Music in Dementia Care: A Review of Interactive and Receptive Musical Activities

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Abstract

In the United Kingdom around 850,000 people have been diagnosed with dementia, and this is projected to rise to 1.6 million by 2040 (Alzheimer's Society, 2020). Music-based interventions are widely accepted as a beneficial method to reduce behavioural and psychological symptoms of dementia, as despite cognitive deterioration, music remains preserved. The purpose of this research is to investigate how interactive and receptive musical activities improve quality of life for people living with dementia, and determine which type produces the greatest well-being outcome. Using a combination of qualitative analysis and secondary data, this paper presents a direct comparison of both types of musical activity. By conducting a survey of the dementia-friendly musical activities in Nottingham, it presents the current benefits and difficulties faced when providing musical services for people with dementia, and provides solutions to overcome these difficulties. Interactive musical activities were found to play the greatest role in improving quality of life; however, further studies investigating a combination of both interactive and receptive musical activities in one unifying programme are needed.

Chapter 1 – Introduction

1.1 – Why Music is Important in Dementia Care

It was in 1986 that the first articles connecting the healing properties of music and dementia were published (Brotons, 2000). In David Aldridge's book *Music Therapy and Dementia Care,* Melissa Brotons reviewed the early literature. In this review, Brotons found that 53% of the papers discussed were published by health professionals– not specialist music scholars or therapists. Music and dementia originated and remains an interdisciplinary field, combining disciplines like medicine, nursing, psychology, pharmacy, social science and musicology. Each discipline has applied and adapted music-based methods to their own area of research, discovering new important results. Within the review, Brotons (2000: p.61-62) concluded that:

- People with dementia could participate in musical activities into the latest stages of dementia.
- Interactive music was the preferred method (as it was participated in the most and for the longest amount of time).
- Individual and small groups sessions were the most successful format of music therapy.
- Social and emotional skills were enhanced through the promotion of interactions within a music therapy session.
- Cognitive skills were increased (e.g. memory. People with dementia could retain and recall song lyrics).
- Musical interventions were an effective alternative to medication.

These initial findings were instrumental in the development of the music and dementia field, it provided academics with an overview of the different ways in which musical activity could improve the quality of life for people living with dementia. Since this publication, there has been an abundance of new research connecting music and dementia with results finding that musical interventions enhance mood, reduce negative symptoms such as depression and anxiety, trigger automatic memory responses, reduce social isolation, encourage social interaction and facilitate expression and communication (as discussed in greater depth throughout Chapter 2, 4 and 5). Musical interventions are one of the most popular non-pharmaceutical methods in improving well-being for people with dementia today (Schneider *et al.,* 2019).

As the music and dementia field has expanded over the last three decades, subdivisions have arisen. These subdivisions can be categorised into four main areas: (1) music therapy; (2) community music therapy; (3) community music; and (4) therapeutic music. These subdivisions are explored further in Chapter 2, providing context on how the music and dementia field has evolved and illustrates the importance of identifying each subdivision separately when analysing the music and dementia field. Within these subdivisions there are two types of musical activities used when implementing music in dementia care: interactive and receptive. Interactive musical activities involve an interpersonal approach, requiring participants to be engaged, present and collaborative. To do so, interactive musical activities need two or more people present to interact with each other, i.e. interactive music-therapy sessions, community music projects and community music therapy groups. Receptive activities use a simpler, less interactive approach, requiring participants to stay and listen to music for a period of time. It is a solitary activity that enables the participant to reflect and experience meaning from music i.e. receptive music-therapy sessions and therapeutic music.

1.2 – Rationale

Interactive and receptive studies are primarily conducted separately, meaning background information, methodology and results cannot be compared collectively. This makes it difficult to accumulate findings as research is widely dispersed, (especially in an interdisciplinary field). Using a combination of qualitative analysis and secondary data, this paper reviews both interactive and receptive musical activities simultaneously. It is important to review these studies together as compiling findings from individual studies can be a frustrating and time-consuming process, this paper eliminates this issue by collating this information into one place. This is conducted via a survey of the dementia-friendly musical activities in Nottingham, presenting the current benefits and difficulties faced when providing musical services for people with dementia, and provides solutions to overcome these difficulties. This paper will give a direct comparative review of both types of musical activity, to ultimately determine which produces the greatest well-being outcomes for people living with dementia.

To reach this outcome, I begin with a literature review of the subdivisions within the music and dementia field. By reviewing each subdivision separately, it highlights the defining characteristics of each, as well as provides an overview of the important literature within each area. From this, a greater understanding of each subdivision is established and in turn helps identify the importance of interactive and receptive music within dementia care. This leads to a case study in which I apply the definitions established in Chapter 2 to the dementia-friendly activities available in Nottingham. As an active community musician in Nottingham, I utilise my local knowledge of the area to create a survey in which all dementia-friendly musical activities are documented and categorised into one of the four subdivisions. The case study demonstrates the demand for each subdivision and variety of musical activities available for people living with dementia. Before the outbreak of COVID-19, I originally planned to conduct

qualitative interviews with dyads (comprising a person with dementia and their carer) with members from each of the four subdivisions to investigate; (1) what their musical activity offered; (2) what music meant to them; and (3) what the musical activity brought to their life (McDermott *et al*., 2014). This would have gained important knowledge from people living with dementia into how and why they incorporate music into their lives, as well as highlighting the different benefits dyads experience within each subdivision. Unfortunately, due to the outbreak of COVID-19 this original methodology was not possible. Instead, I split the survey findings into two categories: interactive and receptive and reviewed these areas using qualitative observation and secondary data.

Research investigating ways in which to improve well-being for people with dementia has become essential since the outbreak of COVID-19. The Alzheimer's Society published a survey in July 2020 that said that 'nearly half (46%) of people living with dementia [stated] that the pandemic [had] had a negative impact on their mental health, and over 1 in 3 reported having lost confidence in going out and carrying out daily tasks' (Alzheimer's Society, 2020). The impact of social isolation, suspension on dementia-friendly support groups and fears associated with COVID-19 has led to mass deterioration within people who have dementia (Alzheimer's Society, 2020). Therefore, research into finding ways in which to stimulate people living with dementia is vital, and musical interventions are an appropriate solution.

1.3 – Brief Understanding of Dementia

Being diagnosed with dementia is a traumatic and daunting experience that affects not just the person diagnosed, but those around them too. As the cause of dementia is still unknown, it makes it hard for people to comprehend and know what to do from diagnosis. Current research suggests that Alzheimer's Disease (the most common form of dementia) is caused by a build-

up of abnormal proteins around the brain, which decrease chemical messages and over time the brain begins to shrink (Alzheimer's Society, 2016). From this tissue loss, the person with dementia will begin to act differently.

There are broadly three stages of dementia: mild, moderate and severe. In the mild stages of dementia, a person may develop difficulty with learning, memory and thinking (Schneider *et al.,* 2019). They will generally be able to accomplish their daily activities but may have difficulty making plans. Some common examples of this are forgetting recent conversations, misplacing items and showing poor judgment. When a person has mild dementia, they can still live independently. During the moderate stages of dementia, a person with dementia will have the same underlying symptoms as mild, but they will be more apparent. The deterioration advances to thinking, learning and planning, speaking and body position, leading to more obvious personality changes (*ibid*.). Episodes of confusion and difficulty communicating with others are common symptoms of moderate dementia. Finally, in the severe stages of dementia, a person may lose their ability to communicate, care for themselves and recognise friends and family. This is due to a substantial amount of damage to the brain and consequent loss of function. Throughout each stage, we can see that the person with dementia's brain function is being affected as it deteriorates, and a person's identity and independence is lost. As dementia affects the brain, it can be daunting for the person with dementia as they will not know how they are personally going to be affected. This means support is needed to help manage the condition from diagnosis.

Support can be found through multiple outlets. Primarily there are two categories – medical and non-medical interventions – and a combination of both is advised when designing a person's dementia care plan (NHS, 2020). The first option is anti-dementia medication, and it

is used to help ease symptoms and slow down the rate of progression. Anti-dementia medication helps nerve cells communicate with each other by preventing enzymes from breaking down acetylcholine in the brain (*ibid*.). There are three main types of anti-dementia medication: donepezil, galantamine or rivastigmine, which are acetylcholinesterase inhibitors. They are offered to people with dementia to help manage their anxiety, memory, concentration and motivation (Schneider *et al*., 2019). For people with Alzheimer's disease 40–70% of those on anti-dementia medication found that acetylcholinesterase inhibitors helped by reducing these symptoms; however, some people experienced unwanted side effects (*ibid*.). This is why people with dementia are advised to have a combination of both medical and non-medical interventions (*ibid*.).

Psychosocial intervention is the term used to describe a way to support a person with dementia through non-medical means. Psychosocial interventions can help reduce negative symptoms like depression and anxiety, whilst working to improve memory (Schneider *et al*., 2019). There are many psychosocial interventions dispersed within communities available for people with dementia, for example: sports clubs, social groups, arts projects, music groups, film clubs, theatre groups and museums. From my findings, all of these offer dementia-friendly services. In the *Foundations in Dementia* course available on Future Learn provided by the Psychology and Mental Health team at the University of Nottingham, the programme found singing and music making was a positive psychosocial intervention:

> Individuals who have recently been diagnosed with dementia need reassurance that their capacity for learning, enjoyment and social interaction need not be devastated by the diagnosis. Singing and music-making in community settings offers a positive identity, a forum for sharing information, a source of enjoyment, a social

> outlet – and potentially, a means to learn new skills and practise existing ones. (Schneider *et al*., 2019)

Using music as a psychosocial intervention to help manage the condition enables people with dementia to experience many of the positive effects that music offers and improve their quality of life (Alzheimer's Society, 2016). This is because despite the severity of dementia, there are certain activities that remain preserved and are resistant to decline (Devere, 2017).

In the brain there are two types of long-term memory: (1) procedural memory, which is an implicit cognitive function that contains long-term memories (e.g. riding a bike, singing a song or throwing a ball); and (2) explicit memory, which is conscious, intentional recollection (e.g. remembering a dental appointment, recollecting an event from years ago or remembering a friend's birthday) (*ibid*.). As dementia develops, explicit memory begins to decline; however, procedural memory does not. Music falls under the bracket of procedural memory, so people with dementia retain musical ability. Because music is preserved in the brain throughout the advancement of dementia, musical interventions have become a key element of dementia care.

Chapter 2 – Literature Review of Music in Dementia Care

This chapter provides a detailed background about the subdivisions that have arisen within the music and dementia field. It reports a brief history of the origins of the field, leading to a discussion about the development of music within healthcare. From this, a greater understanding of each subdivision is achieved providing an overview of the different types of interactive and receptive musical activities implemented within the dementia community. Writers and historians have linked the healing properties of music and medicine for centuries, music is a multifaceted medium that crosses through cultures, myths, practices and spiritual realms. The healing properties of music can be dated back to the most primitive societies; however, it is only in the last 60 years that the effectiveness of music within the medical profession has been studied, documented and implemented worldwide. This field was named music therapy.

2.1 – Music Therapy

Juliet Alvin is widely regarded as the pioneer of music therapy; Alvin established the academic field in 1958 through the creation of the Society of Music Therapy and Remedial Music, later renamed the British Society for Music Therapy (British Association for Music Therapy, 2017). The objective of this organisation was to further the use and development of music therapy alongside other medical practices. The British Society for Music Therapy acted as an advisory body and provided a centre of information for researches in the music-therapy field; enabling dissemination of services, music therapy training and was a facilitator in sharing academic findings (British Association for Music Therapy, 2017). Alvin's advocacy in promoting music therapy as a medical intervention meant the British Society for Music Therapy grew into an internationally renowned organisation, mounting pressure for music therapy to be

acknowledged within the medical profession (*ibid*.). In 1976, the Association of Professional Music Therapists was formed and became instrumental in achieving regulations that required practising music therapists to be fully qualified and registered to a Health Professional Council (*ibid*.). This achievement gained the Association of Professional Music Therapists an international reputation for excellence, reinstating the professionalism, importance and value of a qualified music therapist. The Association of Professional Music Therapists is now known as the British Association for Music Therapy and is the current body for music therapy in the United Kingdom. As well as pioneering this academic field, Alvin also initiated the first postgraduate music-therapy training programme in 1967 at the Guildhall School of Music and Drama in London (Wigram *et al*., 2002). This course would be the starting place for many influential music-therapy scholars to come (e.g. Mary Priestly, Leslie Bunt and Tony Wigram). Alvin dedicated her academic life to the affirmation of music therapy and as such, is responsible for the many beneficial advances in the field.

In 1959, the American composer and pianist Paul Nordoff and special-needs educator Clive Robbins began a series of studies at Sunfield Homes, investigating the therapeutic potential of music. The duo discovered a new way of communicating and interacting with disabled children through musical improvisation, which they called Creative Music Therapy (Wigram *et al*., 2002). As music therapy was relatively unknown at the time, Nordoff and Robbins were two of the first academics to collect and monitor data in this area. Nordoff and Robins 'had a fervent belief in the power of the music to reach into the emotional life of a child [and] this was the cornerstone of the Nordoff-Robbins philosophy' (Darnley-Smith and Patey, 2003: p.35). It was this philosophy that revolutionised the way practitioners used music. It was not about demonstrating artistic flair, but about reflecting emotions through sound (whether by banging hard on a drum to reflect anger or gently touching a windchime to reflect tranquillity). The

philosophy revolutionised music-therapy practice, particularly for the disabled, handicapped and impaired community, where communication can be difficult. Nordoff and Robbins created a practice that enables all people to release and delve through their emotions in a safe, controlled environment. They would converse with their client through musical improvisation, this was a private experience between client and therapist that was hosted in a secure room. From this, Nordoff and Robbins would respond to the client's emotional expression and contain this expression so they can continue to outlet in a safe way. Nowadays, Nordoff-Robbins is the United Kingdom's largest independent music-therapy charity and training programme that impacts thousands of lives through therapy, training and support each year (Nordoff-Robbins, 2020).

In the subsequent decades since music therapy originated, a vast amount of rich and diverse data has been collected. This research has made prevalent discoveries such as the impact on children with autism (Alvin, 1978); cognitive improvements for people with dementia (Aldridge, 2000); and the power to assist people with their speech and language (Elefant *et al.,* 2012). Music therapy has opened and created many new pathways within the medical profession and continues to play a vital role in rehabilitation within the health-care system. As music therapy has developed rapidly over the last 60 years, it makes defining the field difficult. As a result, there is a division in opinion as to whether we should define music therapy. Rogers states that that as music therapy envelops so many different cultures, practices and approaches, it is impossible to summarise the profession under one unifying definition (Barrington, 2008: p.67), whereas Stige and Procter argue that to achieve the academic professionalism it deserves and receive the financial backing it requires, a definition is vital so that it offers a sense of identity to the outside world (*ibid.)*.

Alison Barrington has followed this issue in the music-therapy field closely, specialising in the professionalisation and resistance of defining music therapy. In the paper 'Challenging the Profession, Barrington (2008: p.67) states: 'the diversity of clinical settings, the variety of approaches employed and the breadth of techniques, skills and knowledge used produces too rich a canvas from which to create one defining statement'. This argument recognises that music-therapy practice encompasses many different features; therefore, it would be inappropriate to give it a one-size-fits-all definition. This is evident in the three contrasting examples below, which all practise music therapy in different ways.

First, improvisational music therapy created by Alvin (Wigram *et al.,* 2002: p.113-150). Alvin's approach was to work one-on-one with a client, leaving multiple types of instruments around the room for them to choose from - this way they could pick and change instruments to best represent their feelings at the time. An improvisation session primarily focused around a musical conversation. The therapist and client would explore emotions through pitch, timbre, tempo, dynamics and harmonic frame. This model allows the client to lead the session with the therapist musically supporting them through their therapeutic journey. Alvin believed that by giving the client freedom in musical expression, the therapist would in turn gain a greater understanding of the client's needs. Second, there is analytically orientated music therapy (*ibid.)*. This was created by Mary Priestly (a scholar who studied under Alvin at Guildhall). Priestly combined the practices of music therapy with psychoanalysis. In an analytically orientated session, the client and therapist verbally agree upon a theme to explore. Then improvise around the theme and afterwards discuss how the client felt during and after the improvisation took place (e.g. How did it make them feel? Did any section stand out? Did the music provoke any emotions?). Then a concluding improvisation would take place for final reflection. Analytically orientated music therapy explores unconscious musical expression to

gain a deeper understanding of underlying psychological conflicts. Finally, there is creative music therapy (*ibid.)*. This was innovated by Nordoff and Robbins which unlike the other practices, involves two music therapists as opposed to one. This is so one can improvise on the piano, whilst the other encourages the client to participate. In a creative music-therapy session, the client is given either a cymbal or drum to improvise on and encouraged to vocalise - they do not get to choose an instrument. During the session, a musical story will take place through improvisation, allowing the client to express their emotions through music. A musical story can be an emotion or event that is personal to the client that they would like to express and act out through musical improvisation. Nordoff and Robbins believed that 'within every human being there [was] an innate responsiveness to music, and within every personality one can "reach" a "music child" or "music person"' (Wigram *et al.,* 2002: p.113-150). These three examples demonstrate the versatility and wide range of methods, approaches and techniques used in music therapy practice, (plus there are many more established practices of music therapy beyond these three examples). This has resulted in scholars such as Rogers being hesitant in defining music therapy, as it is believed that the complicated nature of the field cannot be simplified to one comprehensive definition.

	Improvisational Music Therapy	**Analytically Orientated Music Therapy**	**Creative Music Therapy**
Innovator	Juliette Alvin	Mary Priestly	Paul Nordoff and Clive Robbins
Approach	One-on-one	One-on-one	Two-on-one
Instrument	Client's choice	Client's choice	Cymbal, drum or vocalisation
Structure	Improvised and client led	Verbally agree theme then improvise	Musical story

Table 1 - Demonstration of Differences in Music Therapy Practice

The rapid rate of development and the ever-changing characteristics the discipline possesses is another reason against defining music therapy. This is evident when analysing the definitions that have arisen over the last 60 years, which have reflected music therapy at the time, but no definition has encapsulated the music-therapy field as a whole. This has created confusion, overlap and contradiction within the field (B.A.M.T, 2020).

In 1975 Alvin defined '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' (Bunt, 1994: p.16). At the time, this definition provided a baseline of the primary use of music therapy; however, it quickly became outdated. Alvin's use of the word 'controlled' no longer fitted the modern ethos of music-therapy. Participants were encouraged to use music as a free and limitless tool of expression, i.e. in a manner which was far from being 'controlled'. Also, the use of the word 'suffering' is controversial as it implies negative connotations. This again became outdated when positive reinforcement became a key approach in health care.

Following this, a new updated definition arose in 1997. The 1990s was an important decade in music therapy, as it was then that state registration with the Health Professions Council became mandatory for music therapists. This leap in professional status resulted in the World Federation of Music Therapy creating a new more encompassing definition:

> Music therapy is the use of music and/or musical elements (sound, rhythm, melody and harmony) by a qualified music therapist, with the client or group, in a process designed to facilitate and promote communication, relationships, learning, mobilisation, expression, organization, and all other relevant therapeutic objects, in order to meet physical, emotional, mental, social and cognitive needs. Music

> therapy aims to develop potentials and/or restore functions to the individual so that he or she can achieve better inter- and intrapersonal integration and consequently a better quality-of-life through prevention, rehabilitation or treatment. (Darnley-Smith and Patey, 2003: p.7)

Whilst the World Federation of Music Therapy offered a more detailed and informative definition, it seemed convoluted. The definition could have been simpler. To begin with 'musical elements (sound, rhythm, melody and harmony)' fall under the bracket of music, therefore it is not necessary. Second, the therapeutic objectives and cognitive needs do not need to be listed as they will be personal to each individual's needs. Listing these objectives could deter clients from music therapy if their needs did not match to an objective on the list. Finally, one of the most important factors about music therapy is missing: who is it for?

This World Federation of Music Therapy definition was simplified by the British Association for Music Therapy to include the four key points of music therapy: (1) what music therapy is; (2) who delivers it; (3) who it is for; (4) and why:

> Music therapy is an established psychological clinical intervention, which is delivered by HCPC registered music therapists to help people whose lives have been affected by injury, illness or disability through supporting their psychological, emotional, cognitive, physical, communicative and social needs. (B.A.M.T, 2019)

This definition is more concise and easier to understand; however, it could be further simplified. The section that says, 'to help people whose lives have been affected by injury, illness or disability' should say 'to help any person experiencing psychological or physical difficulties'.

In that way it encompasses all types of problems people can experience, making it a more inclusive definition.

These three examples demonstrate the difficulty in defining the music-therapy field. But as Stige (2012: p.67) says, 'definitions are needed…for the development of professional identities and as tools in the process of critical discussion and reflexivity'. Definitions create a discussion tool for academics and provide a clear timeline of progression within the field. From the examples above, it is evident that scholars have critically reflected on what the essence of music therapy is, to arrive at the definition there is today. This discussion has pushed music therapy and ignited its development, the constant assessment and re-evaluation has meant the field has been assessed and re-evaluated alongside it. In any profession, it is beneficial to critique, revise and improve and the definition of music therapy provides an ample starting point for this discussion.

2.2 – Community Music Therapy

In the early 2000s a subdivision of music therapy began to emerge: community music therapy (Ansdell, 2002). This came at a time when understanding of the social and constructed nature of health and well-being were being introduced into music-therapy practice (Procter, 2016). Community music therapy was a context-based and music-centred therapy that highlighted the social and cultural factors influencing music-therapy practice, theory and research (Ansdell, 2002). It was a broader practice of music therapy that focused on the social and communal interaction, as well as the individual well-being benefits a person experienced. Gary Ansdell was one of the first scholars to address community music therapy and developed a 'consensus model' which 'was presented as a thinking tool to contrast the practices, theory and assumptions of music psychotherapy with the new practices and ideas of [community music

therapy]' (Pavlicevic and Ansdell, 2004: p.21). Ansdell's consensus model provided an abstract concept of community music therapy, labelling and identifying differences between the ideas and practices of community music therapy against standard music-therapy practice. Although Ansdell created the consensus model, he did not summarise the field into a concise definition; therefore, the definition that Atkinson provided is necessary:

> [Community music therapy is] a participatory music-making activity in which the community musicians work with a given community to enable them to make music which is inspired by their own interests and ideas. Some community music activities seek to address the issues of social difficulty experienced by the participating communities, whilst others pursue music-making for its own sake. (Atkinson, 2000: p.17)

This definition outlines the basic principles, objectives and purpose of community music therapy. Instead of having a one-on-one session, people from the community come together and partake in the musical session collectively. By keeping sessions open-ended (i.e. not being constrained to a theoretical model), community music therapy allows for the context of each session to be acknowledged and for the music therapist to respond accordingly. Social and cultural factors play an essential role in community music therapy, therefore, there cannot be a specific model to base it on, as what works for one community will not necessarily work for the rest. Community music therapy aims to reflect the communal reality of music-making within a group dynamic. Some music therapists preferred this approach, for example Porter said in Barrington (2008: p.70):

> It is most importantly a kind of 'liberation theology' for music therapy, freeing it from the hegemony of psychoanalytic, behaviourist or medical colonial rule, while

> for others, it is more about re-validating a wide range of music-social practices which have always been widely practiced by music therapists and others.

This 'liberation theology' is an important feature that separates community music therapy from music therapy. As discussed previously, music therapy has been building a professional reputation and profile within the medical field for decades. Through this, standard theories, approaches and practices have been established and agreed upon. Community music therapy does not conform to these pre-prescribed theories: instead, therapists have to work in the moment and respond accordingly. It is argued that standardisation of this area could not be possible since, as Barrington says, 'advocates of community music therapy warn that potential standardisation imposed by external authorities could strangle the creative essence of music therapy' (Barrington, 2008: p.67). In this instance, it is important that standardisation of community music therapy is limited so that a personalised therapy can be delivered to each community.

In Ansdell's paper: Community Music Therapy & The Winds of Change, he separates the music therapist from the community music therapist to outline the differences in each area. A music therapist aims to establish a 'therapeutic relationship' with the client, whilst at the same time maintain clear personal boundaries. This is a psychological relationship that provides the client with a safe place in which to express themselves through music. The therapist will then interpret and respond to this music through their clinical knowledge. A community music therapist's role requires a greater balance of musician and therapist: social, cultural and institutional factors influence their work and they need to be able to respond. Community music therapists provide more circumstantial community work linking music-making with human experiences. Their expertise is primarily their musical knowledge rather than psychological theories, whereas a music therapist relies more on the psychological. Another difference is the

context in which these sessions are held. A music-therapy session has clear boundaries: it takes place in a secure location, also known as a 'safe space'; there is a code of confidentiality; and sessions will occur at the same location, at the same time, and for the same time period. The primary aim of these sessions is to help the client explore their emotional inner life and facilitate growth through its expression (Ansdell, 2001). By contrast, community music therapy sessions take place in a communal space that has an 'open-door' approach; sessions can be regular or sporadic dependant on the community's needs; and the overall aim of these sessions is to increase musical spirits, cultivate a musical community and enhance quality of life.

The Lost Chord is an innovative charity that uses community music therapy to increase awareness and self-esteem in people living with dementia (Lost Chord Charity, 2020). It is a travelling company that delivers over 1,300 sessions a year at residential homes and day centres. Sessions are designed with the residents in mind, so vary from session to session; however, Lost Chord has a hands-on approach when delivering their music session. Community music therapists working for Lost Chord are renown for capturing participants through dramatic performances, such as the flautist who dances like the Pied Piper (Lost Chord Charity, 2020). They are proactive in stimulating and entertaining participants, encouraging members to physically get involved in the session by playing percussion instruments or dancing around the room. Chief Executive and founder of Lost Chord, Helena Muller, discussed the impact the charity had on one particular couple:

> Often when I go in, I will say to the carers is there anybody who can weight bear? So that we can actually get them up dancing. And I started just swaying to the beat of the music and I was just about to put Alice down, this little grey haired old gentlemen sat at the side of her jumped to his feet, took over, and started dancing with the most complicated dance that you've ever scene. [At] the end of the session, he came up to me, tears streaming down his face and he said: that's the first time I've danced with my wife in 18 years. We'll get her better yet.
> (Lost Chord, 2020)

By having strong, charismatic and enthusiastic leaders encouraging everyone to get involved, members and staff let go of their shy inhibitions and get involved in the fun (it is important to mention that it is the participants' decision whether or not to participate) (Lost Chord, 2020). Carers from residential homes have remarked on how they too felt the benefit from being exposed to the interactive music sessions delivered by Lost Chord. Community music therapy projects like this play a vital role in improving the lives of those with dementia and those supporting them. By providing mobile community music therapy sessions to large groups, people with dementia have greater accessibility to participate in stimulating, enjoyable and therapeutic musical activities.

2.3 – Community Music

Before music therapy and community music therapy existed, another profession used music to break down social barriers and bring people together. Community music has been used to boost morale, unite communities and improve well-being for centuries, and this is clear when researching the use and function of folk music. Traditional folk music of Britain and Ireland has a long history of using community music in different social settings, the songs and tunes

sung in those areas had a purpose and identity within each community. From town to town, different folk songs were assigned to different aspects of life. For example, work songs were used to motivate employees, relieve boredom, foster a community spirit, mock outsiders or those in authority, and protest about work conditions. Lace makers, sailors, hand knitters and hop pickers have a vast back catalogue of worksongs, some of which are still circulating the folk scene today. Folk songs were also used in social settings too, such as the pub, where a song might be sung to praise the quality of a beverage, pay tribute to a drinking place or address a song to the drink itself. These songs would bring musical enjoyment, celebration and entertainment to customers.

Nowadays in the United Kingdom, community music is still a popular activity; however, it does not have the same function it once had. Today, community-music projects are a distinct activity that people can choose to engage with, rather than an activity that is found naturally within everyday social settings. Community-music projects follow the ideas prevalent of the arts centre movement, a movement that promotes diversity, equal opportunity and empowerment through musical participation. The main aim of these projects is to increase social interaction and improve well-being. Research into this area (Ansdell, McDermott and Särkämö), has found a vast number of health benefits for those who participate in these projects. These include: reduced isolation, increased confidence and improved mental health. Finally, community-music projects have been used to reduce crime, slow down the process of dementia, improve mental health, increase the process of healing and extend life (Heyes, 2017).

Community-music projects are unique to their setting as they range in diversity, age, ethnicity, gender, religion and ability. Projects are specifically tailored to the needs of a particular community (for example Key Changes, an award-winning recovery programme for musicians

experiencing mental health problems) (Key Changes, 2020). They are able to do because of their adaptable format, meaning each group session can be altered to reach a particular goal for a certain community. There is no set programme to follow: as community-music projects consists primarily of a community musician working with a group of people to reach an overall musical goal. Kathryn Deane, the former director of Sound Sense (the United Kingdom's leading community-music organisation) said, 'It's not about creating or having a definition, it is more about a three-part test' (Heyes, 2017) as below:

1. Community music is working with a professional musician in any music genre.
2. Community music is about inclusion, it is for everybody.
3. Community music can happen in any community and reflect the context in which it is happening.

Community-music projects have to be run by a musician who is adaptable and quick to learn. As well as having impressive instrumental skill, they need to be able to collaborate, reflect and adapt their teaching so that it fits with the group's needs. Every group will be different; therefore, the musician needs a considerable breadth of knowledge in multiple genres to adapt accordingly. Second, community music amplifies diversity, providing a space in which there are no barriers (physical, emotional or economic) so that anyone can get involved and become a part of the group. Community-music projects target people from different minorities and bring them together in tailored projects to suit their collective needs. Finally, community music is fluid and should reflect its context. This means that each project will be unique, so that it works with the current economic status and fits participant's collective needs.

Ansdell, like Dean, emphasises inclusion and empowerment in community music:

1. Community music is a participatory activity.
2. Community music is an activity that focuses on groups – a 'community'. There is the concept that the participants belong together in this 'community' from the start and the musical activities address the group as a whole.
3. Community music also seeks to reinforce that 'community' by taking its inspiration from the 'community' and bringing people together.
4. Community music has spin-offs in the areas of creativity, motivation and access to further opportunities (along with the unspoken attitude that community music often seeks to address issues of social exclusion and disadvantage in particular areas and groups of people).

   (Ansdell, 2002)

Deane and Ansdell agree on two points: (1) that community music takes inspiration from the community; and (2) it is for everyone, but particularly minorities, with the purpose of providing a safe place for them to express themselves and be appropriately supported. The definitions differ in that Deane mentions the role of the musician, whereas Ansdell does not, instead providing more detail about the community. Ansdell views the community as a whole and in doing so unites the group. As community-music groups are for a specific demographic of people, this presents an opportunity for members to bond and build new relationships. Furthermore, Ansdell mentions that the project is influenced by the people attending, offer a more personalised session. Although Deane suggests this, her focus is more on inclusion as a whole, not about participant's influence within the sessions. Finally, Ansdell addresses the purpose of community music in his definition: 'to seek and address issues of social exclusion and disadvantage in particular areas and groups of people'. In Deane's list there is no mention of the purpose of community music, how it addresses serious issues and problems within

society and unites people from similar backgrounds – which might be considered its essential purpose.

Community music has become a popular choice in the dementia community and has seen a significant rise in demand over the last ten years, particularly in singing groups (Alzheimer's Society, 2020). With television programmes like Vicky McClure's *Our Dementia Choir* (BBC 2020) and *Alive Again* (Cohen, 2014) highlighting the importance and impact of musical engagement and communal singing, there has been a great deal of media advocating its positive effects. Singing is an effective way to engage in music, stimulate memory and enhance mood (Osman *et al.,* 2016: p.1327). Regular singing-groups studies have proved that there are multiple health benefits for older people, such as a reduction in anxiety and depression (Coulton *et al*. 2015: p.250). As well as the health benefits associated with communal singing, it is inexpensive to deliver en masse. Formally, no qualifications are required to run a community-music project; however, having some experience of music in the healthcare sector is preferable.

One popular community-music project aimed specifically at the dementia community is Singing for the Brain, which was founded in 2003 by Chreanne Montgomery-Smith after experiencing the positive impact music had on residents with dementia in a home she worked in (Opera Care, 2020). Montgomery-Smith was a development worker at the Alzheimer's Society, and set up a local singing group for people with dementia at the charity's West Berkshire branch. Shortly after this, groups began to appear up and down the country encouraging community spirit, brain stimulation and reducing loneliness (Alzheimer's Society, 2020). Singing for the Brain is free to join and welcomes everyone, regardless of their stage of dementia. A standard session includes refreshments, coordination exercises, vocal warm-up exercises, small physical movements (such as clapping) and a vast collection of different songs

to sing-along to (accompanied by live musicians). This model has been adapted by many independent companies to suit their particular community's needs. Most community-music dementia singing projects follow a similar format to Singing for the Brain, making it the most popular community-music project for people with dementia in the United Kingdom (Alzheimer's Society, 2020).

2.4 – Therapeutic Music

Therapeutic music is intended to alleviate a physical, emotional or mental concern (MHTP, 2020). As opposed to the other subdivisions discussed above, therapeutic music is a broader term that can be applied to multiple different settings, e.g. soothing music being performed in a hospital or rejoiceful hymns sung at church. Therapeutic music can be used everywhere, collectively or privately. It focuses on the beauty and relaxational properties music possesses, and how these can facilitate inner peace. Unlike the other subdivisions of music in healthcare, therapeutic music is about being in the present, and not working towards any goals or specific outcomes. By enabling people to relax and enjoy music in-the-moment, research has found that it has intrinsic healing elements.

In a systematic review of Culture, Sport and Well-being for the Economic and Social Research Council, researchers found that:

> Music had been associated with reduced anxiety in young adults, enhanced mood and purpose in adults and mental well-being, quality of life, self-awareness and coping in people with diagnosed health conditions. Music and singing have been shown to be effective in enhancing morale and reducing risk of depression in older people.
>
> (Daykin *et al*., 2017: p.39)

This review concluded that increased musical engagement resulted in increased well-being. It reviewed other sociable activities such as sport but found music to be the favoured option resulting in the greatest change in well-being. Healthcare institutes have started incorporating more musical activities for people suffering from symptoms such as depression and anxiety, and with this comes a growing body of literature researching this hypothesis. In particular, researchers have found that it significantly benefits elderly people. Elderly people suffering from depression or anxiety are more likely to have physical symptoms such as tiredness, weight loss and sleep problems (Age UK, 2020). To combat this there has been a rise in therapeutic musical opportunities available for the elderly, in the form of singing groups, concerts and music being played regularly in care homes.

Therapeutic music is not just used in clinical settings to improve well-being, but socially too. Tia DeNora was one of the first scholars to explore this area in depth. In her book *Music in Everyday Life* (2000), DeNora uses a series of ethnographic studies (i.e. an aerobics class, karaoke evenings, etc.) to discuss the ways in which music influences our lives; from character, social structure to action. DeNora reinstates the power music has to influence mood, create scenes, routines and occasions. This is prominent from how identities are built around music – cultures are created using it – and how music is used to influence our lives. Therapeutic music is deeply entwined within society, so much so that it can become invisible. For example, the energetic music played at the gym encourages you to work harder, or the calming music used in meditation is there to help induce relaxation. Therapeutic music is deeply entwined in society, which makes it unique in that it can be used autonomously. Whether you are in a group or alone, therapeutic music is easily accessible and available.

Therapeutic music is often used in dementia care because it is easy to access, simple to personalise and cheap to deliver en masse. Apps like BBC Music Memories are dementia-friendly and help administer therapeutic music for people with dementia. BBC Music Memories uses the extensive BBC archives and creates playlists that reflect a certain time, style or genre of music (BBC Music Memories, 2020). From football anthems, to pub classics to nursery rhymes, there are hundreds of playlists to choose from, all created to stimulate memory and enhance well-being through music (*ibid.)*. There is also the option to create personalised playlists in this app, which carers can tailor to the preferences of their person with dementia. Research in this area has shown that being exposed to this form of stimulating therapeutic music daily, improves overall well-being and quality of life (Särkämö *et al*., 2016). In a Finnish randomised trial, a study exploring the emotional benefits induced by regular singing and music listening in dementia was conducted (*ibid*.). Researchers compared the short- and long-term effects of: (1) singing to music; (2) listening to music; and (3) a control group receiving neither, with 89 dyads (comprising a person with dementia and their carer) over the course of ten weeks. Results found that 'singing and music listening improved Mini-Mental State Examination scores and attention and executive function test scores and reduced depression symptoms' (Särkämö *et al*., 2016: p.439). From studies like this, we can see how regular therapeutic music sessions for people with dementia can improve mood, orientation and remote episodic memory.

2.5 – Concluding Thoughts

Music is used in a multitude of ways for people with dementia in the health-care system: music therapy, community music therapy, community music and therapeutic music. All of these methods vary slightly in their aims and approach, but at the core of all is the ethos that music can be used to improve well-being. As we have seen, these methods have many similarities, and this overlap creates confusion. Music therapists begin to question what 'real music therapy' is, as they practise methods outside of their theoretical models. Community musicians begin to incorporate approaches from music therapy into their work. Community music therapists balance a combination of music therapy approaches whilst also incorporating their personalised programme to suit the community's needs. And therapeutic music can be used in all the above areas and more. This confusion makes categorising each section of music in dementia care difficult. To summarise this section, the key characteristics of each have been inputted into the table below to help identify the similarities and differences in each area, and the purpose of each type of musical activity available for people with dementia.

	Music Therapy	*Community Music Therapy*	*Community Music*	*Therapeutic Music*
Who delivers the sessions?	Music therapist	Music therapist	Community musician	Anyone
What qualifications are needed?	A postgraduate qualification in music therapy accredited by the British Association for Music Therapy	A postgraduate qualification in music therapy accredited by the British Association for Music Therapy	None	None
Who is present in a session?	Individual	Community	Community	Anyone
What is the purpose of the session?	To reach individual, personalised, therapeutic goals	Social inclusion and empowerment through music	Social inclusion and empowerment through music	Improved well-being
Interactive or receptive?	Interactive and receptive	Interactive	Interactive	Receptive

Table 2 – Properties of Each Type of Dementia Music Activity

Chapter 3 – Methodology

The methodology employed consisted of a combination of qualitative data and secondary data to decipher which type of musical activity produced the greatest well-being outcome for people living with dementia: interactive or receptive? For the qualitative data, I conducted a survey that included all the dementia-friendly musical activities available for people living with dementia in Nottingham. Utilising my connections within the local community, I contacted local facilitators to review the survey. Once the survey was finalised, I sent it to the Nottingham Alzheimer's Society Nottingham Local Service Office who confirmed that they did not know of any other organisations available in Nottingham. Using the subdivision definitions discussed in Chapter 2, I categories each dementia-friendly musical activity into one of the four subdivisions (see tables at the end of this chapter).

With this data, I originally planned to conduct qualitative interviews with dyads from each of the four subdivisions to gain a deeper understanding of what music means to people living with dementia, and review the different benefits and difficulties experienced in each subdivision. Inspired by the paper: 'The importance of music for people with dementia: the perspectives of people with dementia, family carers, staff and music therapists' by Orii McDermott, Martin Orrell and Hanna Mette Ridder, the same questions presented would have been included in my own research. The person with dementia would have been asked: What does music mean to you? What do you think of your music therapy/musical activities? If music is important to you, in what way? The carer would have been asked: What changes and responses do you observe in your family member/clients following music therapy or music activities? How do you know when music is meaningful to the person? (McDermott *et al.,* 2014: p.708). With this data, thematic analysis would have identified the key benefits experienced by people living with dementia in each other the four subdivisions, gaining deeper insight into the impact of music

within dementia care. McDermott's paper analysed the perspectives of family carers, staff and music therapists to explore the meaning, value and effect of music. In a similar way, this thesis would have explored the meaning, value and effect of music within the four subdivisions of the musical activities available for people with dementia.

After completing ethics forms, I began to visit the local dementia-friendly musical activities to integrate within the community. By creating a rapport with local facilitators, I was able to conduct qualitative observations to better understand how the four subdivisions worked and the impact they had on members. Unfortunately, this research was cut short due to the outbreak of COVID-19. In March 2020, the United Kingdom's government imposed a national lockdown suspending all social gatherings, meaning regular contact with dementia-friendly music-groups was no longer possible. This meant I had to change my original methodology so that it no longer involved human contact.

With the data I had already gathered, I noticed that the musical activities available for people with dementia could be split into two groups: interactive and receptive (see tables at the end of this chapter). Interactive musical activities involve an interpersonal approach, requiring participants to be engaged, present and collaborative i.e. interactive music-therapy sessions, community music projects and community music therapy groups. Receptive activities use a simpler, less interactive approach, requiring participants to stay and listen to music for a period of time i.e. receptive music-therapy sessions and therapeutic music. Not knowing when dementia-friendly musical activities would resume, I decided to change the purpose of my research. Using a combination of qualitative observation and secondary data, I compared the impact of interactive and receptive musical activities for people with dementia. Previous research in this area has reported on interactive and receptive music separately; however, this

paper reviews them together, providing one place in which the benefits and difficulties within these two types of musical activity can be found.

Using the online library, I reviewed existing literature in this area using a list of keywords: music, dementia, interactive, receptive, passive, community, therapy, singing, listening, choir, group, impact, health, well-being, benefits, activity, elderly and individualised. I evaluated the reliability of my chosen sources and noted highly referenced scholars (i.e. Teppo Särkämö, Justine Schneider and Gary Ansdell). From the literature, I begin to notice similar themes appearing and these became the subheadings discussed throughout Chapter 4 and 5. By reviewing the benefits and difficulties of providing interactive and receptive musical activities for people with dementia, I was able to give a balanced argument as to why I believe interactive music is more beneficial than receptive, as seen in Chapter 6.

This is the finalised survey that includes all current dementia-friendly musical organisations within Nottingham:

- Bilborough Memory Café
- Beeson Memory Café
- Blue Skies
- Chiltern Music Therapy
- City Memory Group
- Eastwood Memory Café
- Heron Music Café
- Indian Community Centre
- Memory Lane
- Music Therapy Works

- OPUS
- Our Dementia Choir
- Ramps on the Moon
- Singing for the Brain
- Songtime
- Wellspring Music
- West Bridgford Memory Cafe
- Wollaton Dementia Café

Each organisation was then categorised into one of the four subdivisions:

Music Therapy	**Community Music Therapy**	**Community Music**	**Therapeutic Music**
Chiltern Music Therapy	Blue Skies	Beeston Memory Café	OPUS
Music Therapy Works		Bilborough Memory Café	Ramps on the Moon
The Lookout		Eastwood Memory Café	Wellspring Music
		Heron Music Café	
		Indian Community Centre	
		Memory Lane	
		Our Dementia Choir	
		Singing for the Brain	
		Songtime	
		West Bridgford Memory Café	
		Wollaton Memory Café	

Table 2 – Categorised Dementia-Friendly Musical Activities Available in Nottingham

The list was then split into interactive or receptive musical activities for my review:

Interactive Musical Activities	**Receptive Musical Activates**
Chiltern Music Therapy	Beeston Memory Café
Indian Community Centre	Bilborough Memory Café
Music Therapy Works	Eastwood Memory Café
Our Dementia Choir	Heron Music Café
Singing for the Brain	Memory Lane
Songtime	OPUS
The Lookout	Ramps on the Moon
	Wellspring Music
	West Bridgford Memory Café
	Wollaton Memory Café

Table 3 – Interactive and Receptive Types of Music Available for People with Dementia in Nottingham

Chapter 4 – Analysis of Interactive Music

This chapter analyses the benefits and difficulties of interactive music. Using a combination of qualitative observation and by reviewing the literature available online, I identified reoccurring themes that became the subheadings of my analysis. These was reoccurring results in relevant literature or observations made that had a significant impact on the well-being of a person with dementia participating in an interactive musical activity. I concluded that the primary benefits of interactive music were: reduced behavioural and psychological symptoms of dementia, improved cognition, improved relationships, social inclusivity, increase in confidence, community spirit and physical stimulation. The primary difficulties were: personalisation, accessibility, engagement and establishment. Suggestions are made to alleviate these difficulties.

4.1 – Reduced Behavioural and Psychological Symptoms of Dementia

People with dementia often experience poor quality of life due to the behavioural and psychological symptoms of dementia (Aldridge, 2000). These include apathy, aggression, agitation, psychosis, mania and depression (Soni, 2018: p.8). Cohen-Mansfield categorised these symptoms into four domains: (1) aggressive physical behaviour (e.g. hitting, kicking and biting); (2) nonaggressive physical behaviour (e.g. wandering off, pacing and inappropriate touching); (3) aggressive verbal behaviour (e.g. shouting, swearing and screaming); and (4) nonaggressive verbal behaviour (e.g. repeating phrases and calling out) (Soni, 2018: p.9). The behavioural and psychological symptoms of dementia are often measured on the Cohen-Mansfield Agitation Inventory, analysing these four areas. Music is a popular psychosocial intervention that reduces the behavioural and psychological symptoms of dementia, the effects

lasting for hours or even days after the intervention has occurred (Devere, 2017). How does music do this?

Juslin and Sloboda concluded that the main reason music alleviates the behavioural and psychological symptoms of dementia is because of the emotional experience it generates (Juslin and Sloboda, 2013: p.583). Music acts as a stimulus that can excite, motivate and entertain people through an impulse response. The spontaneity of emotion that music brings can elicit mood enhancement, mood change and spiritual or 'transcendent' functions (*ibid*.). These functions help reduce the behavioural and psychological symptoms of dementia.

Hays and Minichiello (2005) conducted an in-depth qualitative study with 52 older people investigating the importance of music in their lives, the way music functioned in their lives and the perceived benefits of being engaged in music making or listening. Forming focus groups, participants discussed the aforementioned topics with the interviews being recorded for data-analysis. This resulted in six grouped thematic discoveries: (1) identity and understanding of self; (2) connection to self and others; (3) wellbeing, therapy and health; (4) arousal and alignment of emotions; (5) stimulus, fantasy and motivation; and (6) beauty, aesthetics and spirituality (Hays and Minichiello, 2005: p.440-448). To summarise, Hay and Minichiello came to the same conclusion as Juslin and Sloboda. Music gave each participant a deeply personal and meaningful experience, as well as a greater understanding of themselves and their purpose. The personal links created between music and memories improved psychological wellbeing for participants and validated their life experiences. The personal ties they created with music brought comfort to them by reminiscing over old memories. The connections made between music and emotion can provide researchers with rich insight into a person's *personhood* - their unique life experience and personal journey with music. This type of analysis enables researchers to gain a deeper understanding of the value of music in elderly

people's lives and enables greater knowledge of improving psychological wellbeing for further research.

Hays and Minichiello's study researched the relationship elderly people have with music, not specifically people with dementia. This was intentional, as elderly people are the main demographic at risk of being diagnosed with dementia; therefore, a deeper understanding into the relationship elderly people have with music is needed. In the United Kingdom, one in fifty people aged between 65 and 69 have dementia, with this risk rising to one in five for those aged between 85 and 89 (Dementia Statistics, 2017). Researchers need to understand the value elderly people (with and without dementia) place in music, so it is important to conduct studies like the one above with people who do not have dementia. Hays and Minichiello's study offers insightful information about the connection the elderly have with music and thus helps future studies' design methods that suit the needs of this demographic.

Two of the main behavioural and psychological symptoms of dementia are depression and anxiety, making them a high priority when improving quality of life for people with dementia. Hsin Chu, Stéphane Guétin and Tomomi Ueda published papers investigating the effect of interactive music on depression and anxiety, all producing similar results. Hsin Chu conducted a randomised controlled trial with 104 PWD 'to determine the effectiveness of group music therapy for improving depression and delaying the deterioration of cognitive functions in elderly persons with dementia' (Chu, 2014: p.209). The experimental group participated in a six-week music-therapy programme, receiving two 30minute sessions per week. Chu found that group music therapy reduced depression during and immediately after the session, saying that 'group music interventions were a non-invasive and inexpensive therapy that appeared to reduce elders' depression (*ibid*.). It also delayed the deterioration of cognitive functions, particularly short-term recall function' (Chu *et al*., 2014: p.210). Guétin (2009: p.36) analysed

the: 'Effect of Music Therapy on Anxiety and Depression in Patients with Anxiety and Depression in Patient with Alzheimer's Type Dementia: Randomised, Controlled Study'. This paper discussed the value of music therapy as an intervention for dementia, and assessed the effectiveness of new interdisciplinary music- therapy techniques. These new techniques do not need to be administered by a music therapist, making it simpler to implement. Over 24 weeks, 15 individuals participated in an music-therapy sessions (*ibid.*). Results found significant improvements in depression and anxiety during the time music therapy was administered, and this improvement was sustained up to eight weeks after the discontinuation of the sessions (*ibid.*). Finally, Tomomi Ueda (2013) conducted a systematic review and meta-analysis of the effects of music therapy on the behavioural and psychological symptoms of dementia, concluding again that music therapy was an effective intervention that reduced depression and anxiety. From these three examples, it is evident that using musical psychosocial interventions is an effective way to alleviate the behavioural and psychological symptoms of dementia – particularly depression and anxiety. Similar results have been found in numerous other studies (Ashida, 2000; Cook *et al.,* 2010; Han *et al., 2010* and Ziv *et al.,* 2007).

This evidence strongly suggests that interactive music (music therapy) is a beneficial non-pharmacological intervention for people with dementia; however, measuring its effectiveness is difficult. The examples above give positive results, but certain factors need to be considered. First, these studies use small sample sizes, thus increasing the margin of error. This affects the reliability of the results as what works in one demographic may not be the same in another. Second, biases can occur when collecting data and interfere with the results. To reduce bias in these studies, multiple researchers have analysed the data; however, caution is needed when interpreting the results. Finally, there is a lack of randomisation. When doing human clinical trials, randomisation is needed to reduce bias and ensure that variables are controlled and isolated. These limitations all need to be understood when interpreting the data. Age UK

reported about the impact of music for people with dementia and reflected on the current limitations found in this research:

> Two recent meta-analyses found the effects of music therapy on anxiety symptoms were moderate, the effects on depression and behaviour were small, and there was not enough evidence to support any beneficial effect of music therapy on cognitive function or activities of daily living.
>
> (Ray, 2014: p.28)

This meta-analysis reviews the results found in the music therapy field; however, there are other areas that need to be included when reviewing music in dementia care. As discussed in Chapter 2, community music therapy, community music and therapeutic music contribute a significant amount to the ever- growing body of literature that reporting that interactive music reduces the behavioural and psychological symptoms of dementia, and these findings also need to be included. Considering the limitations, there is a reduction in the behavioural and psychological symptoms of dementia when participating in interactive musical psychosocial interventions; however, more theoretical research is needed to validate this statement.

4.2 – Improved Cognition

As dementia develops cognitive function will deteriorate, making communication difficult. To prevent deterioration, people with dementia are encouraged to participate in cognitively stimulating activities, such as learning a second language, reading a book or dancing (Schneider *et al.,* 2019). Interactive musical activity is a popular choice, as it improves two important cognitive areas; memory and mood.

Music improves cognition by triggering automatic remote memory. Most people have experienced an automatic, personal memory appearing in their mind when a certain type of music/song is played. This is procedural memory which retrieves a memory that is stored in the unconscious and brings it to the conscious. The reason the brain can retrieve a memory instantly, is because of the emotional tie paired to the memory. This emotional pairing of music and memory is what enables people to remember an event from six years ago but not remember what they had for breakfast – emotional pairing is essential in long-term memory. As mentioned earlier, most types of dementia do not damage this function of the brain, meaning that playing certain music can result in involuntary autobiographical memories for people with dementia. These automatic memories remind the person with dementia of their identity, reassuring them that their brain still functions. It can also bring comfort to the carer, as they can see the emotional response the person with dementia has to the automatic memory. The power of reminiscence is one of the greatest qualities' music possesses in dementia care.

A subsidiary effect of music and memory is an improvement in verbal memory (Elefant *et al.,* 2012). After a music session, people with dementia are able to communicate better because of the increase in cognitive stimulation. Speech and language use the left hemisphere of the brain, whereas singing uses both hemispheres (Healthline, 2020). This means that if a person with dementia cannot speak due to damage on the left hemisphere, they may be able to sing as that uses both. The left controls word formation and sentences, and the right controls pitch and rhythm (*ibid.*). As both hemispheres of the brain are activated when participating in musical activity, it stimulates cognitive function and improves verbal memory during and after a session. This was something I observed when volunteering at the dementia choir Songtime. One member in particular would not engage with anyone before the music sessions, they were unresponsive and distant; however, once the music session began they would being to vocalise, move and acknowledge their surroundings. They become animated by the music. The joy they

experience when participating in the session was evident from their facial expression and body language, and the effect of the music session did not stop once the session was over. Normally mute, the member is now able to confidently answer yes/no questions and give basic descriptive replies.

Interactive music also plays an important role in well-being, as it contributes towards positive self-esteem, improved independence and reduced isolation (Osman *et al.,* 2016: p.1326). Sixsmith and Gibson (2006) published a paper that reported the: 'everyday experience of music and music-related activities amongst a sample of older people with dementia'. Through in-depth qualitative interviews with 26 participants, four categories of beneficial impacts were concluded. First, music gave participants enhanced feelings of wellbeing. Participants were eager to get involved in musical activities and appeared visibly brighter when engaged with music. Maureen, a participant said: 'Oh, I enjoy it. Oh, I do. Michael has music on all the time to make us feel happy. Music makes us feel better, doesn't it?' (Sixsmith and Gibson, 2006: p.134). Music was enjoyed on an emotional and sensory level, with carers reporting an enhancement in wellbeing after the session ended (and participants had forgotten the session). Second, was supporting valued activities as many participants incorporated music as a part of their day. Carers found that music was a great way to encourage people with dementia to assist in regular household activities (*ibid*.). Activities such as eating, cooking or cleaning were made easier with background music, as it maintained a person's interest and improved their level of enjoyment with the activity (*ibid*.). Third, was encouraging social interaction. Activities involving music often require physical and emotional contact, providing people with dementia with the opportunity to socialise and be physically present. As verbal communication deteriorates with dementia, non-verbal forms of communication such as touch or dance enable a person with dementia to communicate and bond with others. Music provides people with dementia with the opportunity to connect with others in a meaningful way. Finally, participants

experienced empowerment and control through music (Sixsmith and Gibson, 2006: p.136). By assisting in household activities, participants felt a degree of empowerment via their contribution. Keeping psychologically and physically stimulated helped the participants wellbeing and enhanced their quality of life.

4.3 – Improved Relationships

Musical activities enable people with dementia to build upon their relationships and create new memories with friends and family. Due to the nature of dementia, the benefits of these sessions will be short-lived by the person with dementia; however, the person they shared the experience with will feel the benefits and remember the experience. This can help strengthen the bond of a dyad and provide both with equal pleasure. Dementia can take away personality traits and with this comes a sense of loss, this means that dyads may no longer be able to participate in the same activities together. This reduction of intimacy and companionship can impact negatively on their relationship – especially if the dyad are marital partners. Meaningful interaction is highly important in a dyadic relationship, as it facilitates communication, helping dyads connect further. Robert, a carer who attended a community-music session said:

> This is one of the great sadnesses and I get quite emotional about this, there is so much we can't share anymore and this, I should say that this, the Singing for the Brain is one thing that has benefitted me because it's one thing that we can do together for an hour or two and get equal pleasure from and meaning. (Osman *et al*., 2016: p.1331)

By participating in a shared experience together, Robert was able to reconnect with his partner and enjoy a new experience. The enjoyment that his partner expressed helped contribute to his own wellbeing, enabling them to bond further.

Family members make up 90% of palliative care (Schneider *et al.,* 2019); therefore, it is essential that support is offered to them to help relieve the burden of caring. Music is increasingly becoming more popular in helping improve relationships, thus supporting palliative care. Johnston and team investigated the communicative properties of music that people with dementia experience in her study: Witnesses to transformation: Family member experiences providing individualised music to their relatives with dementia (Johnston *et al.,* 2017). Through qualitative analysis, the lives of 35 family members shared the experience interactive and receptive personalised music had on their family member with dementia. Johnston found:

> Sharing individualised music enhanced memory, mood and provided interactive opportunities, where family members connected and communicated with relatives who had dementia...Family members, who provided individualised music described new positive memories and transformed beliefs about the disease and their loved one.
>
> (Johnston *et al.,* 2017: p.1)

This paper highlights the importance of music in enabling family members to connect with people with dementia and create new meaningful interactions. As music improves cognition and memory, people with dementia are able to communicate better, becoming more interactive and confident. This behavioural and psychological improvement means more quality time can be spent with them and their friends/family.

4.4 – Social Inclusivity

Singing for the Brain is an interactive community music programme that provides many different forms of social interaction. It does this in a number of different ways: from the meet and greet welcome, seating arrangement during a session (semi-circular format) to the refreshments served at the end. During a session, the facilitator will begin with a vocal and body warm up, followed by the main session. In the main session, participants will sing songs based around a theme, such as weather, animals or colours. Each participant will receive a song sheet with all the words of each song, and a community musician will accompany participants as they sing. Participants get a turn to pick a song for the group to sing, this democratic method enables everyone to have equal input within a session. This approach is a combination of reminiscence therapy and music (Alzheimer's Society, 2020). Reminiscence therapy involves discussion about past activities, events and experiences and it personalises the session, enabling participants to engage individually within the programme (*ibid*.). After the main session there will be a farewell song, often unaccompanied, uniting the group one last time and signifying the end of the music session. Following this, participants will be provided with refreshments, giving them the opportunity to socialise informally.

Sara Osman and team conducted a qualitative study of Singing for the Brain, exploring the health and well-being benefits of singing for dyads. This was conducted by interviewing ten dyads about: (1) their experience of attending the group; (2) the impact it has on communication and relationships; and (3) the changes in health and behaviour during and after the session (Osman *et al*., 2016: p.1329). Osman found that social inclusiveness was one of the main benefits participants experienced, noting that the initiative 'supports social inclusiveness, as it enables all participants to get involved, regardless of the stage of dementia' (Osman *et al*., 2016: p.1330). Due to the relaxed, non-clinical environment of dementia-friendly community music-

groups, members experience a calm atmosphere where they can come together, sing and socialise. These interactions benefit the person with dementia as it cognitively stimulates them, enhances their mood and helps build their social confidence (*ibid*.). George, a PWD said:

> I have appreciated the whole concept of SftB…Wherever you go and whatever group of people you're in singing seems to break down barriers and to open up sort of, not only companionship, but a sense of belonging, and that's great.
> (Osman *et al*., 2016: p.1330)

Feeling a part of a group is a very important and rewarding experience. Dementia is an isolating disease, so participating in a programme that brings people together helps combat issues such as loneliness and social withdrawal. Also, it is not only the person with dementia who experiences benefits, but the carer too. Programmes like Singing for the Brain give carers a safe space in which to meet, socialise and share information in an informal environment with people experiencing similar circumstances. Due to the nature of dementia, carers may experience constraints in their social life (especially if the person with dementia is their marital partner). The shift in role from partner to carer can be difficult, as maintaining an active social life whilst also being the primary carer is a challenging balance. Programmes like Singing for the Brain provide carers with a place where everyone is equal, creating a mutually supportive place for dyads to come and enjoy new experiences with their partner. This increase in social support can help carers with their own well-being and reduce the burden of caring. Julia, a carer said:

> Being a carer is very lonely because you've got a social life but it's not the social life you thought you were going to have when you're first retiring, it's totally different, and it is a very lonely existence, and it's nice to have all these people that you meet to talk to who are going through the same thing so…it's much better. (Osman *et al.,* 2016: p.1330)

It is important that the carer's well-being is taken into consideration when establishing a dementia-friendly programme, as they are also going to be there. By including social time after the music session for people to informally chat, it enables carers to spend time with other people who do not have dementia in an informal setting. Interactive music programmes allow carers to have a support network around them and the opportunity for these interactions to take place.

This study highlights how interactive musical activity facilitates social inclusivity on an individual and group level for a dyad. By enabling dyads to socialise during and after the session, it encourages new relationships to be built within the community. The nature of dementia means that the benefits of the session are often short-lived (as the person with dementia forgets about the activity), but carers have reported seeing positive effects on their person with dementia for days after the experience (*ibid.*). Furthermore, interactive music sessions play an important role in a carer's social life: they provide them with a safe platform from which to network and form new friendships.

4.5 – Increase in confidence

When a person is diagnosed with dementia they can experience a loss in confidence. This is because there is no way of knowing how dementia is going to personally affect them. This unknown can result in the person with dementia becoming more cautious or withdrawn in activities. By engaging in interactive music, people with dementia are able to rebuild their confidence to engage and complete activities (Osman *et al.,* 2016). Community music, community music therapy and interactive music therapy all encourage participation to remain active, keeping their brain stimulated and providing opportunities for people with dementia to participate in new activities.

In a pilot evaluation study, Camic and team followed the lives of 10 dyads participating in a community music project (Camic *et al.,* 2011). The study revealed that although a person with dementia's cognitive ability slowly deteriorated, their quality of life remained stable (*ibid.*). Participants found that the programme helped them change their attitude in a manner of different. Participates reported an increase in confidence when participating in the activity, with one PWD saying: "I couldn't believe it. Within a couple of days we were doing things I never thought I would do", and another said: "I thought I probably can't sing but when you do it with others it makes a tremendous difference" (Camic *et al.,* 2011: p.167). Comments like this demonstrate the unity within an interactive music group, how being around others helps participants engage and become more confident in their ability. From this, carers reported an increase in musical engagement outside of the sessions, i.e. listening to the radio more, learning to play an instrument or singing songs at home (*ibid.*). This pilot evaluation highlights the importance of musical engagement to help increase the confidence of those diagnosed with dementia.

This study also interviewed the carers, giving a wider report of the impact community music projects have on dyads. Carers reported being very apprehensive about the group before attending, as music had not been an active part of their life; however, once they engaged in the programme, carers reported enjoyment in the structure it provided (*ibid*.). By having a new commitment each week, it provided carers with a timetable of activities that kept them occupied throughout the week. This study found that both the person with dementia and their carer received an enhance quality of life due to the inclusive and interactive nature of interactive music sessions, which helped build their confidence individually as well as collectively (*ibid*.).

4.6 – Community Spirit

Many interactive musical activities occur within a community setting, helping build community spirit. This involvement means that dyads can establish new friendships from attending sessions. Participating in a group activity helps lift spirits, positively impacting mood and well-being (Osman *et al*., 2016). Coulton and team investigated the 'effectiveness of community singing on mental health-related quality of life for older people' (Coulton *et al*., 2015: p.250). By monitoring 258 participants, Coulton reported significant improvements in quality of life, anxiety and depression after 3 months, concluding that community group singing was an effective way to improve well-being in elderly people (*ibid*.). This study enabled 131 people with dementia to participate in The Silver Song Club, a 14-week 90-minute singing programme. Of the five groups established for the research, four were reinstated due to popular demand (*ibid*.). This demonstrates the weight of such activities within the dementia community, members experienced such a meaningful and enjoyable activity that it could not be stopped once the research ended.

As well as providing a positive community spirit, interactive musical activities help people discuss more difficult topics within the community (*ibid*.). One of the major benefits of being involved in a dementia community, is the opportunity to discuss the disease. No two diagnoses are the same as there are so many variations of the dementia. By being surrounded by people who have dementia, it helps open a dialog where members can share their experiences with others (Osman *et al*., 2016). Being able to have conversation in an informal and safe environment is vital in the acceptance and understanding of the disease.

4.7 – Physical Stimulation

Exercise has been proven to have many health benefits i.e. improve the immune system, digestive function, reduce blood pressure, diabetes, obesity and heart disease (NHS, 2019). It is important that after diagnosis that a person with dementia remains active. Soni (2019), Reiner (2013) and Zubala (2017) have all published papers emphasising the importance of physical stimulation for people with dementia. The National Health Service recommends that an older person (aged 65+) should do at least 150 minutes of moderate intensity activity a week and reduce time spent sitting or lying for long periods (NHS, 2019). Increasing physical movement can improve strength, balance and flexibility, enabling elderly people to be more independent and confident in their physical ability (*ibid*.). Interactive musical activities are a great way to encourage physical movement. The tempo provides a natural beat for people to move to. The facilitator, volunteers and staff often encourage members to participate in gentle dancing and assist members who want to get involved. As well as this, the facilitator will get members to engage in a warm-up before every session to stretch and activate their muscles ready for exercise. This slight increase in mobility reduces injury (NHS, 2019) during the session and stimulates the mind as well as the body.

4.8 – Personalisation

A large proportion of interactive musical activities in dementia care are within a group setting. This makes personalising the music difficult. As I observed in Nottingham, participants express their musical preferences to the group: members want to sing songs that evoke personal memories and emotions for them. If the facilitator allows members to dictate the music, then it creates disharmony with the other members. This means it is difficult to personalise a music programme for a group. Music groups in Nottingham have addressed this issue by creating songbooks that include a collection of songs for members to choose from. This means everyone can pick a song that resonates with them, thus personalising the experience and remaining democratic. For a 14-week cycle, each session has a new songbook providing a different selection of songs. The songbooks have been specially written for people with dementia, so there are songs within the cycle that members enjoy. This approach is the closest way to personalise music for a group and enable each member to have their moment to choose a song.

A different approach that improves personalisation within a group setting is performance. By allocating time for members to showcase a piece they have been working on, it lets them share music that is personal to them (that may not be in the songbooks). This brings much joy and unity to the group as they support and encourage each other through the experience. Dementia music groups are usually made up of 10–30 members, this small number means that the facilitator can add personalised sections when needed. This approach helps manage the members who try to dominate a session, and interrupt regularly. By allocating a specific time where the spotlight is on them, it gives them the opportunity to focus on that section. Although these two methods of personalisation help members to engage, it does not ensure that every member will. Some members are unwilling or unable to interact and prefer to observe. This means their personal musical preferences are transferred to their carer.

4.9 – Accessibility

Accessibility to interactive musical activities is a common difficulty that people with dementia face. First, interest exceeds supply. As mentioned previously, Singing for the Brain is the most popular interactive musical activity for people with dementia, and despite having 333 groups active around the UK (in 2017), the demand still exceeds supply, meaning attendance is limited. For some dyads, attendance can be limited to once a month, making it difficult to form stable social connections within a group. With the number of diagnosis of dementia rising, so does the demand for these resources. To counteract this, there has been an increase in independent dementia music-programmes established throughout the United Kingdom. For example, in Nottingham there are three independent dementia singing groups that work outside of Singing for the Brain. These have a similar format to the Singing for the Brain session (warm up, main session and refreshments) but are run by independent community musicians or community music therapists. The combination of corporate and independently run music sessions helps to improve availability, diversity and accessibility, providing a greater range of interactive musical activities for people living with dementia.

Second, people with dementia can have difficulty in accessing the locations in which these activities are held. The majority of dementia music groups are run in communal areas (i.e. community centres, churches, school rooms or village halls), meaning members have to travel to the activity. If a person with dementia has a carer, then the responsibility of transportation may be passed on to them; however, for person with dementia who live alone, transportation – especially public transport – can be confusing and difficult. As dementia affects the ability to learn, remember and think, it makes travelling to and from an event every week at a certain time challenging, particularly as one of the major symptoms of dementia is memory loss. Currently, one in three people with dementia drive, but as the disease progresses and symptoms

worsen, they will lose their ability to drive safely and have to give up their licence (Alzheimer's Society, 2016). This typically occurs three years after diagnosis, but some people with dementia will stop driving and 'voluntarily surrender' (*ibid.*). Getting to and from regular music groups can be complicated, and in reaction to this, people with dementia may choose to stay at home.

One way of diversifying the locations in which interactive musical activities occur, is by having a mobile music service. Mobile services are able to deliver sessions anywhere (within reason). In Nottingham there is a mobile community music project called The Heron Music Café that travels to different pubs within the city centre delivering music sessions (Musicworks, 2020). It is not specifically for people with dementia, but a large proportion of its demographic have dementia. The Heron Music Café is a part of the charity Musicworks, that promotes music sessions within the community to enhance well-being (Musicworks, 2020). It provides music services held at several different locations throughout a week making it easier to access for members who live nearby (*ibid.*). By having multiple sessions hosted in centrally located communal areas, it helps diversify the venue types and locations available for people with dementia; however, if people cannot walk to these venues, then the issue of transportation remains.

An Alzheimer's Society survey found that 29% of people diagnosed with dementia no longer left their home, meaning that regardless of location, they are unable to access interactive music projects (Alzheimer's Society, 2013). One method that a group in Nottingham has adopted to overcome this issue, is to have a dementia music group that comes to the care home. Blue Skies is a community music therapy group that is held within a care home for residents, making it more accessible for people with dementia who cannot travel. Specialist groups like Blue Skies

help to diversify the locational setting of dementia groups, making it easier for their members to gain access. Obviously, this only eases the burden of travel for the people within the care home, but it is a step in the right direction.

In light of the recent effect of COVID-19, the issue of transportation and location has subsided. With the government enforcing lock down, regular musical services have been suspended and moved online. This has in turn improved accessibility to these programmes, meaning a larger proportion of the dementia community now has access to these programmes. By providing musical services on platforms such as YouTube, Facebook and Zoom, people with dementia who no longer leave their home are able to access an interactive musical programme. Although this online presence has increased accessibility, these digital alternatives have created a new set of difficulties: (1) the programmes do not offer the same social benefits experienced at local groups; (2) people are resistance to getting involved in a programme that is online; and (3) people struggle with the technology needed to access these services. The problem of accessibility is one of the greatest difficulties in providing interactive musical services for people with dementia, but with growth in online music services and diversity in mobile dementia music groups, programmes are beginning to become more accessible for the dementia community.

4.10 – Engagement

One of the greatest challenges I observed when people with dementia were participating in an interactive musical activity was a lack of engagement. Physical impairments such as: hearing, vision, mobility, incontinency and pain/discomfort all contribute to making musical engagement difficult. As dementia primarily develops in elderly people, biological functions

deteriorate due to the nature of aging. The most common age-related sensory deficit is hearing impairment (Andrade *et al.,* 2018). As people age, the inner ear begins to change shape, irreparably damaging the hair cells inside the ear and leading to permanent hearing loss. Approximately one in three people between 65 and 74 have impaired hearing, and this increases to nearly one in two at the age of 75 and above (National Institute of Health, 2018). This impairment not only hinders a person's ability to hear music, but also their ability to understand environmental information, thus obscuring communication and social activity, jeopardising a person's independence and well-being (Andrade *et al.,* 2018).

In a longitudinal study exploring the impact of hearing loss on well-being, Andrade, Pereira and Silva concluded that 'hearing loss can contribute to depression and subsequently, [a] restriction in social activities' (Andrade *et al.,* 2018: p.2468). Social activity is one of the primary reasons a dyad will engage in a musical programme; therefore, measures need to be taken to ensure hearing impairment does not hinder the experience; the very nature of music greatly relies on hearing as it is a quintessential component. To overcome this difficulty, I found that interactive music sessions had a simplistic and repetitive format, making it easier for members to follow and engage. By keeping the structure the same each week, members quickly picked up the format, relying less on hearing. I also found that the facilitators would pay close attention to new members to make sure they understand each activity. They would work closely with them until they were visible happy and confident within the session. This hands-on approach meant people with hearing impairment did not need to fully rely on their hearing to get involved.

4.11 – Establishment

From my observations, I concluded that the establishment of dementia-friendly interactive musical activities was difficult for three reasons: (1) resistance in accepting diagnosis; (2) advertising the activity in an effective way; and (3) financial backing. First, people react differently to diagnosis, for some it may be expected or not, an awareness or worry, accepted or not. Unfortunately, some people living with dementia have difficulty in accepting their diagnosis and thus become resistant to the care and support offered to them (Schneider *et al,* 2019). This means that if a music group is advertised as 'dementia-friendly', some people with dementia may not attend as that would be admitting they have the disease. This makes advertising for this demographic challenging. If a person with dementia will not attend a session because it is being advertised as 'dementia- friendly', then how can sessions be advertised? One solution that local groups in Nottingham use, is to emphasise a different aspect of the programme, such as well-being or social inclusivity. This change in approach makes musical activities more appealing as the focus is not specifically about dementia.

There are a multitude of different medias available for advertisement (leaflets, social media, radio, websites etc.) and knowing which platform to use is difficult. Unlike younger generations, many people with dementia did not grow up with the internet, therefore alternative methods must be employed (i.e. newspaper advertisement, 'flyering' and putting up posters). In Nottingham, the community musicians running the Songtime sessions distributed hundreds of leaflets door to door in local areas to advertise their new choir session. As a result, they secured five new members. To obtain their subsequent 20 members, word-of- mouth played an important role. The initial effort in advertising these sessions consumed a great deal of time and money. When researching a solution to this problem, I came across a report titled: 'Marketing and advertising to older people' by Help the Aged noted that: 'some marketers and

researchers have been talking about the problems of marketing to older people for years; however, there remains an astonishingly small amount of case study material, as opposed to research, demonstrating success with these older target audiences' (Chalmers, 2002:l: p.15). The lack of research in this area makes it difficult to present a marketing and advertising solution, although it appears that the best method at present is to go to existing dementia-friendly projects (that are not arts based) and advertise there, i.e. go to these sessions and distribute leaflets so people have a physical copy from which they can easily access the required information.

Informing GP practices about local dementia-friendly musical activities is another great way to get new participants involved through social prescribing. Social prescribing is sometimes known as community referral, it is when a doctor prescribes patients to non-clinical services (Public Health England, 2019). As well-being is affected by social, economic and environmental factors, attending community services is a popular way to enrich one's life and improve the quality of it. Social prescribing promotes people taking their health into their own hands and improving their quality of life through a holistic approach (*ibid*.). It supports people's social, emotional and practical needs focusing on improved mental health and physical well-being. It has been found to reduce the burden on the NHS and improve quality of life for participants (*ibid*.). By informing GP practices about dementia-friendly music programmes, they can prescribe it to people with dementia whom it would suit.

Lastly, financial backing is paramount in establishing and growing a successful music programme for people with dementia. From my time observing, I discovered that the cost of running an interactive music group for people with dementia comes from two main routes: funding and membership fees. For membership fees, the affluence of an area should be taken into consideration. For example, in Nottingham more affluent suburbs such as West Bridgford

and Wollaton are more likely to fund the project through membership fees, as people living there have a larger disposable income, whereas less affluent areas are less likely to recruit members as they are not able to pay the weekly fee to attend the session. To combat this geographical issue, groups like Singing for the Brain rely on funding. The Alzheimer's Society is able to fund the cost of running Singing for the Brain sessions around the United Kingdom, so members do not have to pay to join; however, this means independently run community music projects all applying for the limited funding available. This tends to be competitive, and as a result, members have to pay a fee of around £5 per session in order to make the enterprise financially viable.

Chapter 5 – Analysis of Receptive Music

This chapter analyses the benefits and difficulties of receptive music. Like the previous chapter, the analysis uses a combination of qualitative observation and reviewed literature. Each subheading is a reoccurring theme. I concluded that the primary benefits of receptive music were: personalisation, accessibility and cost-effectiveness. The primary difficulties include: inability to use a music player, sedentary and social isolation. Suggestions are made to alleviate these difficulties.

5.1 – Personalisation

The primary delivery of receptive music is through a personalised playlist on a music-device (Music & Memory, 2020). This idea was pioneered by Linda Garder to help combat anxiety and agitation in people with dementia (Gerdner, 1997). Since then, a company called Music & Memory has made a significant contribution to this area (Music & Memory, 2020). This type of receptive music is delivered through headphones so the person listening can immerse themselves in the music uninterrupted. Headphones minimise environmental sensory distractions, reactions from others nearby and enable people with hearing aids to use them (unlike earphones). Other forms of receptive music include: receptive music therapy, live performance and therapeutic music within clinical settings.

Personalisation is an effective way to get people with dementia engaged in musical activities. This is because of the emotional recall experienced when listening to a song (Music & Memory, 2020). Personalised music brings joy to the person with dementia as well as family and staff, enabling a universal enhanced experience and a more meaningful relationship. Research has shown that listening to personalised music can ease pain, improve relationships, sleep, mood,

speech and assist during active dying (*ibid*.). Creating a personalised playlist can be difficult initially, but once the playlist has been created, it can be implemented easily. Creating the playlist requires substantial knowledge about the person with dementia, such as: culture, family values, life story, interests, skills, likes/dislikes and physical well-being. Obtaining this information is time consuming and challenging (*ibid*.). Factors like their first language, ability to verbally communicate and number of family members able to help, need to be considered. This person-centred approach helps provide people with dementia with a playlist that induces the beneficial symptoms mentioned earlier.

The dissemination of individualised playlists for people with dementia has become a popular method of increasing receptive musical activities. Music & Memory is a popular non-profit organisation that helps people with dementia improve their cognitive and physical conditions through personalised music. By providing people with dementia with a digital music player (i.e. iPod or MP3 player) that holds a personalised-playlist, Music & Memory trained nursing home staff and family can use music within their regular care to reconnect with the person they are caring for. This approach is being increasingly adopted in care homes across the United Kingdom and United States of America to facilitate communication, engagement and socialisation between residents (Kwak *et al*. 2020). In 2013, 98 nursing homes were trained to create playlists tailored to their resident's musical preferences. Kali Thomas and team conducted a study examining the effect of Music & Memory amongst nursing home residents with dementia. A total of 12,905 residents participated in Music & Memory facilities, against 12,811 residents in comparison facilities. Over a six-month period, results found an increase in residents discontinuing antipsychotic drugs and anxiolytic medication in Music & Memory facilities, as well as a reduction in the behavioural and psychological symptoms of dementia (*ibid*.). This decrease was found through the results produced at the comparison facilities,

which remained relatively the same throughout the study. This study offered the first evidence that incorporating receptive musical activities into care homes may be associated with reductions in antipsychotic and anxiolytic medication, as well as improvements in the behavioural and psychological symptoms of dementia (Thomas *et al*. 2017). However, a similar study that researched the effects of the Music & Memory programme produced contrasting results.

Jung Kwak, Keith Anderson and Katherine O'Connell Valuch conducted a randomised controlled trial analysing the effect of the Music & Memory personalised playlists. Ten nursing homes were randomly selected, followed by randomly selected six residents. (Kwak *et al*., 2020). Over a 14-week period, Kwak and team tracked, monitored and recorded the use of each iPod through an application that records the date, time, frequency and musical preferences of each resident (*ibid*.). Family members, carers and staff assisted in the personalisation of each playlist for residents. Agitation was measured using the Cohen-Mansfield Agitation Inventory and dementia related cognitive behavioural issues were measured using an abridged version of the Neuropsychiatric Inventory-Nursing Home Version (*ibid*.). Residents were observed at the baseline, 6th week, 8th week (after a 2-week washout) and on the 14th week which was the end of the study (*ibid*.). The results were contrary to expectation, as there was no significant difference in agitation, in fact an increase in irritability was found in the group that received the Music & Memory playlist, whereas a decrease occurred in the control group (*ibid*.). This resulted in an increase in depression for the residents receiving the Music & Memory playlist and decrease in those without.

There are several reasons why these two similar studies resulted in contrasting outcomes. First, the sample size of the crossover study was significantly smaller than the original study, and it

may have been too small to achieve statistical significance. Second, Kwak's measurements were collected over several week intervals, whereas other studies found that changes in behaviour occurred shortly after the experience, meaning Kwak could have missed these changes. Finally, Kwak left the implementation of the Music & Memory programme to staff working at residential homes. Although precautions were made to find the most suitable members of staff to participate in the study, they could not always rely on their reliability and validity. With this in mind, more research into the intervention Music & Memory need to be initiated. Given the risk, complications and negative side-effects antipsychotics can have, nonpharmacological interventions need to be a high priority within the dementia field.

5.2 – Accessibility

A large proportion of receptive musical activities in dementia care can be administered easily from any location. Once a person with dementia has received a digital music player with a personalised playlist on it, they can access that music anytime. This makes implementing receptive musical activities easy once the music player has been given to them. This also means people with dementia can increase their frequency of musical activity to suit their individual needs.

When analysing the neurochemistry of music, it is evident that everyday use of music can significantly improve overall quality of life. This is because of the engagement of neurochemical systems producing: (1) reward, motivation and pleasure; (2) reduction of stress; and (3) immunity (Chanda and Levitin, 2013: p.179). First, reward, motivation and pleasure all stem from primal instinct and survival behaviour; when we find a reward, it motivates us to pursue that pleasure (i*bid*.). Music can evoke memories, rewarding the person with dementia with enjoyment. This means music motivates people to engage with it so that they gain the

pleasurable reward. Second, stress occurs when there is a loss of homoeostatic equilibrium, adrenaline rouses your body for emergency action (i*bid*.). Relaxing music has been found to reduce hormone levels, inducing relaxation (i*bid*.). The use of receptive music in a stressful environment has been investigated during medical procedures, discovering a significant decrease in cortisol levels. Finally, there are two types of immunity: (1) innate (non-adaptive), which is the first line of immune response and relies on mechanisms that exist before infection; and (2) acquired (adaptive), which relies on mechanisms that adapt after infection (i*bid*.). Stress and aging reduce the effectiveness of both immune systems, meaning attention needs to be focused on improving psychological and lifestyle factors. As music has been proven to enhance mood and reduce stress, it helps improve immunity in the elderly.

As well as digital music players, people with dementia can experience receptive music through concerts, theatre shows and hospital wards. In Nottingham there are dementia-friendly concerts, cinema sessions and theatre groups available throughout the year. These opportunities increase the use of receptive music available for people with dementia, helping remain relaxed as well as entertained.

5.3 – Cost-Effective

The current cost of dementia in the United Kingdom is £34.7 billion a year (Alzheimer's Society, 2020). With pharmaceutical treatment having limited effectiveness, adverse symptoms and expensive costs, alternative methods are being prescribed. Receptive musical activities can be implemented on mass in a cost-effective way. This is because receptive music can be administered by anyone. Unlike interactive musical activities, experiencing a receptive musical activity does not require specialist training to deliver a session. Also, sessions can be administered anywhere a person with dementia is. In the study titled: 'Implementation of

personalized music listening for assisted living residents with dementia', Kelly Murphy and team evaluated the effectiveness and cost of implementing receptive musical activity (through the dissemination of iPod Shuffles) to residents over an eight-month period (Murphy *et al.,* 2018). Logging over 822 encounters, 461 (62%) showed improved mood, 255 (34%) showed no change and 26 (4%) showed worsen mood (i*bid.*). There were initial expenses when establishing the programme (cost of iPods, headphones, storage devices and music); however, once these costs were covered the residents and staff could engage in personalised music listening frequently with residents. Throughout the 8-month period the turnover of residents fluctuated due to death or discharge, but a steady rate of 20 residents were actively enrolled throughout (i*bid.*). The study estimated a cost of two new devices per year to account for broken or lost appliances, concluding that:

> Personalised music listening is a meaningful intervention across the dementia spectrum of impairment. Implementation is possible at a reasonable cost with sustained volunteer involvement. Many facilities may be willing to incorporate maintenance costs into their budget, which are minimized in subsequent years once a music library has been developed, as previously purchased devices can be reprogrammed with new playlists for new residents.
>
> (Murphy *et al.,* 2018: p.565)

After the initial 8-months in which this study was recorded, the implementation of the iPod continued for a further four years (*ibid.*). The personalised music-listening devices were available to all residents in the home, and staff found that using them on people with dementia who became particularly agitated showed significant improvement in their behaviour (*ibid.*). From this study it is apparent that once the initial costs are covered, personalised music-playing

devices are a cost-effective way to improve the behavioural and psychological symptoms of dementia and quality of life.

5.4 – Inability to Use Music Player

People with dementia may enjoy the experience of listening to music, but if they are unable to use a music player, then its effectiveness is irrelevant. This was one of the main problems encountered in the: Promoting Independence in Dementia (PRIDE) study (Yates *et al*., 2019). The aim of this study was to develop a postdiagnostic social intervention that enabled people with dementia to live independently where possible (*ibid*.). The study found that there were several reasons why people with dementia were not engaging with the music player. The severity of a person's dementia played a primary role in their ability i.e. if they could recognise the device, could use the controls or remember to listen to music (*ibid*.). When investigating the importance of music in the everyday life of a person with dementia, Sixsmith and Gibson (2007) found that some participants did not use the music player as they did not recognise the device. Familiarity with a device is needed if someone with dementia is to use it, so introducing modern devices can be in vain. The PRIDE project also reported similar difficulties, with participants finding the controls too complicated, buttons too small and there were too many buttons. This means music players either have to be from an era a person with dementia remembers, or they have to have a simple, easy to use design. Designing a music-playing device specifically for people with dementia would greatly impact the frequency they could experience receptive music. Companies like Simple Music Player and DF Sales Limited have caught on to this idea and designed simple music players/radios with instructions on the box to help assist music listening. This is a step in the right direction; however, much more research into making dementia-friendly technology is needed.

Musical activities can be enjoyed throughout all stages of dementia, even people with the most severe levels can find pleasure in listening to music; however, people with dementia may not remember the enjoyment they experienced when listening to music. This means they may not attempt to engage in music, passing the responsibility to their carer. Paul (carer of Eric), was interviewed in the Sixsmith and Gibson study, said:

> It's a pity because music used to be an important part of Eric's past and it would be nice…but he just doesn't think ever to do it. Whereas ten years ago, when mum died, he'd be playing it pretty well all day, full-blast in the house. He doesn't think to now… I think as much as anything it's thinking to do it.
> (Sixsmith and Gibson, 2007: p.139).

From this example it is evident that although music is available, the severity of dementia has left Eric unable to remember his previous love for music. Because of this, he relies on others for his musical engagement. Furthermore, the choice of music is essential in receptive music– it must be personalised to the person with dementia's interests. This can be challenging as people with dementia experience communication issues, meaning communicating their preferences can be difficult and again become a responsibility of the carer.

5.5 – Sedentary

As receptive music is a passive activity, people often experience it sitting down. It is important that people with dementia participate in mobile activities to avoid excessive sitting. This is because excessive sitting can be a risk to health as it has adverse effects on the body, i.e. slower metabolism, compromised posture, low energy expenditure, reduction in social skills and accelerated bone and muscle loss (NHS, 2019). The UK Chief Medical Officers' Physical

Activity Guidelines report stated that: 'there is strong evidence that physical activity contributes to increased physical function, reduced impairment, independent living, and improved quality of life in both healthy and frail older adults' (GOV UK, 2019: p.39). This means that physical psychosocial interventions need to be implemented into a person with dementia's lifestyle– not a sedentary one.

If a PWD does not implement regular physical movement into their lifestyle, then it could result in the person becoming submitted to a care home or hospital. This means they would be surrounded by unfamiliar people in a new environment. These drastic changes would significantly impact on their overall well-being and cause much agitation for the person with dementia, worsening their overall quality of life.

5.6 – Social Isolation

Social isolation has always been a challenge present within the elderly community. Since the outbreak of COVID-19, the number of elderly people self-isolating is at an all-time high (NHS, 2020). Receptive music is primarily a solitary activity experienced alone or in silence. As people with dementia are given headphones to experience receptive music, it isolates them from their environment and disconnects them from social contact. This diminishment of socialisation can thus impact on a person's social confidence. If they become isolated, reintroducing themselves can be a challenging obstacle (Osman *et al*., 2016). This increase in solitary time could induce loneliness, increasing the mental health problems associated with this emotion. People with dementia need to remain socially active so that their brain remains stimulated and they are able to maintain relationships.

Hope Reiner said that 'one of the key indicators of happiness, regardless of age, is the quality of our relationships. Moreover, loving relationships can transform and enrich lives, and loving relationships can best be formed in small groups or one on one' (Reiner, 2019: p.67). Social connectedness significantly contributes to mental health and lifestyle factors, being found to shorten life in elderly people suffering from loneliness. With an ever-growing digital industry, the opportunity to create friendships and caring relationships has diminished (*ibid*.). Receptive music is an isolating activity, meaning it can hinder a person's ability to socially connect with others. Kaye and Singer (2019: p.68) said that 'the escalating risk of isolation has put too many older adults on a troubling trajectory with potentially life-threatening consequences'. To combat this issue, receptive music should be implemented in communal areas as well as individually. This would allow people with dementia to come together and listen to the music, bonding over the experience. It would help them reminisce over the music and share memories, reducing social isolation and improving well-being.

Chapter 6 – Discussion

This thesis aims to review interactive and receptive music in order to determine which type of music activity produces the greatest well-being outcome for people living with dementia. Alongside this, it also aims to provide a single place in which the benefits and difficulties of these two types of activity can be found and reviewed. In the analysis chapters, I combined qualitative observation with secondary data to review the benefits and difficulties of implementing interactive and receptive musical activities for people with dementia. I concluded that the primary benefits of interactive music were: a reduction in the behavioural and psychological symptoms of dementia, improved cognition, improved relationships, social inclusivity, increase in confidence, community spirit and physical stimulation. The primary difficulties were: personalisation, accessibility, engagement and establishment. In the receptive analysis, I concluded that the primary benefits were: personalisation, accessibility and cost-effectiveness. The primary difficulties were: inability to use a music player, it is a sedentary activity and increases social isolation. The results indicate that interactive musical activity produces the greatest well-being outcome for people living with dementia.

In line with this conclusion, is a study that practically applies this comparison of interactive music against receptive. In the study: 'Cognitive, Emotional, and Social Benefits of Regular Musical Activities in Early Dementia: Randomized Controlled Study', Särkämö and team determined the efficacy of a novel music intervention based on coaching the carers of people with dementia to use either singing (interactive) or music listening (receptive) as a part of their everyday care (Särkämö *et al.,* 2013). In the study, 89 dyads were split into a group of 30 who received a singing coaching group, 29 who received a music listening coaching group and 30 who resumed care as usual (the control group) (*ibid.*). The goal of this intervention was to

provide carers with a way to motivate and encourage people with dementia to engage in some form of regular musical activity. And the aim was to improve overall quality of life for people living with dementia through improved communication, enhanced mood and improved cognitive ability (*ibid*.). Each participant's quality of life was assessed at the beginning, at the end, and 6 months after the intervention. Dyads in the singing or music listening group participated in a weekly 1.5-hour session with a professional musician or music therapist (*ibid*.). They were set musical homework to encourage an autonomous musical experience. Once the 10-week trial was finished, dyads in the singing group received a songbook and dyads in the music group received CDs (*ibid*.). Aided with these guides, dyads were encouraged to continue their musical experience independently after the trial. The study concluded that:

> Compared with usual care, both singing and music listening improved mood, orientation, and remote episodic memory and to a lesser extent, also attention and executive function and general cognition. Singing also enhanced short-term and working memory and [carers] well-being, whereas music listening had a positive effect on their quality of life.
>
> (Särkämö *et al*., 2013: p.634)

These results demonstrate how regular musical activity provides carers with a way to cognitively, emotionally and socially improve a person with dementia's well-being through a simple musical format. In comparison with standard care, both interactive and receptive music induced the aforementioned health benefits, enhancing the well-being of the carer as well as the person with dementia (*ibid*.). This report compares both types of musical activity against standard care; however, when using these results to compare music singing (interactive) against music listening (receptive) it is evident that interactive music produced greater improvements

i.e. general cognition, orientation, short-term and working memory, verbal memory, visuospatial skills, attention and executive function (Särkämö *et al.,* 2013: p.636). Interestingly, in the follow up researchers discovered that dyads who participated in the music listening group engaged in musical activity more frequently, and for a longer length of time than the singing group did. This suggests that music listening is easier to deliver in a home setting.

From Särkämö's study, there is significant evidence that interactive musical activity improves quality of life for dyads. One limitation in the study that needs to be addressed is that it explored how musical interventions effected people with mild to moderate dementia– excluding people with severe dementia. Most studies focus on the mild to moderate demographic, as people with severe dementia have serious cognitive dysfunction, meaning they have greater difficulty in receiving, processing and responding to environmental stimulus, such as musical activities. It is important that all stages of dementia are reviewed when researching this field.

Mayumi Sakamoto, Hiroshi Ando and Akimitsu Tsutou studied the effectiveness of interactive and receptive musical interventions on people with severe dementia (Sakamoto *et al.,* 2013). By examining the short- and long-term differences in personalised interactive and receptive music, they found that interactive musical engagement had the greatest benefits for a person with severe dementia (*ibid.*). Thirty-nine individuals were randomly and blindly assigned to either an interactive or receptive group, and one control group (*ibid.*). As people with severe dementia cannot verbally communicate, The Face Scale and heart rate variability method were used to measure the short-term effects experienced in the study. Participants were measured 5-minutes before and after each of the 10 sessions (*ibid.*). The long-term effects of the musical interventions were evaluated by changes in the participants behavioural and psychological symptoms of dementia. To measure this, The Behavioural Pathology in Alzheimer's Disease

Rating Scale examination was conducted two weeks after the trial (*ibid*.). The short-term emotional state of participants significantly increased for those who participated in the interactive music, there was an increase for those who participated in the receptive study and it remained the same for those in the control group (*ibid*.). This demonstrates that interactive music improves quality of life short-term for people with severe dementia. Long-term, receptive music reduced: (1) affective disturbances; (2) anxieties and phobias in participants, and interactive music reduced; (1) affective disturbances; (2) anxieties and phobias; (3) paranoid and delusional ideation; (4) aggressiveness; and (5) activity disturbance (Sakamoto *et al*., 2013: p.778). The control group experienced no changes in BPSD long-term.

> The current results revealed that both [receptive] and interactive interventions involving individualized music associated with special memories reduced stress and increased relaxation in individuals with severe dementia immediately after the intervention, compared with participants in the no-music control condition. (Sakamoto *et al*., 2013: p.781)

Both of these studies reinstate the positive impact regular musical activity has on people with dementia (no matter the severity). In both, interactive music produced the greatest improvements for participants; however, this is not a unanimous conclusion amongst scholars. In 2018, a paper titled: 'Receptive Music Therapy Is More Effective than Interactive Music Therapy to Relive Behavioural and Psychological Symptoms of Dementia: A Systematic Review and Meta-Analysis', published different findings (Tsoi *et al*., 2018). In this study, researchers evaluated the effectiveness of interactive and receptive music therapies on cognitive function and behavioural symptoms on people with dementia (*ibid*.). Reviewing 2,594 abstracts, 166 studies were further evaluated in full and 38 eligible trials were identified

(1,418 participants in total) (*ibid*.). Abstracting the data from these 38 trials, researchers found that neither interactive nor receptive music therapy was able to enhance cognitive function in people with dementia; however, there was a significant decrease in agitation, behavioural and psychological symptoms of dementia, apathy and anxiety in participants who received receptive music therapy (Tsoi *et al*., 2018: p.573). The limitation in this study is that it only included music therapy studies– not other musical activities (i.e. community music therapy, community music and therapeutic music). One of the most popular methods of disseminating music to the dementia community is through community music, meaning this study excludes the findings from this area. Community music is one of the best methods to facilitate interactive music and is significantly cheaper to deliver. Although this paper found receptive music therapy to be the better alternative, it needs to be interpreted with caution as it only included one aspect of the four types of music available for people with dementia.

The comparison and debate between interactive and receptive music will continue within the dementia community; however, based on the research undertaken for this thesis, interactive musical activities produce the greatest well-being outcomes for people living with dementia. Due to the impact of COVID-19 there were unanticipated limitations that immerged throughout the research process. The primary limitation was a reduced amount of qualitative observation (from October 2019-March 2020) meaning I had to rely heavily on secondary data alongside my qualitative observation. Secondly, with public spaces temporarily suspended, access to libraries were limited to online only, meaning I could not access hard copies of literature. Finally, with all social gatherings suspended, there were no opportunities for human interaction with the dementia community I was writing about. Despite these limitations, this thesis has provided a balanced and full review of: (1) the different types of musical activity available for people with dementia; (2) a survey of these activities within a city; (3) a breakdown of the

benefits and difficulties of implementing interactive and receptive music in dementia care; and (4) an argument as to why interactive music produces the greatest well-being outcome for people with dementia.

To better understand the implications of these results, further studies can conduct more qualitative research once organisations restart (COVID-19 permitting). By conducting interviews, surveys and observations of interactive and receptive activities, a deeper understanding of their impact can be found. This research indicated that interactive musical activity produced the greatest well-being outcome for people living with dementia, but also raises the question: why is there not a musical programme that combines interactive and receptive musical activity together? My future research will build upon the findings of this paper into a PhD that answers this question. By combining both interactive and receptive music together into one autonomous package, I hope to discover new ways to implement music in dementia care by combining the benefits of both interactive and receptive music together. By combining dementia choirs with personalised playlists, it will enable a greater use of music in daily life and improve well-being.

Chapter 7 – Conclusion

This thesis aimed to identify which type of musical activity produced the greatest well-being outcome for people with dementia: interactive or receptive? Based on the qualitative analysis and literature reviewed, I conclude that interactive musical activities produced the greatest well-being outcomes for people living with dementia.

To reach this conclusion, I began with a review in Chapter 2 of the different subdivisions of musical activities available for people with dementia: music therapy, community music therapy, community music and therapeutic music. By reviewing and defining these subdivisions, a greater understanding of the music and dementia field was established. From this, I applied these definitions to the dementia-friendly musical organisations available in Nottingham, and categorised each organisation into one of the four subdivisions. This can be found in Chapter 3. Before the outbreak of COVID-19, I had intended to conduct qualitative interviews with dyads from each of the four subdivisions. This was to gain a deeper understanding into what music means to people living with dementia, and review the different benefits and difficulties experienced in each subdivision. Unfortunately, this methodology had to change in March 2020 when the United Kingdom's government imposed a national lockdown, suspending all social gatherings due to the impact of COVID-19. Using the data collected in the survey, I split the organisations in two: interactive and receptive. Not knowing when dementia-friendly musical activities would resume, I repurposed my research to review and determine which type of musical activity produced the greatest well-being outcome for people living with dementia. In Chapters 4 and 5, I used a combination of qualitative observation and secondary data to analyse the benefits and difficulties of interactive and receptive music. Each subheading was a theme

that I identified as either a benefit or difficulty faced when implementing musical activity in dementia care.

In Chapter 6, I concluded that interactive music produced the greatest well-being outcome for people living with dementia. This conclusion was reached as interactive music: reduces behavioural and psychological symptoms of dementia, improves cognition, relationships, social inclusivity, community spirit and physical stimulation. Although receptive music can be more personalised, accessible and cost-effective than interactive, it does not offer the same amount of positive well-being outcomes in comparison to interactive. Alongside this, interactive music also impacts the well-being for the carer, meaning greater holistic benefits can be found for people with dementia and those around them.

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