treat anxiety disorders in general. Moreover, Sufi music with makams intervention determined its acceptability to potential receivers and whether any part of the intervention design should be changed in order to improve it. However, the analysis of clinical outcomes produced only preliminary results. Further large scale, multicentre trials are required to evaluate
whether Sufi music has a clinically and statistically significant impact on mental health disorders and well-being.

Further studies should consider comparing this music intervention with better control mechanisms and with similar designs with the intervention group, for example, the same intervention design with a different music type or without any music. Thus, the effects of components in the intervention design would be more distinguishable as the effects of other components would be same for two groups and for the changes in the outcome’s music would be responsible.

To my knowledge, my thesis is the first attempt to bridge the gap between music therapy and spirituality in the development of therapy models, by developing and testing a spiritual music intervention. Therefore, the literature needs more detailed studies on the guideline for this type of music therapy because the complex nature of the music requires delicate analysis on each component’s position in this therapy.

8.6. Conclusion
This research has shown that Sufi music with makams can be standardised as an intervention for psychological distress and feasibly delivered to the Turkish population in the UK. This intervention, after further research, may be offered to patients in mental health clinics and music therapy clinics as an alternative culturally integrated music intervention. Although this intervention is applied in Turkey, there is no guidance for researchers or clinicians for its standardised application. Lack of guidelines results in varied intervention designs under the same name; therefore, this research could be accepted as a first step towards designing a standardised Sufi music with makam intervention. It is important to gain a better theoretical understanding of how the intervention may work through consideration of theory of change or logic models.
Further research could involve a full trial of Sufi music with makams for people from different cultures suffering from depression and anxiety with a better control.
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Yayınları.


https://doi.org/10.1080/08098130209478041


https://doi.org/https://dx.doi.org/10.1016/j.arr.2013.02.003


van der Wal-Huisman, H., Dons, K. S. K., Smilde, R., Heineman, E., & van


Appendix 1 : Healing power of the spheres; Eastern music therapy

When the scope of musical history is analysed, the interactions between scholars and nations can be clearly seen. The same conclusion can be reached in regards to music therapy. Varied approaches and thoughts as to the therapeutic use of music have appeared throughout history. Examples include Asian musical rituals designed to heal, the Greek theory of music being used in the treatment of the sick, or the Turkish, Arab, and Persian theories which subsequently became a source for western music therapy theories.

The fertile lands of the Near and Middle East can be considered to have been the homeland of music theory in the medieval ages, whereby scholars from different backgrounds contributed to the theory without concern for their nationality. The roots of mode-based (makam) music therapy theory, as mentioned above, linked strongly to ancient Greek Philosophy. In this chapter, as a legacy of past civilisations, the theories and development of makam music therapy across history will be detailed.

Al-Kindi (died c. 870), as is the first outstanding Muslim philosopher and an important Arab scientist (Britannica), was the first philosopher in the medieval age to have scientifically supposed the the effects of music and rhythm on human psychology within Islamic Philosophy (Ergeshov, 2011). In his book, Kitabu’l-Musavvitat, a connection was established between the self of humans (nefs) and the strings of Ud (an instrument), whereby it was supposed that each string induced emotions and behaviours (Turabi, 1996). Although most of Al-Kindi’s books have been lost to history, the texts which have survived provide enough of an insight as to his main ideas on music and his outstanding contributions to Arabic music. Furthermore, in his book, Risale fi’l-Luhun, it is asserted that modes/makams and rhythms influence the human
soul. However, as these explanations are not inclusive enough to develop an application model for hospitals, Al-Kindi’s thoughts could be accepted to be an introduction through which doors were opened for latter researchers.

![Figure A1.1: Kindi’s makam scales (Turabi, 1996)](image)

There is no doubt about how Kindi was successful to melt the Greek, Iranian and antique Egyptian culture in a pot with Arabic approach. About makam, he put 7 different makam scales and gave detailed information about them in his book of ‘Kitabu’l-A’ zam’ however, the book unfortunately could not be found (Turabi, 1996).

Turabi (1996: 84) gave a table in his research which constructs a bond between Greek modal scales and Kindi’s one as follows;

First makam: Phrygian

Second makam: Lydian

Third makam: Mixolydian

Fourth makam: Hypodorian
Fifth makam: Hypophrygian
Sixth makam: Hypolidian
Seventh makam: a) Dorian  b) Hypmixolydian

After Kindi, Al-Farabi’s book, *el-Mūsika’l-kebîr*, is accepted both in the West and the East as the most systematic book written during the Middle Ages on Music Therapy and the Philosophy of Music (Farmer, 1932; Ergeshov, 2011). Besides the importance of this book, the work also includes Grecian influences, with Al-Farabi thereby acting as a bridge between the Greek and Muslim worlds via his translations of Latin texts. As Al-Farabi was a musician, his skills in music allowed him to detect weaknesses and gaps within Greek music theories as to the effects of music upon human beings, thus allowing him to address these areas according to Sengul (2008). In this regard, Meragi asserts that “Al-Farabi is a master in both the theory and application of music, so much so that he sometimes made [the] public sleep or cry with his ud performance” (cited in Sezikli, 2007:263).

Speaking about medieval medicine is impossible without mentioning the name of Ibn Sina (Avicenna) (died c. 1037). Although Ibn Sina encouraged ill people to occupy themselves by listening to music they liked the most, he did not give more detail as to the therapeutic aspects of this.

Ikhwani Safa (as appeared around the 10th Century) assumes a special position in terms of the relationship between spiritual music and Sufism, a result of Ikhwani Safa (The Brethren of Sincerity, Purity) representing a group of scholars and their Sufi path (tariqah). The importance of this group pertains to its ideology, as combined Sufism, Philosophy, Astrology, Numerology, Metaphysics and Music (Ergeshov, 2011). Their conception of music depended upon Pythagoras’ ideas as to the universe and the
origin of sounds. According to their music philosophy, as the planetary motions and star movement voices originate all of the other sounds in the world with a mystical touch of God, listening to music in the universe and to music made by human beings are significant ways of reaching God (Cetinkaya, 1995).

The spiritual and mystical effect of music on humans were also improved by Ikhwani Safa via influences of Pythagoras, Plato, Kindi, Al-Farabi and a number of other philosophers. Ikhwani Safa’s perception as to music and the universe presented a typical Sufi group ideology though their combination of musical healing with cosmology and the mystical appearance of God. The chapter on music in their most well-known work, the Rasail (encyclopaedia), supposed that planetary movements, star positions, universal harmony and musical modes together influence the spirits of humans and gives them serenity, calmness and mystic thoughts (Cetinkaya, 1995; Ergeshov, 2011). Their chapter provided a foundational classification as to the science of sound and the relationship of Sufi ideology and music (Shiloah, 2011).

Through their outstanding comprehension and synthesis of previous Music Therapy theories, Safiyuddin Urmevi (died 1294) invoked Kindi, Al-Farabi, Ikhwani Safa and Ibn Sina (Guray, 2011; Arslan, 2015). Safiyuddin was the first person to systematically present makams/ devirs/ modes in the literature after Greek philosophy. Although some theorists have assumed that the terminological use of makam in literature dates to the 15th Century and not earlier, the first systematic use of devir (as has the same meaning to makam) was in Safiyuddin’s books, Serefiyye and Kitabu’l Edvar (the book of cycles) (Arslan, 2015). Thus, Safiyuddin became the first regulator and systemiser of the devirs/ makams (Ak, 2006). Moreover, these works outline the psychological effects of makams on individuals (Kalender, 1987).
Safiyuddin’s other unique contribution to the application of Music Therapy was to categorise makams in terms of skin colour. For example, black skins benefits from listening to Irak makam, Brunette skins listening to Rast makam and Blonde skins listening to Kucek makam (Ak, 2006; Ergeshov, 2011; Kalender, 1987). With Safiyuddun’s distinctive contributions, the music therapy theories of Arabic, Persian and Greek culture had merged with this Turkish inheritance of musical healing.

After Safiyuddin’s works on makams similar detailed works appeared in Hizir bin Abdullah’s (15th yy) most known book *Kitabu’l-Edvar* (Celik, 2001). Hizir bin Abdullah mentioned the days and makams relationship as a first time in the makam music theory (Ersoy Cak, 2018), as follows;

<table>
<thead>
<tr>
<th>Night-time</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Buselik</td>
<td>Irak</td>
<td>Ussak</td>
<td>Isfahan, Zirefkend-i-kucek</td>
<td>Irak</td>
<td>Rast</td>
<td>Ussak Zengule</td>
</tr>
<tr>
<td></td>
<td>Rehavi</td>
<td>Zirefkend</td>
<td>Zengule</td>
<td>Buzurg</td>
<td>Zirefkend</td>
<td>Buzurg</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Daytime</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Neva</th>
<th>Isfahan</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Huseyni</td>
<td>---</td>
<td>---</td>
<td>Busetik</td>
<td>---</td>
<td>Hicaz</td>
<td>Zirefkend</td>
<td>Kucek</td>
</tr>
</tbody>
</table>
Hizir bin Abdullah’s *Kitabu’l Edvar*’s has a special place among the books on makam music theory, as it shows that how makam theory emphasises the triangle between universe- music- human by means of its naturalistic features.

In the following eras, the healing properties of makam music began to be discussed by the physicians rather than theoreticians, philosophers and musicians.

Hasan Suuri (died c. 1693) was a physician, poet and linguist who wrote a very famous medical book called as *Ta’dilu’l- Emzice fi Hifzi Sihhati’l-Beden* and dedicated a section to the treatments with music. He was the first person who mentions music as a treatment in his medical book (Uludag, 1951). He discussed the makams as a treatment to specific illnesses (Ozturk and Ozbek, 2018). It could be supposed that the makam music therapy have reached the almost perfect version in the history by his hands. His ideas became a base for Hekimbasi Gevekzade Hafiz Hasan Efendi’s more extended makam music therapy ideas on the treatment of illnesses (Turabi, 2011).

Gevrekzade Hafiz Hasan Efendi (died c. 1801) was a significant physician and the head doctor (hekimbasi) of the palace of Ottoman Empire (Etibba-yi Hassa). As like Hizir bin Abdullah and other makam music theoreticians Gevrekzade was a Sufi and he was attending several Sufi orders like Celvetiyye, Naksibendiyye, Bayramiyye and Mevlevi (Uslu, 1997). He was known as the last representative of traditional Ottoman medicine and he wrote a book on makam music and its role in the treatment. His book has significant position to get an insight how makam music therapy has applied at the early modern ages in the Ottoman Anatolian land.

His book, *er- Risaletu’l-Musikiyye mine’d-Devair-Ruhaniyye*, was the first book solely discussed music as a medical treatment model for the illnesses, as aforementioned,
previous studies on makam music’s therapeutic use were either a chapter of the theory book or the part of a medical book (Turabi, 2015). Gevrekzade has detailed the illness-makam relationship and supposed that the illnesses happened because of the breakdown in the souls of human-being which are three; animal soul, psychological soul and natural soul (Turabi, 2006). Therefore, he defined both physical and mental illnesses as psychological/spiritual illnesses (ruhaniyye) which is basically very close to the modern understanding of body-mind-soul concept. His exhaustive work on music’s therapeutic use in the treatment of physical and mental illnesses would have enlightened to the modern application of music therapy if the experts in the area knew about his works. However, with the fall of Ottoman Empire and stopping the translation studies between West and East, the works of Ottoman scholars has stayed hidden in the libraries until the last decades.

<table>
<thead>
<tr>
<th>Makams</th>
<th>Illnesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rast</td>
<td>Stroke, good for anxious thoughts</td>
</tr>
<tr>
<td>Irak</td>
<td>Fever, Dizziness, Tuberculosis, Tachycardia</td>
</tr>
<tr>
<td>Isfahan</td>
<td>Cold, illumination, boosting intelligence, refreshing memories,</td>
</tr>
<tr>
<td>Zirefkend</td>
<td>Partial paralysis, backache and arthralgia</td>
</tr>
<tr>
<td>Place</td>
<td>Disease</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Rehavi</td>
<td>Headaches, nosebleed, facial paralysis, diseases resulting from sputum and pulsy</td>
</tr>
<tr>
<td>Buzurg</td>
<td>Inflammatory diseases, mind clearing, overcoming fear related anxiety</td>
</tr>
<tr>
<td>Zengule</td>
<td>Heart diseases, stomach diseases, cerebral diseases and hepatopathy; gives serenity.</td>
</tr>
<tr>
<td>Hicaz</td>
<td>Dysuria</td>
</tr>
<tr>
<td>Buselik</td>
<td>Shoulder and low back pain, headache and blood related illnesses</td>
</tr>
<tr>
<td>Ussak</td>
<td>Podagra, insomnia, and foot pains, relaxation effect</td>
</tr>
<tr>
<td>Huseyni</td>
<td>Hepatopathy and heart diseases, reducing the body temperature, heatburn, latent fever and foot pains</td>
</tr>
<tr>
<td>Neva</td>
<td>Gynaecological diseases, sciatica, hip pain, mental relief from bad thoughts, improve remembering</td>
</tr>
</tbody>
</table>
Appendix 2: Consent Form, Participant Information Sheet and Ethics Approval Letter of the Qualitative Study

2.1. Consent Form for Adult Participants in Qualitative Study

CONSENT FORM FOR ADULT PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study: What are the views/attitudes of adult participants to makanic music as an intervention to reduce mental distress?

Department: Division of Psychiatry

Name and Contact Details of the Researcher(s): Rumeysa Nur Gurbuz
UCL Division of Psychiatry
8th Floor, Wings A (A72), Maple House,
149 Tottenham Court Road,
London W1T 7NF

Name and Contact Details of the Principal Researcher: Prof. Michael King
UCL Division of Psychiatry
8th Floor, Wings A (A72), Maple House,
149 Tottenham Court Road,
London W1T 7NF

Name and Contact Details of the UCL Data Protection Officer: Lee Shailer
University College London,
Gower Street, London, WC1E 6BT
+44 (0) 20 7679 2000 (x59726)

This study has been approved by the UCL Research Ethics Committee: Project ID number: 13199/001

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation are already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

I confirm that I understand that by ticking/initiating each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initiated boxes mean that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

<table>
<thead>
<tr>
<th></th>
<th>Tick Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>*I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction and would like to take part in the interview.</td>
</tr>
<tr>
<td>2.</td>
<td>*I understand that I will be able to withdraw my data at any time without giving a reason and without it affecting any benefits that I am entitled to. If I decide to withdraw, I understand that I will be asked what I wish to happen to the data I have provided up to that point and withdrawing my data will not disadvantage me in any way</td>
</tr>
<tr>
<td>3.</td>
<td>*I consent to no personal information about me will be processed. I understand that all collected data will be handled in accordance with all applicable data protection legislation.</td>
</tr>
</tbody>
</table>
4. I understand that all personal information will remain confidential and that all efforts will be made to ensure I cannot be identified.
I understand that my data gathered in this study will be stored anonymously and securely. It will not be possible to identify me in any publications.

5. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason.
I understand that if I decide to withdraw, any personal data I have provided up to that point will be deleted unless I agree otherwise.

6. I understand that the data will not be made available to any commercial organisations but is solely the responsibility of the researcher undertaking this study.

7. I understand that I will not benefit financially from this study or from any possible outcome it may result in the future.

8. If the information I have submitted will be published as a report and I wish to receive a copy of it.

9. I consent to my interview being audio recorded and understand that the recordings will be destroyed immediately following transcription.
To note: If you do not want your participation recorded you can still take part in the study.

10. I hereby confirm that I understand the inclusion criteria as detailed in the Information Sheet and explained to me by the researcher.

11. I hereby confirm that:
   (a) I understand the exclusion criteria as detailed in the Information Sheet and explained to me by the researcher; and
   (b) I do not fall under the exclusion criteria.

12. I am aware of who I should contact if I wish to lodge a complaint.

13. I voluntarily agree to take part in this study.

If you would like your contact details to be retained so that you can be contacted in the future by UCL researchers who would like to invite you to participate in follow up studies to this project, or in future studies of a similar nature, please tick the appropriate box below.

Yes, I would be happy to be contacted in this way

No, I would not like to be contacted

Name of participant: __________________________ Date: ____________ Signature: __________________________

Name of witness (If applicable): __________________________ Date: ____________ Signature: __________________________

Researcher: __________________________ Date: ____________ Signature: __________________________
2.2. Participant Information Sheet for the Qualitative Study

Title of Study: What are the views/attitudes of adult participants to makamic music as an intervention to reduce mental distress?
Department: Division of Psychiatry
Name and Contact Details of the Researcher(s): Rumeysa Nur Gurbuz
UCL Division of Psychiatry
6th Floor, Wings A (A72), Maple House,
149 Tottenham Court Road,
London W1T 7NF

Name and Contact Details of the Principal Researcher: Prof. Michael King;
UCL Division of Psychiatry
6th Floor, Wings A (A72), Maple House,
149 Tottenham Court Road,
London W1T 7NF

1. Invitation Paragraph
We would like to invite you to participate in this research project. You should only volunteer to participate if you want to; choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important to read the following information carefully and discuss it with others if you wish. Please do not hesitate to ask me if there is anything that is not clear or if you would like more information.

2. What is the project’s purpose?
A makam is a combination of melodic modes and rhythmic patterns. We wish to study how makamic music might reduce emotional distress and increase wellbeing by exploring the best ways of providing it as a therapy. We hope that ultimately this research will increase our understanding of makamic music’s benefits and how best to provide it.

3. Why have I been chosen?
This study will recruit adults (aged 18 and older) who live in the Newcastle or London and attend either Newcastle Turkish Community Association or London Yunus Emre Cultural Institute.

4. Do I have to take part?
It is up to you to decide whether or not to take part; choosing not to take part will not disadvantage you in any way. If you do decide to take part you are still free to withdraw at any time without giving a reason and without affecting any benefits that you are entitled to. If you decide to withdraw you will be asked what you wish to happen to the data you have provided up to that point.

5. What will happen to me if I take part?
If you agree to take part in this research, you will be interviewed by a researcher. At the interview, you will be requested to listen to three pieces of music (in Nihavend, Budevlik and Rast makams) about 5-8 minutes and then answer related questions. Your answers will help us to develop a music therapy intervention using makams. The interview will take between 30 minutes to an hour included music pieces and will be recorded with a digital recorder.
6. Will I be recorded and how will the recorded media be used?
The audio recordings of your interviews made during this research will be used only for analysis and
for illustration in conference presentations and lectures. All data will be completely and irreversibly
anonymised. No other use will be made of them without your written permission, and no one outside
the project will be allowed access to the original recordings. Recorded interviews will be transcribed
(written up) and will be destroyed immediately following transcription. All data will be collected and
stored in accordance with the Data Protection Act 1998.

7. What are the possible disadvantages and risks of taking part?
There is a small chance that you may become distressed after listening to music pieces, particularly if
it evokes unpleasant memories. You can withdraw from the study at any point should they wish to do
so - this will not involve any penalty or loss of benefit to you.

8. What are the possible benefits of taking part?
Whilst there are no immediate benefits for people participating in the project, we hope that this
research may help to benefit other people in the future if the makamic music is used as a relaxing
approach.

9. What if something goes wrong?
If you wish to raise a complaint about something occurring during or following your participation in the
project, you should contact: Prof. Michael King;
UCL Division of Psychiatry

If you feel your complaint has not been handled to your satisfaction, you can contact the Chair of the
UCL Research Ethics Committee – ethics@ucl.ac.uk

10. Will my taking part in this project be kept confidential?
All the information that we collect about you during the course of the research will be kept confidential.
You will not be able to be identified in any ensuing reports or publications.

11. Limits to confidentiality
Please note that confidentiality may not be guaranteed; due to the limited size of the participant
sample.

12. What will happen to the results of the research project?
This study has been ethically reviewed and received ethics clearance from the University College
London Research Ethics Committee. Recorded interviews will be transcribed (written up) and the
recordings will then be deleted. Only the investigator mentioned above will have access to the data
collected from this study and the results of the study will be used in articles, presentations, and
presented within a PhD thesis. All data will be completely and irreversibly anonymised and will be
collected and stored in accordance with the Data Protection Act 1998.

13. Data Protection Privacy Notice

Notice:
The data controller for this project will be University College London (UCL). The UCL Data
Protection Office provides oversight of UCL activities involving the processing of personal data,
and can be contacted at data-protection@ucl.ac.uk. UCL’s Data Protection Officer can also be
contacted at data-protection@ucl.ac.uk.

Your personal data will be processed for the purposes outlined in this notice.
The legal basis that would be used to process your personal data will be your consent.

The legal basis used to process special category personal data will be for scientific and historical research or statistical purposes/explicit consent.

Your personal data will be processed so long as it is required for the research project. If we are able to anonymise or pseudonymise the personal data you provide we will undertake this, and will endeavour to minimise the processing of personal data wherever possible.

If you are concerned about how your personal data is being processed, please contact UCL in the first instance at data-protection@ucl.ac.uk. If you remain unsatisfied, you may wish to contact the Information Commissioner’s Office (ICO). Contact details, and details of data subject rights, are available on the ICO website at: https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr/individuals-rights/

Detail any intended recipients of personal data if not explained elsewhere, and also advise if any personal data will be transferred outside the EEA, and if so to where.

14. Contact for further information
If you have any questions about the study please do not hesitate to contact me at the above address and email address.

You can withdraw your data from the project at any time.

Please discuss the information above with others if you wish or ask me, if there is anything that is not clear or if you would like more information.

You will be given a copy of the information sheet and a signed consent form to keep.

Thank you for reading this information sheet and for considering to take part in this research study.
2.3. Ethics Approval Letter for the Qualitative Study

26th June 2018

Professor Michael King
Division of Psychiatry
UCL

Dear Professor King

Notification of Ethics Approval with Provisos
Project ID/Title: 13169/001. What are the views/attitudes of adult participants to Mahamad music as an intervention to reduce mental distress?

Further to your satisfactory responses to the Committee’s comments I am pleased to confirm in my capacity as Interim Support Chair of the UCL Research Ethics Committee (REC) that your study has been ethically approved by the UCL REC until 26th June 2019.

Ethical approval is subject to the following conditions:

Notification of Amendments to the Research
You must seek Chair’s approval for proposed amendments (to include extensions to the duration of the project) to the research for which this approval has been given. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical approval by completing an ‘Amendment Approval Request Form’
http://ethics.grad.ucl.ac.uk/responsibilities.php

Adverse Event Reporting – Serious and Non-Serious
It is your responsibility to report to the Committee any unanticipated problems or adverse events involving risks to participants or others. The Ethics Committee should be notified of all serious adverse events via the Ethics Committee Administrator (ethics@ucl.ac.uk) immediately the incident occurs. Where the adverse incident is unexpected and serious, the Joint Chairs will decide whether the study should be terminated pending the opinion of an independent expert. For non-serious adverse events the Joint Chairs of the Ethics Committee should again be notified via the ethics Committee Administrator within ten days of the incident occurring and provide a full written report that should include any amendments to the participant information sheet and study protocol. The Joint Chairs will confirm that the incident is non-serious and report to the Committee at the next meeting. The final view of the Committee will be communicated to you.

Final Report
At the end of the data collection element of your research we ask that you submit a very brief report (1-2 paragraphs will suffice) which includes in particular issues relating to the ethical implications of the research i.e. issues obtaining consent, participants withdrawing from the research, confidentiality, protection of participants from physical and mental harm etc.
In addition, please:

- ensure that you follow all relevant guidance as laid out in UCL’s Code of Conduct for Research: [http://www.ucl.ac.uk/srs/governance-and-committees/resgov/code-of-conduct-research](http://www.ucl.ac.uk/srs/governance-and-committees/resgov/code-of-conduct-research)
- note that you are required to adhere to all research data/records management and storage procedures agreed as part of your application. This will be expected even after completion of the study.

With best wishes for the research.

Yours sincerely,

[Signature]

Professor Sara Randall  
Interim Support UCL Research Ethics Committee Chair  
Cc: Rumeysa Nur Gurbuz
Appendix 3: Prompts and Questions for Participants in Qualitative Study

Questions for participants’ background:

- Could you introduce yourself?
- Where were you born, how old are you?
- What is your nationality?
- What is your marital status?
- What are you doing for living?
- Which kind of music do you listen generally?
- What is your religion?
- Do you find yourself as spiritual?

Contents, pictures or scenes which evoked by the music

- How could you describe the music?
- What kind of scenes came in your mind while you were listening to the music?
- What did this music make you think?
- Could you match this music with any object/s?

Emotions which evoked by the music

- How did you find this music?
- Which mood/s this music created in you?
- Which emotions you felt during listen to this music?

Feelings which evoked by the music

- What does this music make you feel?
- How did you feel when you were listening to the music?
- What does mean being spiritual for you?
- How could spirituality differ from religiosity?
- What kind of things do lead you to think of spirituality?

Music as a therapy

- Do you think this music has a beneficial effect on you?
- Where do you think the best place to listen to this music?
- Which time of the day do you prefer to listen to this music?
- How long do you prefer to listen to this music?
- Do you like to listen to this music again?
## Appendix 4: Themes, Subthemes and Codes Table

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub-themes</th>
<th>Codes</th>
<th>Best Quotations</th>
</tr>
</thead>
</table>
| Spirituality and religion  | Religion- Islam                                                              | Allah, praying, mosque, religion, religious, Ramadan, Quran, religious gathering, mosque garden, morning prayer, religious serenity, faithful, heaven-paradise- Jannah-cennet, Sufism and Islam, Arabic | -“This one remind me Allah, it reminds of being ash.”  
-“Whenever I listen ney I always remember of Allah and I imagine of Allah in my head and I remember of Allah nothing else.”  
-“I felt like I’m in the Ulu mosque.”  
-“I feel this when I like read my book, Quran, I felt the same thing.”  
-“It’s like you felt religious serenity”  
-“like our teacher is telling us about the heaven like at some point my brain went to rivers and waterfalls I imagined of those places” |
|                            | Spiritual, gratitude, moving out of this world, spirituality, love, finding yourself |                                                                      | -“So if you like you feel still gratitude when you listen, because you feel like, you feel like there’s something there helping you. You know, so you’re happy and grateful.”  
-“Something that is reaching out for you it’s healing you and you are actually kind of grateful. I think it’s like state gratitude more than sadness because when you up when you’re really grateful you have the same emotional.”  
-“This one made me think of love. I mean I think it’s more like a you know a different instrument. But it like... Like of love in a way like something embracing me that you know. It touched me, it touched my heart.”  
-“Spirituality, I would say is more from the soul. It’s like the practice of the soul. It’s like trying to connect with God in different ways.”  
-“But at the other side there is a really big spiritual serenity. It’s a really good tune. I loved it.”  
-“I was trying to find myself in the world, in the space, like myself. I was just trying to understand where I am in it, in the world. You have got that kind of feeling. It made me go down, as like a small dot in the universe. It has that effect.” |
<p>|                            | Sufism                                                                       | Mawlana, Sufi, sufi whirling, Sufism and islam, Sufism               | -“But it was really similar at one point I dreamed mevlana’s and try to think what they feel and think, I’ve put myself in their”                                                                                                                                                        |</p>
<table>
<thead>
<tr>
<th><strong>Mother Nature</strong></th>
<th>Nature</th>
<th>A rose garden, desert, flower, flower garden, garden, natural, near the sea, sky, green</th>
</tr>
</thead>
</table>
|                   |        | "In the way does that its because the sounds were so natural. They not like the sounds that people can really make. You know the sound of water is natural. So you just connect of like the nature and things like we can’t really sometimes see and understand you know."
|                   |        | "I kind of find myself in a desert like with the sun and I’m trying to find that water but I can’t. (laughing) Because I’m tired. But yeah."
|                   |        | "Like a flower garden, I felt like in a garden. I felt Like in a courtyard of a palace."
|                   |        | "Near the sea watching a calm sea, my feet's are in a hot sand, I thought im listening this music in that position."

| **Water sound** | Water sound | "the water worked well really well with an instrument as well."
|-----------------|-------------| "I was in a peace where the water noises and the birds. When it came to the music and I wasn't too relaxed. Made feel like I was part of nature;"
|                 |             | "all those birds tree and the water noises makes me feel like I’m in a forest or."
|                 |             | "It is peaceful and calm. I felt like by river, river with lots of trees and staff but alone no one else, just relaxing and like thinking about life and other things as specially enviroment. Maybe the sound of water makes me think like that" "because of the water it was kind if spiritual and relaxing."

| **Simplicity** | Simplicity, removing complexity, poverty, village | "I was just going to say that, it gave calmness, like it gave freedom and relaxing. After that. If my mind is full I can listen this to throw the thought away. Like it removed the complexity from me."
|----------------|--------------------------------------------------| "I think maybe like in a village like walking around people are all nice and just regular people but there may be living
<table>
<thead>
<tr>
<th>Detoxing-cleansing</th>
<th>Detoxing, cleansing</th>
<th>&quot;makes you feel cleans with have been water. You know it's like it's detoxing out all the negative feelings you have inside of you.&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Music's whispers to the listeners</strong></td>
<td>Being transported to a different place</td>
<td>&quot;You feel like you are in an endless place.&quot;</td>
</tr>
<tr>
<td><strong>Music's whispers to the listeners</strong></td>
<td>Being transported to a different place</td>
<td>&quot;I feel like on the seat, have a tea, read a book. That's all.&quot;</td>
</tr>
<tr>
<td><strong>Music's whispers to the listeners</strong></td>
<td>Being transported to a different place</td>
<td>&quot;Like you are in empty and can't do anything with anyone when you can't find an exit to come out.&quot;</td>
</tr>
<tr>
<td><strong>Music's whispers to the listeners</strong></td>
<td>Being transported to a different place</td>
<td>&quot;There is a ceremony in the beginning, then it changed make me feel like something bad happened like somebody died. It is very sad.&quot;</td>
</tr>
<tr>
<td><strong>Music's whispers to the listeners</strong></td>
<td>Being transported to a different place</td>
<td>&quot;Like a flower garden, I felt like in a garden. I felt Like in a courtyard of a palace.&quot;</td>
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</tr>
<tr>
<td>Sad and melancholic</td>
<td>Graveyard, lost someone, hopelessness, yearning for someone who died</td>
<td>&quot;It was heavy not stress or sadness just emotions.&quot;</td>
</tr>
<tr>
<td>Sad and melancholic</td>
<td>Graveyard, lost someone, hopelessness, yearning for someone who died</td>
<td>&quot;When I first heard it, I felt sad and melancholic things came to my mind&quot;</td>
</tr>
<tr>
<td>Sad and melancholic</td>
<td>Graveyard, lost someone, hopelessness, yearning for someone who died</td>
<td>&quot;It's more like a mournful song as though someone has passed away.&quot;</td>
</tr>
<tr>
<td>Sad and melancholic</td>
<td>Graveyard, lost someone, hopelessness, yearning for someone who died</td>
<td>&quot;it wasn't it wasn't like really really depressing and it wasn't like scary or stressful either it was just a bit just a bit sad&quot;</td>
</tr>
<tr>
<td>Relaxing, therapeutic and smooth</td>
<td>Happiness, soothing, welcoming, calming, joy, very gentle, therapeutic, nicely flowing, very soft, gentle, calm, relaxing, very peaceful, soothing</td>
<td>&quot;Very relaxing, also a little bit sad as well&quot;</td>
</tr>
<tr>
<td>Relaxing, therapeutic and smooth</td>
<td>Happiness, soothing, welcoming, calming, joy, very gentle, therapeutic, nicely flowing, very soft, gentle, calm, relaxing, very peaceful, soothing</td>
<td>&quot;Other than calmness it was like energised, it gave me energy in the middle of the day, it was nice, but not calm, just getting in action.&quot;</td>
</tr>
<tr>
<td>Relaxing, therapeutic and smooth</td>
<td>Happiness, soothing, welcoming, calming, joy, very gentle, therapeutic, nicely flowing, very soft, gentle, calm, relaxing, very peaceful, soothing</td>
<td>&quot;It made me relax, like, I felt relaxed. Actually, it was really good&quot;</td>
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<tr>
<td>Relaxing, therapeutic and smooth</td>
<td>Happiness, soothing, welcoming, calming, joy, very gentle, therapeutic, nicely flowing, very soft, gentle, calm, relaxing, very peaceful, soothing</td>
<td>&quot;I felt more happy and more like in the moment.&quot;</td>
</tr>
<tr>
<td>Relaxing, therapeutic and smooth</td>
<td>Happiness, soothing, welcoming, calming, joy, very gentle, therapeutic, nicely flowing, very soft, gentle, calm, relaxing, very peaceful, soothing</td>
<td>&quot;Very gentle, very soft, and you just, like, forget and just think about the good and you kind of, like, just, like, let yourself go&quot;</td>
</tr>
<tr>
<td>Music speaks with me</td>
<td>Engrossing, instructive, thoughtful, talking with listeners</td>
<td>&quot;At the beginning it was peaceful, then it was like trying to tell you something, at certain musical notas.&quot;</td>
</tr>
</tbody>
</table>
| Music speaks with me | Engrossing, instructive, thoughtful, talking with listeners | "I also feel like it's instructive music. It teaches you, but, of course, it is caressing
<table>
<thead>
<tr>
<th>Music, ‘the healer’</th>
<th>The healing effect</th>
<th>Calm, calming and relaxing, body relaxing, positive energy, beneficial effect, comforting, soothing, happy, peaceful, serenity, gratitude, feeling the self, detoxing, comfortable, being happy who she is, being in the moment, saving by someone, therapy, relaxing, smooth, effective, love, the most beneficial, being in the moment, being in the music, forgetting everything, moving out of this world</th>
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</tbody>
</table>
associating them with Islam as well but not necessarily they don't have to be religious, I think
- “But at the other side there is a really big spiritual serenity. It's a really good tune. I loved it.”
- “I don’t, don’t think that was really spiritual for music spiritually. But it was about, more about peace.”

<table>
<thead>
<tr>
<th>Makam music as a therapy</th>
<th>Relaxation activities accompanied the listening</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Relaxation activities accompanied the listening</td>
</tr>
<tr>
<td>- “Well when I’m doing yoga” - “When I’m moving around” - “Or been having massage.”</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Waterfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>- “Of course yes these should be a silence environment so I can focus and listen.”</td>
</tr>
<tr>
<td>- “The best place, imm, would it be a green environment actually I would prefer to listen the sound of nature.”</td>
</tr>
<tr>
<td>- “Yeah, it will be, I'd prefer it being at outdoors. Then again it can be indoors with the windows open somewhere where like I can feel nature, like the windblown to my skin when I'm listening to the music.”</td>
</tr>
<tr>
<td>- “Maybe in the car, going somewhere.”</td>
</tr>
<tr>
<td>- “It could be listened to anywhere if like you had earphones for example it could help you isolate yourself. Even if like I'm on the bus for example in a busy bus or in a busy room I think I'll be able to benefit from that or on a very like quiet day if I was sat on my own as well I could enjoy it and benefit from it.”</td>
</tr>
<tr>
<td>- “Like to sit on my prayer mat. So I like to in my room. And. I would like to listen to it if I just maybe like very low lights, so not too much lights.”</td>
</tr>
<tr>
<td>- “Should be alone and a quite place, I don’t know where it would be but just when im alone. At home on my own, I can listen in the garden, in the car like that.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When calmness settles in the world</th>
</tr>
</thead>
<tbody>
<tr>
<td>- “Like I would listen especially night time.”</td>
</tr>
<tr>
<td>- “And again it could be when everyones kind of goes to their house. Around that time, maybe after afternoon. It makes me feel alone.”</td>
</tr>
<tr>
<td>- “It will be in the morning when the sun’s out. So I can feel like I’m actually that in that moment.”</td>
</tr>
<tr>
<td>- “What time, like near a night (laughs). Silence calm away from the day’s business”</td>
</tr>
</tbody>
</table>
left the routine of everything away from everything, I would listen.”

| Endless listening | “It wouldn’t pass over 5 minutes.”
|                   | “As long as I can.”
|                   | “non-stop like I won’t get bored’
|                   | “till the sun set, I can listen until its dark. Because those hours are my best when it’s red, I can listen till the sun sets till it goes to sleep.” |

| Sitting or lying  | “lying down. Definitely.”
|                  | “I would sit down its more comfortable.”
|                  | “Sitting down, I believe that lying will be wrong maybe that’s why I’m going to say sitting down.” |

| The most beneficial | “I would say this one is more relaxing in a way where you feel more connected to it. I’m not gonna say the other weren’t because they were too. If I could pick one, I think I would pick the last one. (rast). “ |
Appendix 5: Sufi music with makams guideline

5.1. Summary
This guideline describes a four-session, Sufi music with makams intervention to be delivered face-to-face to individuals experiencing moderate to mild depression or anxiety. It aims to help people with depression and/or anxiety to manage psychological distress. This is accomplished by listening to Sufi music and thinking through their reactions to it in the company of a knowledgeable professional. The Sufi music intervention was developed through a process of reviewing existing literature, consultation with experts, and semi-structured interviews with people attending Turkish community centres in London and Newcastle. This guideline is intended for use by professionals who have at least some knowledge of Sufi music and music-based interventions. It was assessed in a randomised controlled feasibility trial in community centres with people experiencing moderate to mild anxiety and/or depression.

5.2. Introduction
Sufi music aims to help people with depression and/or anxiety to manage psychological distress. The sessions outlined here are intended for use by professionals or facilitators who are interested in Sufi music. Although the guideline is presented in a structured format, facilitators should be flexible in delivery of the intervention in order to accommodate participants’ preferences as well as cognitive and physical abilities.

5.3. Intervention structure and format
Sufi music listening is a four-session programme, delivered weekly for half an hour in a quiet room at the community centre. Individual delivery is recommended in order to allow the participants privacy and time in which to process their experiences and to express their emotions freely. However, the listening could also take place in a small
group. It is recommended that one facilitator be in charge of engaging the participant in the music, managing the time of music listening, and leading the emotional expression part of the intervention.

The format for all sessions is standardised, with the opening of each session including: introduction by the facilitator, a reminder of the purpose of the session, emphasis that participation is voluntary and a brief summary of the previous session, and the aim of the current session. This is followed by ice-breaking activities with water sound to ensure that people become comfortable with the environment. As an ice-breaker, the storytelling activity was chosen because stories also had an important role in the history of Sufism in this musical intervention.

Before every session, the facilitator should ask participants for their preferences in listening to the music as either sitting or lying down. The music should be played on a high-quality CD player and heard by both the facilitator and the participant. In each session, there should be a 5-10 minute ice-breaking part (included story-telling), 15-minute listening part and 5-10 minutes of expression part, which gives each participant an opportunity to express emotions and images evoked by the music. The expression part of the session is optional, but it is included as it may be important in facilitating understanding of using Sufi music to explore thoughts, feelings and emotions.

5.4. Role of the stories
The stories used in the therapy have a role in delivering the spiritual aim of the session. The sheikh told the stories of the history of Sufism to the Sufis to carry the necessary spiritual meaning. Therefore, to induce the Sufi side of the music, these stories were used as ice-breakers. The stories may vary from person to person, and the facilitator can decide which story will be suitable for the specific session goal.
5.5. **Choosing the music pieces**
The facilitator should choose the specific music pieces to be played. Although the music can be played live by the facilitator with playing water sounds from the CD player, a CD combining of 3 makams (first makam Rast, then Nihavend, and finally Buselik) is preferred if the facilitator has a low or no level of practice in Sufi Music and makams. In each session, although the makam order remains the same, the music pieces should be changed. These three makams were chosen because their beneficial effect on mental distress has been described in the published literature.

The makams are played simultaneously with a water sound, this idea having been derived from the historical application of makam music with water sounds in Anatolian and Middle Eastern hospitals. In our research participants have told us that it is pleasant to hear water sounds as a background to the Sufi music.

5.6. **Choosing the place for intervention**
The setting for the intervention can be agreed with the participant and may include any quiet place, such as the open air of a garden or the closed-door environment of a room. Facilitators should aim to be flexible and remain open to whatever arises in order to maximise the healing effect. At all times participants must feel safe and that the session is private and professionally delivered.

5.7. **General guidelines for facilitating the experience**
After the music has ended, the sharing part of the intervention allows the participant to express any feelings, emotions or images evoked by the music. The facilitator may begin with an open question, ‘*How was the music for you?*’ or use initial responses from participants to encourage them to share their feelings. Where people are struggling with an open question, it may be useful to provide options in a closed question format, such as ‘*Some people found this music relaxing, some others found it sad. Do you find this music relaxing or sad?*’.
The scripts provided here are only guides. Facilitators are encouraged to be flexible in the way the instructions are provided for participants.

5.8. **Role of the therapist/facilitator**
The facilitator should be in the room with the participant throughout the intervention, and afterwards in order to facilitate their sharing any experiences or emotions evoked by the music after listening to it.

5.9. **Materials**
Materials for the sessions used include CD player, and a mat/couch.

5.10. **Overview of all sessions**
a. **Session 1-** Session goal; Introduction and the spiritual cleansing in Sufism by the help of the story;
   i. Introduction (5-10 min)
   1. Introduction of the music, facilitator, participant;
   2. Storytelling method is used as an ice-breaker. Stories may vary in terms of the session aims.

“If you should like a dose of hidden knowledge, then tell the tale of Greek and Chinese painters. The Chinese said, ‘We are the better painters.’ The Greeks replied, ‘Ours is the power and the glory.’ The sultan said, ‘I wish to test you on this, to see who of you lives up to your claim.’ And then the Chinese and the Greeks were ready, the Greeks were more experienced in the skill. The Chinese said, ‘Will you consign to us a whole apartment, also one for you?’ There were two such adjacent sets of rooms, and one the Chinese had, the Greeks the other. The Chinese begged the king for a hundred colours; that dear man opened up his vaults to them. Each morning from his treasury the colours were paid out to the Chinese as a gift. The Greeks said, ‘In our work no paint materials are suitable, except to clean the rust.’ They closed the doors and took to burnishing, and they became as pure and clear as sky. There is a path from many
hues to none: a hue is like a cloud, a moon is hueless. And all the light and shining in
the cloud is from the stars and moon and sun, you know. Now when the Chinese had
performed their task, they took to beating drums in celebration. The king came in, and
there he saw the paintings; they robbed him of his mind and understanding. And after
that, he went to see the Greeks; they drew the curtain back between the rooms. The
image of those pictures and those works were mirrored on those walls with clarity. And
all he'd seen in there was finer here – his eyes were stolen from their very sockets.
The Greeks are like the Sufis, my dear father, they've stripped their hearts and purified
them of lust and greed and hate and avarice. The mirror's purity is like the heart's,
receiving images beyond all number. The endless formless form of the Unseen shone
from the heart's mirror, although that form is not contained in heaven, nor on the throne
nor earth nor sea nor Pisces. Because they have a boundary and a number, the mirror
of the heart is free of limits. The mind is silenced here, or led astray, because the heart
is with Him, or is Himself. No image is eternally reflected as one or many except within
the heart. Each image newly formed upon it forever appears in it with no concealment
there. The burnishers are free from scent and colour; each moment they see
instantaneous beauty. They left behind the form and husk of knowledge and raised
the flag of certainty itself. Mere thought is gone. They have attained to light; they've
got the strait and sea of recognition.' (Rumi, Mathnawi, 3480–3508 (trans. Alan
Williams).”

ii. Main listening

1. Introduction of the makams

2. Listening to the music pieces (15- 20 min)

iii. Closing (5-10 min)
1. Allows the participant (if he/she wants) to share any emotion/feeling after listening to the music pieces.

2. Reminders of the next session; thanks participant for attending

b. **Session 2-** Session goal; The meaning behind the real-life events

i. Ice-breaking activity- storytelling (5-10 min)

"Once there was an old man who lived in a tiny village. Although poor, he was envied by all, for he owned a beautiful white horse. Even the king coveted his treasure. A horse like this had never been seen before — such was its splendour, its majesty, its strength. People offered fabulous prices for the steed, but the old man always refused. "This horse is not a horse to me," he would tell them. "It is a friend, not a possession. How could you sell a friend." The man was poor, and the temptation was great. But he never sold the horse. One morning he found that the horse was not in his stable. All the village came to see him. "You old fool," they scoffed, "we told you that someone would steal your horse. We warned you that you would be robbed. You are so poor. How could you ever protect such a valuable animal? It would have been better to have sold him. You could have gotten whatever price you wanted. No amount would have been too high. Now the horse is gone and you've been cursed with misfortune." The old man responded, "Don't speak too quickly. Say only that the horse is not in the stable. That is all we know; the rest is judgment. If I've been cursed or not, how can you know? How can you judge?" The people contested, "Don't make us out to be fools! We may not be philosophers, but great philosophy is not needed. The simple fact that your horse is gone is a bad thing. The people of the village laughed. They thought that the man was crazy. They had always thought he was a fool; if he wasn't, he would have sold the horse and lived off the money. But instead, he was a poor woodcutter,"
He lived hand to mouth in the misery of poverty. Now he had proven that he was, indeed, a fool.

After fifteen days, the horse returned. He hadn’t been stolen; he had run away into the forest. Not only had he returned, he had brought a dozen wild horses with him. Once again, the village people gathered around the woodcutter and spoke. “Old man, you were right and we were wrong. What we thought was a curse was a blessing. Please forgive us.” The man responded, “Once again, you go too far. Say only that the horse is back. State only that a dozen horses returned with him, but don’t judge. How do you know if this is a blessing or not? Only God knows.” “Maybe the old man is right,” they said to one another. So they said little. But down deep, they knew he was wrong. They knew it was a blessing. The old man had a son, an only son. The young man began to break the wild horses. After a few days, he fell from one of the horses and broke both legs. Once again the villagers gathered around the old man and cast their judgments. “You were right,” they said. “You proved you were right. The dozen horses were not a blessing. They were a curse. Your only son has broken both his legs, and now in your old age you have no one to help you. Now you are poorer than ever.” The old man spoke again. “You people are obsessed with judging. Don’t go so far. Say only that my son broke his legs. Who knows if it is a blessing or a curse? No one knows.” It so happened that a few weeks later the country engaged in war against a neighbouring country. All the young men of the village were required to join the army. Only the son of the old man was excluded because he was injured. Once again, the people gathered around the old man, crying and screaming because their sons had been taken. There was little chance that they would return. The enemy was strong, and the war would be a losing struggle. They would never see their sons again. “You were right, old man,” They wept. “God knows you were right. This proves it. Your son’s
accident was a blessing. His legs may be broken, but at least he is with you. Our sons are gone forever.” The old man spoke again. “It is impossible to talk with you. You always draw conclusions. No one knows. Say only this. Your sons had to go to war, and mine did not. No one knows if it is a blessing or a curse. No one is wise enough to know. Only God knows.” (?)

ii. Main listening (15-20 min)
   1. Listening to music pieces

iii. Closing (5-10 min)
   1. Allows the participant (if he/she wants) to share any emotion/ feeling after listening to the music pieces.
   2. Reminders of the next session; thanks participant for attending

c. **Session 3-** Session goal; Exploring love and the meaning of life by the help of the story
   i. Ice-breaking activity- storytelling (5-10 min)

“The story of the person who knocked on the door of a friend. (The friend) said from within, "Who is that?" He answered, "It's me." The friend said, "Since you are you, I will never open the door. I don't know anyone among (my) friends who is "me," (so) go (away)!") Someone came (and) knocked on the door of a friend. His friend said, "Who are you, O trustworthy one?" He answered, "Me." (The friend) said, "Go (away), it's not the (right) time. At such a table as this there is no place for the raw." What can cook the raw one, except the fire of separation. What (else) can free him from hypocrisy? That poor miserable man left and travelled for a year. He burned from sparks [of painful longing] in separation from (his) friend. That burned one became "cooked," (and) then returned. He went back to the house of (his former)
companion. (Using) the door-ring, he knocked at the door with a hundred worries and courtesies [in mind], so that no rude words might spring forth from (his) lips. His friend called out, "Who is that at the door?" He answered, "Only you are at the door, O seizer of hearts!" (The friend) said, "Now, since you are me, O me, come in, (since) there's no room for two 'me's' in the house." (Mathnawi I: 3052-3067)

ii. Main activity (15- 20 min)
   1. Listening to music pieces

iii. Closing (5- 10 min)
   1. Allows the participant (if he/she wants) to share any emotion/ feeling after listening to the music pieces.
   2. Reminders of the next session; thanks participant for attending

d. Session 4- Session goal; Exploring Sufi music and wholeness (insani kamil) relationship
   i. Ice-breaking activity- storytelling (5-10 min)

"Mawlana starts his book with ‘the ney’s story’. The Ney (flute) in fact, represents the perfect man (Insân-i Kâmil). The stages a reed goes through from the reed bed to becoming a ney portrays the maturation of a human being, a representation of the steps of purifying the nafs (lower self) and refining the heart. In the same way that the ney is severed from the reed bed and this separation causes it to lament in pain, the perfect man, who has come from the realm of souls and enters a body made out of clay, known as the cage made of flesh, yearns for the original realm. Through this yearning a human being goes through ascetic discipline (riyâda), meditation (murâqaba), reflection (tafakkur), Divine love and tribulations until he reaches maturity and finds perfection. The ney that is removed from the reed bed is carefully cut by the
craftsman. Then the inside is removed, and the reed is left to dry. Later, holes are burnt through and rings are placed at the top and bottom. After being left in this state for some time, when the neyzen (player) breathes into it, the ney starts to send out beautiful sounds, as well as wonder and wisdom, in accordance with the listener's spiritual level. A human being goes through similar stages on the path to perfection. This is why this instrument may have a special connection with our soul, our emotion and our spirituality”.

ii. Main activity (15- 20 min)
   1. Listening to music pieces

iii. Closing (5- 10 min)
   1. Allows the participant (if he/she wants) to share any emotion/ feeling after listening to the music pieces.
   2. Overall evaluation of the sessions to decide whether to continue the sessions.

5.11. Conclusion
This guideline provides the structure for a Sufi music listening intervention for people with mild to moderate level of depression and anxiety. The facilitator should measure the depression and anxiety levels of participants before and after the sessions via a validated and reliable scale in the culture, where music intervention is run. The components of the intervention were designed based on evidence and example derived from the literature and from historical applications. However, it may be necessary for there to be some flexibility in delivering the guidelines in order to meet the varying requirements of the participants.
Appendix 6: Consent Form, Participant Information Sheet and Ethics Approval Letter of Feasibility Randomised Controlled Study

6.1. Consent Form for the Feasibility Study

CONSENT FORM FOR ADULT PARTICIPANTS IN RESEARCH STUDIES

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study: Does Sufi music therapy with makams reduce depression and anxiety and improve mental and spiritual well-being of people with mild or moderate levels of depression and anxiety; a feasibility randomised control trial

Department: Division of Psychiatry
Name and Contact Details of the Researcher: Rumeysa Nur Gurbuz
UCL Division of Psychiatry
6th Floor, Wings A (A72), Maple House,
149 Tottenham Court Road,
London W1T 7NF

Name and Contact Details of the Principal Researcher: Prof. Michael King;
UCL Division of Psychiatry
6th Floor, Wings A (A72), Maple House,
149 Tottenham Court Road,
London W1T 7NF

Name and Contact Details of the UCL Psychiatry Departmental Data Protection Officer:
Dr. Nicola White
University College London,
Gower Street, London, WC1E 6BT
+44 (0) 20 7679 2000 (x68726)

This study has been approved by the UCL Research Ethics Committee: Project ID number: 13199/C02

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation are already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

I confirm that I understand that by ticking/initialising each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initialled boxes mean that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

<table>
<thead>
<tr>
<th>Tick Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I confirm that I have read and understood the Information Sheet for the above study. I have had an opportunity to consider the information and what will be expected of me. I have also had the opportunity to ask questions which have been answered to my satisfaction and would like to take part in the study.</td>
</tr>
<tr>
<td>2. I understand that I will be able to withdraw my data at any time without giving a reason and without it affecting any benefits that I am entitled to. If I decide to withdraw, I understand that I will be asked what I wish to happen to the data I have provided up to that point and withdrawing my data will not disadvantage me in any way.</td>
</tr>
<tr>
<td>3. I consent to participate in the study. I understand that my personal information (my age, occupation, gender, religious affiliation) will be used for the purposes explained to me. I understand that according to data protection legislation, ‘public task’ will be the</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>lawful basis for processing. I understand that all collected data will be handled in accordance with all applicable data protection legislation.</td>
</tr>
<tr>
<td>4. I understand that all personal information will remain confidential and that all efforts will be made to ensure I cannot be identified. I understand that my data gathered in this study will be stored anonymously and securely. It will not be possible to identify me in any publications.</td>
</tr>
<tr>
<td>5. I understand that my information may be subject to review by responsible individuals from the University (or supervisors) for monitoring and audit purposes.</td>
</tr>
<tr>
<td>6. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason. I understand that if I decide to withdraw, any personal data I have provided up to that point will be deleted unless I agree otherwise.</td>
</tr>
<tr>
<td>7. I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.</td>
</tr>
<tr>
<td>8. I understand the direct/indirect benefits of participating.</td>
</tr>
<tr>
<td>9. I understand that the data will not be made available to any commercial organisations but is solely the responsibility of the researcher undertaking this study.</td>
</tr>
<tr>
<td>10. I understand that I will not benefit financially from this study or from any possible outcome it may result in the future.</td>
</tr>
<tr>
<td>11. I understand that the information I have submitted will be published as a report and I wish to receive a copy of it.</td>
</tr>
<tr>
<td>12. I hereby confirm that I understand the inclusion criteria as detailed in the Information Sheet and explained to me by the researcher.</td>
</tr>
</tbody>
</table>
| 13. I hereby confirm that:  
(a) I understand the exclusion criteria as detailed in the Information Sheet and explained to me by the researcher; and  
(b) I do not fall under the exclusion criteria. |   |
| 14. I agree that my GP may be contacted if any unexpected results are found in relation to my health. |   |
| 15. I am aware of who I should contact if I wish to lodge a complaint. |   |
| 16. I voluntarily agree to take part in this study. |   |
| 17. Use of information for this project and beyond  
I would be happy for the data I provide to be archived at UCL data Safe Haven for 10 years after the study is completed. |   |

If you would like your contact details to be retained so that you can be contacted in the future by UCL researchers who would like to invite you to participate in follow up studies to this project, or in future studies of a similar nature, please tick the appropriate box below.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, I would be happy to be contacted in this way</td>
<td></td>
</tr>
<tr>
<td>No, I would not like to be contacted</td>
<td></td>
</tr>
</tbody>
</table>

Name of participant

Date

Signature

Researcher

Date

Signature

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6.2. Participant Information sheet of the feasibility study

**Participant Information Sheet for Adults**
UCL Research Ethics Committee Approval ID Number: 13199/002

**YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET**

**Title of Study:**

**Department:** Division of Psychiatry  
**Name and Contact Details of the Researcher:** Rumeysa Nur Gurbuz  
UCL Division of Psychiatry  
6th Floor, Wings A (A72), Maple House,  
149 Tottenham Court Road,  
London W1T 7NF

**Name and Contact Details of the Principal Researcher:** Prof. Michael King  
UCL Division of Psychiatry  
6th Floor, Wings A (A72), Maple House,  
149 Tottenham Court Road,  
London W1T 7NF

1. **Invitation Paragraph**  
We would like to invite you to participate in this research project. You should only volunteer to participate if you want to; choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important to read the following information carefully and discuss it with others if you wish. Please do not hesitate to ask me if there is anything that is not clear or if you would like more information.

2. **What is the project’s purpose?**  
A makam is a combination of melodic modes and rhythmic patterns. We wish to study Sufi makam music as a way of reducing anxiety/depression and increasing wellbeing. We hope that ultimately this research will increase our understanding of makam music’s benefits and how best to provide it.

3. **Why have I been chosen?**  
This study will recruit sixty adults (aged 18 and older) with mild emotional distress, who live in the Newcastle or London and attend either Newcastle Turkish Community Association or London Yunus Emre Cultural Institute.

4. **Do I have to take part?**  
It is up to you to decide whether or not to take part; choosing not to take part will not disadvantage you in any way. If you do decide to take part, you are still free to withdraw at any time without giving a reason and without it affecting any benefits that you are entitled to. If you decide to withdraw you will be asked what you wish to happen to the data you have provided up to that point.

5. **What will happen to me if I take part?**  
If you agree to take part in this research, you will be randomised to either the intervention group or the control group. If you are in the intervention group, you will be requested to attend four

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music therapy sessions over 4 weeks. At each session, you will listen to the music (in Rast
makam) for about 15 minutes and you will have 5-10 minutes to talk about your experience with
the music if you want to. Each therapy session will last to 25 minutes and the researcher will
write down her impressions at the end of each session. If you are in the control group, you will
continue to attend your usual activities at the centre and will be offered the music therapy
sessions (two sessions) at the end of the study.

6. Will I be recorded and how will the recorded media be used?
Sessions will not be audio or video recorded. The researcher will keep some written notes on
each participant at the end of each session. All data will be collected and stored in accordance
with the Data Protection Act 1998.

7. What are the possible disadvantages and risks of taking part?
There is a very small chance that you may become distressed after listening to music piece(s),
particularly if it evokes unpleasant memories. You can withdraw from the study at any point,
should you wish to do so, without any disadvantage to you.

8. What are the possible benefits of taking part?
We cannot be sure that people participating in the project will get any immediate benefits;
however, we hope that this research will help other people in the future if makamic music is
found to be beneficial.

9. What if something goes wrong?
If you wish to raise a complaint about something occurring during or following your participation
in the project, you should contact; Prof. Michael King;
UCL Division of Psychiatry
If you feel your complaint has not been handled to your satisfaction, you can contact the Chair of
the UCL Research Ethics Committee – ethics@ucl.ac.uk

10. Will my taking part in this project be kept confidential?
All the information that we collect about you during the course of the research will be kept
confidential. You will not be able to be identified in any ensuing reports or publications.

11. Limits to confidentiality
Please note that confidentiality will be maintained as far as it is possible, unless during our
conversation I hear anything which makes me worried that someone might be in danger of harm,
I might have to inform relevant agencies of this.

12. What will happen to the results of the research project?
This study has been ethically reviewed and received ethics clearance from the University College
London Research Ethics Committee. Only the investigator mentioned above will have access to
the data collected from this study and the results of the study will be used in articles,
presentations, and presented within a PhD thesis. All data will be completely and irreversibly
anonymised and will be collected and stored in accordance with the Data Protection Act 1998.

13. Data Protection Privacy Notice

Notice:
The controller for this project will be University College London (UCL). The UCL Data Protection Officer provides oversight of UCL activities involving the processing of personal data, and can be contacted at data-protection@ucl.ac.uk.

This ‘local’ privacy notice sets out the information that applies to this particular study. Further information on how UCL uses participant information can be found in our ‘general’ privacy notice:
For participants in health and care research studies, https://www.ucl.ac.uk/legal-services/privacy/participants-health-and-care-research-privacy-notice

The information that is required to be provided to participants under data protection legislation (GDPR and DPA 2018) is provided across both the ‘local’ and ‘general’ privacy notices.

The categories of personal data used will be as follows:
- Age
- Gender
- Occupation
- Ethnicity
- Religious affiliation

The lawful basis that would be used to process your personal data will be your consent.

The lawful basis used to process special category personal data will be for scientific and historical research or statistical purposes.

Your personal data will be processed so long as it is required for the research project. If we are able to anonymise or pseudonymise the personal data you provide we will undertake this and will endeavour to minimise the processing of personal data wherever possible.

If you are concerned about how your personal data is being processed, or if you would like to contact us about your rights, please contact UCL in the first instance at data-protection@ucl.ac.uk.

Detail any intended recipients of personal data if not explained elsewhere, and also advise if any personal data will be transferred outside the EEA, and if so to where.

14. Contact for further information
If you have any questions about this study, please do not hesitate to contact me at the above address and email address.

You can withdraw your data from the project at any time.

Please discuss the information above with others if you wish or ask me, if there is anything that is not clear or if you would like more information.

You will be given a copy of the information sheet and a signed consent form to keep.

Thank you for reading this information sheet and for considering to take part in this research study.
6.3. Ethics Approval Letter for Feasibility Study

28th May 2019

Professor Michael King
Division of Psychiatry
UCL

Dear Professor King

Notification of Ethics Approval with Proviso
Project ID/Title: 12109/002: Does Sufi music therapy with makams reduce depression and anxiety and improve mental and spiritual well-being of people with mild or moderate levels of depression and anxiety: a feasibility randomised controlled trial

Further to your satisfactory responses to my comments, I am pleased to confirm in my capacity as Joint Chair of the UCL Research Ethics Committee (REC) that I have ethically approved your study until 28th May 2020 on condition that:

1. recruitment does not commence until you have obtained permission from the Turkish centres with written evidence provided for our records.
2. links to support groups are provided to participants, not just a GP referral, if participants wish to follow-up after completing the self-reporting questionnaire, particularly those with severe anxiety.
3. the advert includes the name of the department as well as the full name of the researcher. Avoid use of personal email addresses and mobile numbers.
4. a DP registration number is provided.
5. the Consent form contains either the details of the UCL Data Protection officer or else Nicola White’s title is changed to Departmental Data Protection Officer.

Ethical approval is also subject to the following conditions:

Notification of Amendments to the Research
You must seek Chair’s approval for proposed amendments (to include extensions to the duration of the project) to the research for which this approval has been given. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical approval by completing an ‘Amendment Approval Request Form’
http://ethics.grad.ucl.ac.uk/responsibilities.php

Adverse Event Reporting – Serious and Non-Serious
It is your responsibility to report to the Committee any unanticipated problems or adverse events involving risks to participants or others. The Ethics Committee should be notified of all serious adverse events via the Ethics Committee Administrator (ethics@ucl.ac.uk) immediately the incident occurs. Where the adverse incident is unexpected and serious, the Joint Chairs will decide whether the study should be terminated pending the opinion of an independent expert. For non-serious adverse events the Joint Chairs of the Ethics

Office of the Vice Provost Research, 2 Taviton Street
University College London
Tel: +44 (0)20-7679 8717
Email: ethics@ucl.ac.uk
http://ethics.oucl.ac.uk/
Committee should again be notified via the Ethics Committee Administrator within ten days of the incident occurring and provide a full written report that should include any amendments to the participant information sheet and study protocol. The Joint Chairs will confirm that the incident is non-serious and report to the Committee at the next meeting. The final view of the Committee will be communicated to you.

**Final Report**
At the end of the data collection element of your research we ask that you submit a very brief report (1-2 paragraphs will suffice) which includes in particular issues relating to the ethical implications of the research i.e. issues obtaining consent, participants withdrawing from the research, confidentiality, protection of participants from physical and mental harm etc.

In addition, please:

- ensure that you follow all relevant guidance as laid out in UCL’s Code of Conduct for Research: [https://www.ucl.ac.uk/srs/file/579](https://www.ucl.ac.uk/srs/file/579)
- note that you are required to adhere to all research data/records management and storage procedures agreed as part of your application. This will be expected even after completion of the study.

With best wishes for the research.

Yours sincerely

Professor Lynn Ang
Joint Chair, UCL Research Ethics Committee

Cc: Rumeysa Nur Gurbuz
6.4. Permission from Yunus Emre Institute, London for conducting the study

Ref: KM.ENG.01-2019/049
Subject: Rumeyza Nur Gurbuz

06.06.2019

To whom it may concern

Our Institute (Yunus Emre Institute) agreed to participate in the research project conducted by
Rumeyza Nur Gurbuz between 25/05/2019 and 20/07/2019, titled ‘Does Sufi music therapy
with makams reduce depression and anxiety and improve mental and spiritual well-being of
people with mild or moderate levels of depression and anxiety; a feasibility randomised control
trial’ and it is ready to provide a quite room for the therapy as well.

Should you have any queries please do not hesitate to contact us.

Yours truly,

Dr. Meral Karakus
Director
6.5. Permission from Turkish Community Centre, Newcastle for conducting the study

UCL RESEARCH ETHICS COMMITTEE
OFFICE FOR THE VICE PROVOST RESEARCH
2 Taviton Street
University College London

07 June 2019

Dear UCL Research Ethics Committee,

This is to confirm that Turkish Community Association at Newcastle upon Tyne agrees to participate to the research project between 25/05/2019 and 20/07/2019, titled 'Does Sufi music therapy with makams reduce depression and anxiety and improve mental and spiritual well-being of people with mild or moderate levels of depression and anxiety; a feasibility randomised control trial' and will be conducted by Rumeysa Nur Gurbuz. The community centre is pleased to support the research and to provide a quiet room for the therapy.

Please do not hesitate to contact me at [redacted] or on [redacted] if you require any further assistance.

Yours faithfully,

Aziz Afzalov
Secretary

Turkish Community Association
35 Grainger Park Road, Newcastle Upon Tyne, NE4 8SA
Charity Registration No 1156165
Sufi Music might Heal!

If you feel sad, hopeless, and don’t get any joy out of activities that used to be fun or sometimes you’re worried, afraid, and just plain uneasy. You may be eligible this Sufi music research!

And it is absolutely free!

This study is a part of a research project at UCL, conducted by Rumeysa Nur Gurbuz.

To attend the study ask a member of staff or contact me!

Contact me at SufiMusicTherapy@gmail.com

For data privacy notice please visit: https://www.ucl.ac.uk/legal-services/privacy/participants-health-and-care-research-privacy-notice
## Appendix 7: Demographic questionnaire for participants in feasibility randomised controlled trial

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>How old are you?</td>
<td></td>
</tr>
<tr>
<td>Kac yasindasiniz?</td>
<td></td>
</tr>
<tr>
<td>What is your gender?</td>
<td>Female</td>
</tr>
<tr>
<td>Cinsiyetiniz?</td>
<td>Kadin</td>
</tr>
<tr>
<td>What is your marital status?</td>
<td></td>
</tr>
<tr>
<td>Evli misiniz?</td>
<td></td>
</tr>
<tr>
<td>What is your nationality?</td>
<td>Turkish</td>
</tr>
<tr>
<td>Milliyetiniz ne?</td>
<td>Turk</td>
</tr>
<tr>
<td>What are you doing for living?</td>
<td></td>
</tr>
<tr>
<td>Ne is yapiyorsunuz?</td>
<td></td>
</tr>
<tr>
<td>What is your religion?</td>
<td>Islam</td>
</tr>
<tr>
<td>Dininiz ne?</td>
<td></td>
</tr>
<tr>
<td>Do you take part regularly in a Sufi group?</td>
<td>Yes</td>
</tr>
<tr>
<td>Herhangi bir sufi gruba (tarikata) duzenli olarak katiliyor musunuz?</td>
<td>Evet</td>
</tr>
<tr>
<td>Do you take any medication for your anxiety or depression?</td>
<td>Yes</td>
</tr>
<tr>
<td>Depresyon veya kaygi bozuklugunuz (anksiyete) icin herhangi bir ilac tedavisi kullaniyor musunuz?</td>
<td>Evet</td>
</tr>
</tbody>
</table>
Appendix 8: Patient Health Questionnaire- 9 (PHQ- 9)

<table>
<thead>
<tr>
<th>PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over the last 2 weeks, how often have you been bothered by any of the following problems? (Use ✓ to indicate your answer)</td>
</tr>
<tr>
<td>Not at all</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>1. Little interest or pleasure in doing things</td>
</tr>
<tr>
<td>2. Feeling down, depressed, or hopeless</td>
</tr>
<tr>
<td>3. Trouble falling or staying asleep, or sleeping too much</td>
</tr>
<tr>
<td>4. Feeling tired or having little energy</td>
</tr>
<tr>
<td>5. Poor appetite or overeating</td>
</tr>
<tr>
<td>6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down</td>
</tr>
<tr>
<td>7. Trouble concentrating on things, such as reading the newspaper or watching television</td>
</tr>
<tr>
<td>8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual</td>
</tr>
<tr>
<td>9. Thoughts that you would be better off dead or of hurting yourself in some way</td>
</tr>
</tbody>
</table>

For office coding: 0 + 1 + 2 + 3

Total Score: ______

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

<table>
<thead>
<tr>
<th>Not difficult at all</th>
<th>Somewhat difficult</th>
<th>Very difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
</table>

Developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc. No permission required to reproduce, translate, display or distribute.
Appendix 9: Generalized Anxiety Disorder 7-item (GAD-7) scale

Generalized Anxiety Disorder 7-item (GAD-7) scale

<table>
<thead>
<tr>
<th>Over the last 2 weeks, how often have you been bothered by the following problems?</th>
<th>Not at all sure</th>
<th>Several days</th>
<th>Over half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Feeling nervous, anxious, or on edge</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Not being able to stop or control worrying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Worrying too much about different things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Trouble relaxing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Being so restless that it’s hard to sit still</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Becoming easily annoyed or irritable</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Feeling afraid as if something awful might happen</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Add the score for each column: + + +

Total Score (add your column scores) =

If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all __________
Somewhat difficult __________
Very difficult __________
Extremely difficult __________

Appendix 10: The Warwick-Edinburgh Mental Well-being Scale (WEMWBS)

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS)

Below are some statements about feelings and thoughts.
Please tick the box that best describes your experience of each over the last 2 weeks.

<table>
<thead>
<tr>
<th>STATEMENTS</th>
<th>None of the time</th>
<th>Rarely</th>
<th>Some of the time</th>
<th>Often</th>
<th>All of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I’ve been feeling optimistic about the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been feeling useful</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been feeling relaxed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been feeling interested in other people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve had energy to spare</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been dealing with problems well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been thinking clearly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been feeling good about myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been feeling close to other people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been feeling confident</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been able to make up my own mind about things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been feeling loved</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been interested in new things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I’ve been feeling cheerful</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Warwick-Edinburgh Mental Well-being Scale (WEMWBS)
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Appendix 11: The Functional Assessment of Chronic Illness Therapy-Spiritual Well-being Scale, a modified version for non-illness (FACIT-SP 12)

FACIT-SP (Version 4)

Below is a list of statements that other people have said are important. Please circle or mark one number per line to indicate your response as it applies to the past 60 days.

<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>4a</td>
<td>I feel peaceful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4b</td>
<td>I have a reason for living</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4c</td>
<td>My life has been productive</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>4d</td>
<td>I have trouble feeling peace of mind</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4e</td>
<td>I feel a sense of purpose in my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4f</td>
<td>I am able to reach down deep into myself for comfort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4g</td>
<td>I feel a sense of harmony within myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4h</td>
<td>My life lacks meaning and purpose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4i</td>
<td>I find comfort in my faith or spiritual beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4j</td>
<td>I find strength in my faith or spiritual beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4k</td>
<td>Difficult times have strengthened my faith or spiritual beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4l</td>
<td>Even during difficult times, I know that things will be okay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>