

Full-Length Article

The Effects of Listening to Preferred Music on Symptoms of Depression and Anxiety amongst Elders in Residential Care: A Qualitative, Mixed Methods Study

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Abstract

This article presents the qualitative findings of a mixed-methods evaluation of the effects of listening to preferred music on depression and anxiety in older people in residential care. 117 participants were recruited from 9 care homes, all but one in Greater London. The homes varied in size and management style, and participants came from a range of socio-economic backgrounds. In addition to their usual routine, each participant listened to a daily 30-minute program of their preferred music for 3 weeks. Both quantitative and qualitative data relating to anxiety and depression were collected during once-weekly semi-structured interviews. Findings from the qualitative data showed that listening to preferred music resulted in relaxation, positive reminiscence, less depression and less boredom. Physical reactions, such as ‘chills’ or tears, demonstrated emotional arousal; others, such as foot-tapping were beneficial to the most disabled participants. The use of preferred and favorite music was the principal facilitator of its effectiveness, whilst declines in memory, confidence and energy were barriers to the research procedure. It was concluded that listening to preferred music can bring some relief to depression and anxiety amongst older care home residents but that not all will benefit to the same degree.

Keywords: *older people, preferred music, pain, depression, anxiety.*

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Introduction

At a time of increasing life expectancy and rapid growth in the numbers of those over 85, the care home population is an interesting and important cohort to study. Although many consider longer lives to be a ‘crowning achievement of modern civilization’ [1], more years are being spent in ill-health; total life expectancy is increasing at a faster rate than disability-free life expectancy [2]. Care needs are therefore rising [3] and it is predicted that the care home population in England, for example, will grow from 296, 299 in 2014 to 485,441 in 2030 [4]. Many residents suffer from multiple long-term illnesses [5] and are susceptible to anxiety and depression, the two disorders of interest in this study [6].

It is estimated that up to 40% of the care home population experience symptoms of depression [7] and up to 30%

experience anxiety [8]. Their treatment can be compromised by side effects and delayed responses to medication [9,10]: ‘Drugs alone sometimes aren’t quite enough; we need to find additional ways to decrease anxiety’ [11]. These could include alternative non-pharmacological interventions.

Listening to music is a suitable therapeutic intervention for this population. It makes no physical or cognitive demands, is easily accessible, is almost universally enjoyed and has minimal risk; its use to maintain wellbeing amongst older adults in particular has been established for a number of years [12]. Its use to alleviate depression and anxiety is supported by the Broaden-and-Build theory [13]. This suggests that positive emotions, as well as being a *sign* of optimal function, can also *produce* optimal function over the long term and may therefore ‘undo’ the damaging effects of negative emotions and bring about ‘improved psychological and physical wellbeing over time’. As music is ‘among the most powerful triggers of emotions’ [14] and thereby a means to increase positive affect [15], it may be considered an effective therapy for the relief of anxiety and depression. A growing number of research studies in this area support this notion [16,17,18,19,]. However, few studies have been carried out in care homes due to the ‘significant and unprecedented methodological problems’ associated with research amongst this frail population [20].

Although results have generally been positive, many studies have been criticized for their low methodological

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International Association for Music & Medicine (IAMM).

quality [21]. In addition, the heterogeneity of methodologies employed has made it impossible to carry out a rigorous comparison of results. For example, varying criteria have governed the selection of music. This requires particular attention if music’s benefits are to be realized [22]. Previous studies have used two principal approaches: music has either been researcher-selected or participant-selected. Amongst the former, the music may, for example, be chosen for its relaxing properties. However, this approach gives no guarantee that the music will be universally enjoyed; if disliked, it could evoke a negative response. The use of participant-selected music has attracted considerable support. It is considered to be one of the most important variables to consider in the design of a music intervention [23] as findings from previous studies demonstrate its greater effectiveness [24,25,26]. The greater the personal involvement, the greater the prospect of outcomes such as distraction, relaxation [27], improved autonomy and the avoidance of negative affect [28]. The principal aim of this study was to assess the benefits of listening to preferred music on depression and anxiety.

Method

A mixed methods approach was adopted for this study. The use of a randomized control trial and a large sample size addressed some of the criticism made of the methodology employed in previous research studies. The results of the quantitative data showed significant decreases in levels of anxiety and depression for both intervention groups and can be found at [29]. This paper presents the qualitative findings. They contributed to an enriched understanding of individual responses to music and identified both factors that limited music’s effectiveness and those that facilitated its effect.

Participants

Participants were recruited from 9 care homes, all but one in Central London. The homes varied in size (accommodating between 37 and 95 residents) and management style, but each provided similar services. Residents in each home were invited to take part providing that they fulfilled the inclusion criteria of sufficient cognitive and hearing acuity necessary for listening to music and being interviewed. 117 residents agreed to participate. They were given information regarding anonymity, confidentiality and their right to withdraw, before signing the consent form.

The variables of age and gender were what would be expected in any care home in the UK [30] with a majority of females (72.6%) and widows (69%) and a mean age of 87 (SD = 7.1). The ethnic profile was 77.9% white British, 15% other white, 4% Asian British, 2% Caribbean and 1% Middle Eastern.

The health conditions presented were typical of this demographic and included Parkinson’s disease, diabetes,

arthritis and heart conditions. Forty-seven percent had mobility problems: 29 used a wheelchair, 22 used walking frames and two used a stick. This was comparable to an estimation that a little under half of the care home population experience severe mobility problems [30]. The view that those of higher educational status are more likely to enjoy classical music [31] was not reflected in the sample. Educational status was equally divided between those who left school at 16, at 18 and those who received higher education. However, choice of musical genre was divided as follows: 81% classical, 2% jazz, 3% big band, 4% pop, 6% country and western and 4% folk.

Prior to the intervention, 4 participants withdrew: a severe decline in health (three) and death (one). There were 26 further withdrawals during the study (23%). Reasons included illness, relocation, complaints from neighbors and difficulties with using the music players.

Materials

Demographic details were collected and music preferences assessed via a questionnaire. The Assessment of Personal Music Preference [32] was modified and expanded. Items related to the importance of music in their lives, previous engagement with music, music associated with their past, current listening habits, preferred and non-preferred genres, composers, instruments and performers.

Table 1: Demographic Data

Participants	N = 113	
Mean age	86 (SD = 7.1)	
Gender	Male	31 (27.4%)
	Female	82 (72.6%)
Marital Status	Widowed	78 (69%)
	Single	25 (22.1%)
	Married	4 (3.5%)
	Divorced	6 (5.3%)
Ethnicity	White British	77 (77.9%)
	Other	25 (22.1%)
Education	Left school at 16	38 (33.6%)
	Left school at 18	38 (33.6%)
	Higher education	36 (31.9%)

Procedure

Programs were compiled using the data from the music preference questionnaire and tailored to each participant’s preferences. The majority of participants were able to provide sufficient information for the compilation of a suitable program. In cases where they were not able to remember names of specific songs, for example, suggestions were

provided, based on the information given. 80% of the sample chose classical music. Music was downloaded from iTunes to CDs for those with CD players ($N = 19$). The remainder ($N = 98$) were provided with a simple music USB player produced by the Royal National Institute of Blind People. Music players were placed within easy reach of participants and clear instructions provided. Volume control was determined by each participant. Headphones were not used due to discomfort for those with hearing aids. Participants listened to the music in their own rooms at a time of their choosing. Care staff were asked to assist if necessary.

Participants were randomized into 2 groups within each care home. Those in the experimental group listened to their music program each day for 3 weeks, whilst those in the control group maintained their usual routine, inclusive of any music that they might normally be exposed to. After 3 weeks, the two groups crossed over, thus allowing the potential benefits to be received by all the participants.

Participants in both groups took part in semi-structured interviews that occurred prior to the music program and then at weekly intervals. These were carried out by the lead researcher, who was given permission by each care home to carry out the study. Validated measures of depression and anxiety (PHQ-9; STAI-Y) provided the material for both data sets. Scores from each measure formed the quantitative data for statistical analysis. The informal nature of the interviews allowed for more extensive answers and wider discussion, both of the participants' individual experiences of anxiety and depression and also of their responses to the music programs. Specific questions were asked at the conclusion of the music listening phase regarding participants' enjoyment of the music and its effect on them, as well as any difficulties they had in adhering to the intervention. These answers formed the basis of the qualitative data. Interviews were recorded using the iPhone's 'Quick Voice' app; additional notes were taken during the interviews and a diary was made of each day's reflections.

Analysis

Prior to analysis, familiarity with the qualitative data was achieved by repeated reading of the notes, diary entries and transcripts and listening to the audio recordings. At each stage of the data collection, in each of the care homes, new material was coded and potential themes identified and named. The entire data set was then analyzed in the same way and a final list of themes was confirmed. This process followed the guidelines set out by Braun and Clark for thematic analysis (see [33]). There were two overarching themes: 'the effect of age-related decline on the research process' and 'the effect of the music intervention'. These were supported by several sub-themes. Despite differences of personality, socio-economic background, health and environment, there were striking similarities between the views and feelings expressed by the

participants, both within and between care homes.

Results

The effect of age-related decline on the research process

Age-related decline is inevitable and was universal to the sample. It was hard to accept. As one commented: 'Every day it's as if another slate has slipped off the roof. Every day is a little worse than the day before'. Similarly, another participant observed that when younger, he had identified himself as a Rolls Royce sort of man; he now saw himself as a Ford Fiesta. Three sub-themes were identified in this category: loss of memory, loss of energy and loss of confidence.

A daily reminder of decline was the memory loss experienced by almost all the participants. The participant who said, 'If I could only remember' spoke for them all. It was very distressing and often a cause of anxiety: anxiety about their current failure to remember something and anxiety about further cognitive decline. Comments such as, 'I'm ashamed of myself, I can't remember' and, 'Sometimes you feel such an idiot really', illustrate the embarrassment that many felt. It affected three elements of the research. First, participants' ability to answer questions about music preferences. There were those who responded: 'I like everything', 'Whatever, old timers'. This diverted attention from their inability to remember specific details. Second, questions regarding their earlier mood were often hesitant: 'It's hard to remember' or, 'I worried about something, but I can't think what it is'. Third, their ability to operate the music players. Although produced by the RNIB for those with partial sight and therefore simple to operate, many were concerned about their ability to remember the instructions. As one said, 'My goodness, I hope I can remember'. Several found it impossible, 'I can't work it myself, I can't do it; I can't even use the telephone'. The participant who said, 'I love the music, if only I could put it on myself,' spoke for many of them. This resulted in four withdrawals, whilst 38% of the sample required assistance.

Although declining energy was accepted as inevitable, it affected their ability and willingness to participate. Comments included: 'I'm too tired to do anything,' 'I wish I had more energy,' 'I'm always dead tired,' 'All I want to do is to curl up and go to sleep'. Simple tasks could become all-consuming, 'It takes me all my energy to get to the loo'. It left less time and energy for other activities. For some, it led to low mood: 'I think, why the hell have I come to this?' 'I get tired and then I get down'. For those who were 'too tired to do anything', there was less co-operation.

For many, physical and/or mental decline led to a loss of confidence in themselves and in their abilities. Their feelings could be summarized by the participant who said, 'Old age is like a second childhood, you can't do things anymore'. Others

commented, ‘The point is that when you get older, you get worse at everything’; ‘Everything I do, I do in a hopeless way’; ‘I’m an 80-year-old baby. I seem to have gone backwards’. This sense of failure was hard to accept and led to low self-esteem and mood. Many asked, ‘What’s the point of being alive when I’m useless?’ One cause of their decreasing confidence was memory loss. Several worried about doing or saying the wrong thing. They wanted to give the ‘right’ answers. The concept that there were no ‘right’ answers was difficult for them to grasp. Others worried about being in the wrong place or missing something: ‘My poor old head can’t remember what I’m meant to be doing’; ‘Am I going to sleep, wake, what am I going to do?’

These three sub-themes illustrate the difficulties inherent in research with this population. Compliance, if wholly reliant on the individual participant, is compromised. Care staff were relied upon to provide assistance, but it was not possible to accurately determine the levels of adherence to the program.

The effects of the music intervention

Despite these effects of decline, there were several positive outcomes. Two principal themes were identified: mood regulation and physical response, both recognized as outcomes of music listening [34]. The theme of mood regulation generated four subthemes: relaxation, decreases in boredom and depressive feelings, and reminiscence.

Frequent references were made to music’s relaxing effect: ‘You should listen to music as often as you can, it’s very relaxing’; music ‘gives some sort of relaxing feeling’ and ‘is the calmest thing going’; ‘It makes me calm, relaxed, so much at ease. Magic really’. Others used music proactively: ‘It is soothing when you get uptight’ or ‘when you are not well’; ‘If I don’t feel relaxed, I listen to the music’. One participant, struggling to adapt to care home life said, ‘Yesterday I felt especially frustrated so I put on music and it worked. It takes me to a higher level. It helps; restful and helpful.’ Some mentioned music’s distracting properties: ‘Music is a distraction in a certain way. I can relax better with music’; ‘If I have music, I don’t think about the worries about the family’; ‘It gives you a lift completely, something out of this world’; ‘It lifts one out of one’s own thoughts to something beyond’. It has been suggested that distraction, together with the physiological effects of listening to music are beneficial in enhancing relaxation [35].

Preferred and familiar music was important: ‘The ones I really like make me relax; it makes me feel good’; ‘As I recognize and get to know the music that I don’t know, I enjoy them more and more. They make me contented and relaxed. They soothe the nerves if you are on edge.’ Another talked of ‘lollipops’, meaning old favorites: ‘We all need our lollipops to soothe us. The idea that you know what is coming next. Of course, in real life, you don’t’. Some attributed improved mood to favored composers: Handel ‘lifted my depressed mood’; Mozart caused a ‘momentary lifting of the spirits’. ‘I

love Bach; he has an effect. If I am down I listen and he pulls me out. It changes my mood’; ‘You can always rely on a bit of Bach to cheer you up’; and again, ‘I always love Bach, it’s always satisfying.’

There were also references to fewer depressive feelings. One commented, ‘When I’m down, it’s quite a good release to listen to music, it makes my day.’ One participant, recently bereaved and new to care home life, commented that the music ‘brightens things up a lot. The composers must be psychologists because the music makes you happy.’ The benefits of familiar music were again recognized: ‘When I hear the music that I love, I change, I change.’

For some, music alleviated boredom: One simply said, ‘Music has helped the boredom’. Another, forced by ill health to give up carpentry, found that music filled the gap. It helped a newcomer to care home life to cope and reduced the boredom. Several felt isolated in their bedrooms; music relieved the loneliness. As one said, ‘It [the music] makes a difference if I’m in my room on my own’. Another commented: ‘Yesterday I felt alone. Then I put on the music and the feeling went’. Preferred music was again recognized as being helpful: ‘It helps the day go past, you feel better if it’s music that I like [sic].’

The arousal of memories is considered to be one of music’s main roles [36], evoking the emotional context of past experiences and relieving depression [37, 38,]. This was largely a positive experience for the participants. When listening to the musical ‘Oklahoma’, one participant was captivated by memories not just of the music, but of the stage set, singers and costumes. For others, ‘Music makes me emotional and brings back happy memories,’ and, ‘It takes you into part of your life, childhood, memories’. For one woman, the memories ‘wiped the years away’, and for another, were a reminder ‘of past times when you were happy’.

However, music also evoked sad memories. One participant described listening to music associated with her husband as ‘hitting an emotion that I don’t want to go to’. Another, unhappy in the care home, said:

Memories are not always good, I suppose, because music like that makes you think of the past, of the days gone by. That depresses you. You think of all the times that you have spent, the pleasures that you have had, and these days, what is there to look forward to? Nothing.

It was not possible to predict the response. The majority enjoyed memories of happier times; for a few, reminders of what they no longer had were painful.

Listening to music also initiated physical responses, such as foot and hand tapping. This was common. A former dancing teacher, confined to a wheelchair said, ‘It gets my feet tapping, it makes me feel alive’; ‘When I hear the music, my

feet begin to go'. Two stroke patients, also in wheelchairs, felt similarly: 'I want to dance to it and wave my arms in the air, move the chair and pretend I'm dancing' and 'If you can't dance physically, you can move inside.' These physical responses were particularly noticeable in participants with limited mobility. The music facilitated movement, however small, and made them feel more active. Others reported 'chills', 'tingles', and tears. Tears were generally positive responses, but for some it was overwhelming: 'I don't like it when it makes me cry, it's too moving'.

For the majority, responses were positive, but there were a small number who showed little benefit, 'It doesn't really affect me, it's just pleasant to listen to. It doesn't change my mood', or enjoyment of the music, 'I wouldn't go out of my way to hear that' and 'All OK, but nothing to go mad over'.

Discussion

The analysis of the qualitative data facilitated a greater understanding of the effects that age-related decline has on the research process. The losses of memory, energy and confidence, each contributing to symptoms of anxiety and depression, affected the participants' ability to operate the music-players and their capacity and willingness to answer questions. These are intractable issues, specific to this population and should be taken into account in the design of any future studies.

Despite these drawbacks, the analysis supported the use of a music-listening program to relieve symptoms of anxiety and depression in older people in care homes; decreases were found in levels of stress, low mood and boredom.

A number of factors contributed to these positive outcomes, principal of which was the use of preferred and familiar music. This supports the findings of previous research studies. For example, a study that investigated the efficacy of a music listening intervention to reduce anxiety concluded that the positive effects were dependent on identifying and implementing a program of music based on musical preferences [18]. When the music has personal relevance, the emotional response is enhanced and intensified, [39, 40] which can lead to a range of positive therapeutic outcomes, including improvements to mood and distraction from current problems as found in this study. The lack of any apparent benefit to a small number of participants may be explained by their lack of engagement and interest in the music.

A further benefit of preferred and familiar music was the nostalgia that it evoked, something that becomes more important in old age [41]. The stimulation of memories from the past, particularly those that themselves evoke positive emotions, is generally considered to be a positive experience and one that can contribute to significant reductions in depression [38]. The majority of the participants enjoyed being transported back to another time, a time perhaps of

youth, love and hope. However, there were a few participants who preferred to avoid music that reminded them of what they could no longer have. A similar response was found in an earlier investigation of older people's use of music [42]. Those assessing the musical preferences of older people should note the potential for negative affect.

Conclusions

Despite the challenges of conducting research amongst the oldest old, this study suggests that advanced age is no barrier to experiencing significant benefits from music. Whether on its own or combined with other psychosocial and pharmacological approaches, these findings suggest that a music listening program can, to some extent, alleviate the debilitating effects of anxiety and depression, although not all will benefit equally. The main facilitator of music's benefits, as found in this study, was the use of preferred and familiar music. This expedited greater emotional arousal, the essential catalyst for music's effects to be realized. This intervention is low cost, effective and requires little expertise to establish. Technological improvements, suitable for this population, would enable many more care home residents to benefit.

Ethical approval

The research for this project was submitted for ethics consideration and approved under the reference EDU 12/030 and approved under the procedures of the University of Roehampton's Ethics Committee on 28.05.2012.

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APPENDIX 1

QUESTIONNAIRE TO ESTABLISH MUSIC PREFERENCE

Name _____ Date _____

Do you enjoy listening to music? Yes _____ No _____

Do/did you play a musical instrument? Yes _____ No _____

If yes, what did you play? _____

Would you like to tell me about it? _____

If yes, is there a piece that you remember playing or something that you would have liked to have been able to play?

Do/did you enjoy singing? Yes _____ No _____

If yes, when do/did you sing? (e.g.: around the house, church choir, a group).

Could you tell me how often you listen to music nowadays?

_____ Not very often

_____ Some days

_____ Most days

_____ Every day

Do you listen to music on the radio?

_____ Yes

_____ No

If yes, what radio station/s do you listen to?

Do/did you like to dance?

_____ Yes

_____ No

If yes, what kind of music do/did you like to dance to?

What types of music do you enjoy?

_____ Country and Western

_____ Classical

_____ Spiritual/Religious

_____ Big Band/Swing

_____ Folk

_____ Blues

_____ Jazz

_____ Rock

_____ Easy Listening

_____ Cultural or Ethnic (examples: Czech polkas, Ravi Shankar Indian sitar)

_____ New Age

_____ Musicals

_____ Pop

_____ Opera

_____ Choral

_____ Military

_____ Brass Band

_____ Any other

Are there types of music that you don't enjoy?

Do you like to listen to _____singing _____ instrumental music _____ both?

Are there any instruments that you particularly like to listen to?

- _____ Guitar
- _____ Voice
- _____ Piano
- _____ Violin
- _____ Cello
- _____ Trumpet
- _____ French Horn
- _____ Trombone
- _____ Harp
- _____ Flute
- _____ Oboe
- _____ Clarinet
- _____ Sax
- _____ Classical Guitar
- _____ World instruments
- _____ Accordion
- _____ Organ
- _____ Other

Are there any instruments that you don't enjoy listening to?

Can you remember buying your first record? Do you remember what it was?

Are there any particular performers, singers or bands that you enjoy listening to?

Have you ever thought about what you would choose for your Desert Islands Discs? If so, what would you choose?

Do you have any favourite composers, pieces or songs? _____

Can you think of any music that makes you feel happy? _____

Can you think of any music that makes you relax? _____

Can you think of any music that you find particularly moving? _____

Is there any music that reminds you of a particular place or event?

APPENDIX 2

INTERVIEW TO ESTABLISH LEVELS OF ANXIETY

The Spielberger State-Trait Anxiety Inventory (STAI -Y-6)

This was adapted from the self-report version to accommodate a question and answer format.

Can you answer the following questions about how you feel right now. There are no right or wrong answers.

	4	3	2	1
Do you feel calm?	Not at all	A little	Quite a lot	A lot
Do you feel tense?	Not at all	A little	Quite a lot	A lot
Do you feel upset?	Not at all	A little	Quite a lot	A lot
Do you feel relaxed?	Not at all	A little	Quite a lot	A lot
Do you feel content?	Not at all	A little	Quite a lot	A lot
Do you feel worried?	Not at all	A little	Quite a lot	A lot

INTERVIEW TO ESTABLISH LEVELS OF DEPRESSION

The PHQ-9 depression scale.

This was also adapted from the self-report version to accommodate a question and answer format. The final item, ‘Thoughts that you would be better off dead ...’ was omitted as it was considered inappropriate in this particular setting.

During the last week, how often have you been bothered by any of the following?

	1 Not at all	2 A little	3 Moderately	4 Most of the time
Have you had little interest or pleasure in doing things?				
Have you felt low?				
Have you had trouble falling or staying asleep or sleeping too much?				
Have you been feeling tired or lacking energy?				
Have you had a poor appetite or been over-eating?				
Have you felt bad about yourself?				
Have you had trouble concentrating, such as reading the newspaper or watching TV?				
Have you been moving or speaking so slowly that other people could have noticed? Or been fidgety or restless?				