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Intentional music use to reduce psychological distress in adolescents accessing primary mental health care

Katrina Skewes McFerran[1], Cherry Hense[1,3], Asami Koike and Debra Rickwood[2]

[1] The University of Melbourne, AUSTRALIA (corresponding author)

[2] Faculty of Health, University of Canberra; headspace: The National Youth Mental Health Foundation, AUSTRALIA

[3] Orygen Youth Health, AUSTRALIA

Abstract

Rationale: Many young people turn to music as a way of exploring and managing their moods and emotions. The literature is replete with studies that correlate music preferences and mental health, as well as a small but increasing interest in uses of music to promote wellbeing. Recent studies have shown that music use is often unconscious, thus difficult to influence without therapeutic conversations. No study has yet tested whether it is feasible to increase awareness of music use in young people who tend to ruminate with music, and test whether increased awareness can reduce distress.

Design: This feasibility study aimed to determine whether involvement in a brief music-based intervention was engaging and acceptable to a small sample of young

people, and whether their levels of distress decreased and insight into music uses increased. A mixed methods approach was adopted, merging scores of distress and self-reported experience of the intervention to foster interpretation.

Results: Convergent analysis of the different data forms suggests that at least some of the measurable decreases in distress captured for all of the participants were related to participation in the sessions, according to the self-report of a number of the young people in interviews. This is demonstrated through descriptive data compiled under two key themes (Agency and Changed Uses), and illustrated through three case examples that were drawn largely from the words of the young people.

Conclusion: This feasibility study suggests that young people's relationship with music provides a powerful platform for leveraging engagement in services and improvements in distress, when well timed and carefully scaffolded.

Intentional music use to reduce psychological distress in adolescents accessing primary mental health care

Mental health disorders form the greatest burden of disease for young people around the world with half of all lifetime disorder beginning by age 14 and 75% by age 24 (Patel, Flisher, Hetrick, & McGorry, 2007). While evidence exists for some effective therapies (Purcell et al., 2013), innovative treatments that engage reticent teenagers effectively are lacking. Young people are the least likely to seek professional help across the lifespan and are difficult to both initially engage and retain in mental health interventions (Rickwood, Deane, & Wilson, 2007).

Music is commonly used by young people in association with emotional experiences (Bosacki & O'Neill, 2015) and experimental research has shown that this is reflected in biological markers since music listening relates to decreased cortisol levels (Khalfa, Bella, Roy, Peretz, & Lupien, 2003) as well as to increased serotonin levels and activation of brain areas involved in reward (Blood & Zatorre, 2001). However, results are not consistent for all young people, and the effect of music is not predictable (McFerran, 2016). It appears that vulnerable youth have more intense relationships with music (North & Hargreaves, 2006), with higher consumption and less successful mood management outcomes (Kistler, Rodgers, Power, Austin, & Hill, 2010; Miranda, Gaudrea, & Morizot, 2010; Thomson, Reece, & Benedetto, 2014).

Many distressed young people are largely unconscious of the choices they make about using music as a health-related resource (McFerran & Saarikallio, 2013). Unfortunately, this lack of awareness about the dual-edged power of music can be damaging if music is used to intensify the pathological symptoms experienced by

young people with mental health problems (Cheong-Clinch & McFerran, 2016). Therefore, music therapists often work with depressed adolescents to help them actively utilise the helpful potentials of music (Hense & McFerran, 2017). There is a growing evidence-base to support the effectiveness of these interventions for reducing symptoms of depression, although this is based on adult populations (Maratos, Gold, Wang, & Crawford, 2008). It is not yet clear what kinds of music therapy interventions are most suitable with teenagers, but it is likely that it should incorporate their existing relationship with music since it is so powerful during the adolescent years. No study has yet tested whether it would be feasible to increase awareness of music use for young people who tend to ruminate with music, and test whether this can impact distress in a positive way.

This study builds on a series of research that highlights how flourishing young people typically use music to promote positive states of being, but those with mental health problems are more likely to use music in ways that intensifies anger or sadness (Garrido, Eerola, and McFerran, 2017; McFerran, Garrido, O'Grady, Grocke, & Sawyer, 2014). A critical review of the literature showed that researchers of this topic tend to be either blindly positive or determinedly negative in their investigation into how music works with young people, leading to confirmation bias (McFerran, Garrido, & Saarikallio, 2013). As a result, understandings about the complex relationship between young people and music are still emerging and require careful conceptualisation. For example, our studies have shown that young people at risk of depression are both more likely to rely on music to make them feel better, but also more inclined to use music unconsciously to support rumination or intensify unhappy states (McFerran & Saarikallio, 2013). We have designed a 13-item survey to delineate between healthy and unhealthy uses of music by young people based on

their own self-report (Saarikallio, McFerran, & Gold, 2015). The acronym '**H**ealthy-unhealthy **U**ses of **M**usic **S**cale' (HUMS) is based on a new theoretical understanding of how music works drawn from a critical integration of sociological (DeNora, 2013), musicological (Small, 1998), and psychological perspectives (Papinczak, Dingle, Stoyanov, Hides, & Zelenko, 2015). The phrase 'HUMS' rejects the binary notion of music being either healthy *or* unhealthy and purposefully emphasises the notion of 'uses' of music. It also intentionally counters the popular belief that young people are passive recipients of the influences of music and emphasises their personal agency, which is in keeping with strengths-based and recovery-oriented principles of therapy. The strength of HUMS lies in solid qualitative theory development underpinning the item construction – the items are strongly rooted both in previous literature and in grounded theory analysis of music uses from mentally healthy and unhealthy individuals. The weakness is that it relies on young people's ability to independently rate their own, unconscious, behaviours.

During development and validation of the HUMS (McFerran & Saarikallio, 2013), the researchers noted how reluctant young people were to acknowledge their 'failed attempts' at using music or situations when music did not lead to a desired, helpful outcome. Young people seemed only able to reflect on these experiences with careful therapeutic probing from the researchers who were also trained therapists. This observation led to informal trials of the HUMS as a music therapy clinical intervention tool that promoted guided discussions about music use. Therapists reported that it was possible for young people to show greater awareness of their music use when these discussions were carefully timed and integrated into the context of the therapeutic relationship. Thus, whilst we felt the HUMS may have limited merit

as an independently scored screening tool, it did have potential to be developed into a manualised intervention strategy.

The field of youth mental health needs more interventions that engage young people through their existing interests and provides them with positive ways of developing understanding about their own mental health (Rickwood, Telford, Parker, Tanti, & McGorry, 2014). If their uses of music can help young people identify behaviours associated with ruminating and isolating behaviours, it has potential to be beneficial in an early intervention program. This project aimed to test the feasibility of the HUMS for this purpose, provided within a brief adjunctive individual treatment that promoted healthy music use for young people seeking help from a primary-care mental health service. Specifically, the project aimed to provide feasibility data to test the hypothesis in a future study that engagement in a HUMS-based intervention will change patterns of music listening to be less ruminative and more mood repairing, and that this will reduce psychological distress.

Our aims for the study were to determine whether:

a) the brief HUMS treatment would be correlated with improvement in psychological distress levels at baseline and post intervention
b) the young people describe increased insight into their uses of music, as seen in interview data.

Method

A mixed methods approach was adopted to answer these questions, with the intention of undertaking convergent analysis. Ethics approval for the study was provided by the University of Melbourne (REF#1545145), as well as the Orygen Youth Health Ethics Board (REF# F16-216)

Participants

Recruitment

Recruitment occurred as part of young people's routine intake at three headspace centres in Melbourne, Australia. headspace is Australia's national youth mental health initiative that has set up youth-friendly primary care service hubs providing mental health care across Australia (McGorry, Goldstone, Parker, Rickwood, & Hickie, 2014). On intake, young people are routinely provided with a series of self-report questions to answer. These include a measure of psychological distress using the Kessler 10 (Furukawa, Kessler, & Slade, 2003). An additional question asking 'Are you interested in music', was added to identify young people who may be interested in participating in the study. Young people with an interest in music and a moderate or high level of psychological distress were then invited to participate. Young people experiencing psychotic symptoms were not eligible, since a previous study had shown that young people in a florid state are unable to focus on the cognitive demands of this particular intervention, and traditional music therapy would be more suitable (Hense, Silverman, & McFerran, 2018). Young people who were not interested in music were also not eligible for the intervention.

The music therapist researchers approached the young people who were eligible and provided further information about the study through a Plain Language Statement and by answering any questions. Those young people who then agreed to participate were asked to seek parental consent and to make a time for their appointment. They were advised that it would likely consist of two to four sessions, and that all sessions were required to be complete by the time they moved off the waitlist and began to receive psychological support services.

Twenty young people aged between 13 and 23 (average age, 17.3) participated in the intervention across three sites, with sessions conducted by two registered music therapists (Authors 2 and 3). Thirteen young people contributed all the quantitative data, including the K10 at pre and post, and the HUMS at pre-, but three of this group did not complete the interview. A further two completed the brief interview although they did not submit a completed K10 at post.

Procedures

Intervention Session

The young people typically participated in two HUMS-based, individual music therapy sessions with a trained and registered music therapist. The intervention was a guided discussion in which the music therapist and young person discussed each question on the 13 item HUMS scale. Each young person was encouraged to elaborate on their response to individual questions and select the most appropriate tick-box answer on the scale. A dialogical nature of intervention was promoted by opening statements from the music therapist such as "Can you talk me through each of your answers?" In order to promote insight and understanding of the relationship between the young person's music-use strategies and health outcomes, it was vital that the music therapist prompted further discussion and reflection about each answer from the young person. This was facilitated through prompts such as "Can you give me an example of when you use music like that?" and "Does it usually happen like that, or just sometimes?" and "Can you tell me how it's sometimes different or why?" To ascertain the level of insight and intentionality the young person typically utilised in different music situations, the music therapist also used prompts such as "What happens then – is that what you were expecting?"

The capacity to pick up any tensions or incongruences in the young person's responses relied on the professional's therapeutic skills, as well as familiarity with the ways in which young people often over-simplify their answers unless probed to expand. For example, if the young person appeared to stall before answering a question the music therapist might gently investigate by asking "Is this a difficult one to answer? If so, why is that?" Further prompts were used to ascertain if the young person was struggling to comprehend the question, or if there were different possibilities for their answers, such as "Does that question make sense to you?" or "Does it depend? What does it depend on? Could you begin with one example?"

As the scale was completed and the discussion moved to later questions, the music therapist looked across the answers to note any contradictory patterns. For example, an answer that music "always" makes me feel better, along with an answer that they "sometimes" keep listening to the same song over and over even though it makes me feel worse, was followed up with a question about "How can music always be helpful if it sometimes makes you feel worse?" This was used to facilitate insight about the nuances of the contexts for music listening and their relationship to the differing outcomes. Other patterns were also noted and raised for discussion, such as the differences in outcomes between music used alone compared to sharing with friends. The purpose of further discussion was to raise the young person's awareness of the relationship between their music use and their mental health.

At the conclusion of the HUMS-based discussion, the music therapist raised what they perceived to be some of the central ways in which the young person was using music and how these might relate to their mental health – either healthy or unhealthy, helpful or unhelpful. When appropriate, this involved facilitating the young person to self-identify and summarise these points. Each young person was

supported to consider any ways in which their music could be used to support their mental health, either by drawing on and strengthening existing healthy uses, or by implementing change to incorporate more health-promoting strategies.

The next stage in the intervention involved playlist creation and trialling of more helpful music strategies. The young person was encouraged to identify some circumstances under which a prepared listening playlist might be helpful to them. The playlist was sometimes created collaboratively with the young person, by discussing and listening to songs of their own preference and considering how these might be carefully selected and ordered to help shift their mood or alleviate distress. If time was short, or the young person's interest had waned, the music therapist provided advice about playlist creation and left the process to the young person.

Data Collection

The primary outcome data was collected either at intake or prior to commencing the first HUMS-based session. The Kessler Psychological Distress scale (K10) is a brief, self-report completed by the young person and its validity has been established as both a screening and diagnostic tool for anxiety and depression (Andrews & Slade, 2001; Fassert, 2009). It has been used in both Canadian and Australian national surveys of health and wellbeing (Cairney, 2007; Furukawa et al., 2003), as well as being used as an outcome measure in several clinical trials (Titov, Andrews, & Perini, 2009; Williams & Andrews, 2013). The K10 has also been used previously in music therapy research (Gold, Saarikallio, Crooke, & McFerran, 2017; McFerran et al., 2014; Nicholson, Berthelsen, Abad, Williams, & Bradley, 2008).

Data was collected again at the conclusion of the last HUMS-based intervention session, or clinicians asked young people to complete the HUMS before

commencing post-waitlist interventions. This sometimes occurred when the commencement of psychological services had not been predicted and therefore the music therapist was not aware that it would be the last session with the young person.

Qualitative interview questions. Questions for the qualitative analysis were audio recorded and transcribed for analysis. These interviews either took place at the conclusion of the final session, when this was recognised, or via phone interview. The interview protocol focused on young people's perception of their music use in relation to their mental health, as well as how they experienced the intervention. Interviews were intentionally brief (ranging from 4:24 – 15:27, with an average length of 8:18), since the focus was entirely on the brief intervention and any associated changes in music use. Typical questions asked during the interview included:

- What was your reason for attending headspace?
- How would you describe what is most important about your use music at the moment?
- Do you think this is any different to before you commenced the HUMS sessions?
- Follow up - Can you describe any changes for me?
- What role, if any, do you think these sessions have had in shaping how you use music?
- Have you noticed any changes in your mental health since we commenced these sessions?
- Follow up - Can you describe these changes for me?
- How do you feel your music use relates to your mental health?
- How did you find the sessions?

Data Analysis

Pre and post-test scores for the K10 were categorised as being Very High (30-50), High (22-29), Moderate (16-21) or Low (10-15) using the ABS scoring system (ABS, 2003). Because the sample size for this feasibility study was small and no comparison condition was included, simple descriptive statistical analysis was used to calculate average and individual change from pre to post.

Inductive qualitative analysis of the interviews was used to examine the ways in which young people described their involvement in the HUMS intervention. Categories emerged from the data, but were somewhat shaped by the questions that had been asked about whether the intervention was engaging and acceptable to the young people, as well as whether the young people described increased insight into their uses of music.

Convergent analysis of the qualitative and quantitative data from each individual was used to explore individual changes and inform the development of individual case stories.

Results

Psychological Distress

Of the 13 young people who completed the K10 at pre and post, the change in distress rating on average was a reduction in distress of 9 points. All participants rated themselves as experiencing a decrease from pre to post intervention with a range of 2-23 points. One of the 13 participants moved down 2 categories (from very high risk to moderate risk), and 6 moved down by one category. It is noteworthy that six of the participants scored in the very high-risk category (30-50) at pre-test, six in the high-risk category (22-29), and only one scored in the moderate category (16-21). This pre-

test score is typical of young people presenting to headspace for service (Rickwood et al., 2014). However, the average change overall for headspace clients has been reported to be 3 points (Rickwood et al., 2015a), making this amount of change noteworthy. Table 1 presents the total scores for each of the 13 participants at pre and post, as well as their collaboratively generated HUMS score, and the number of sessions they participated in.

Table 1: *Change in distress levels as measured by K10, HUMS, session total*

Age	**Participant provided description of reason for attending headspace**	**Pre K10**	**Change**	**Post K10**	**HUMS**	**# of Sessions**
19	Depression	50	*23*	27	22	2
17	Anxiety related issues	37	*17*	20	21	2
13	Support for depression, anxiety and paranoia	38	*15*	23	33	2
13	About my stress	21	*11*	10	19	2
15	Music	35	*9*	26	17	2
14	To understand what's going on with me	19	*8*	11	27	2
17	Anxiety and mild depression	27	*8*	19	26	2
19	To improve mental health in regards to depression	27	*7*	20	28	3
19	Psychology and healthy-unhealthy uses of music	27	*5*	22	20	2

15	Counselling and music therapy	34	*4*	30	23	4
21	Stress management	24	*2*	22	25	4
17	Depression, queer depression.	43	*2*	41	26	3
15	Sadness	21	*2*	19	19	2

Healthy-unhealthy Uses of Music Scale (HUMS)

The total score of the HUMS indicates the degree of unhealthy music use that young people report during the intervention. Higher scores suggest a greater magnitude of unhealthy music use, with the highest possible score being 65. Of those who completed the HUMS and the K10 at pre- and post, the HUMS scores were not noteworthy, with the highest score being 33 and an average of 24. As evidenced in Table 1, no relationship was apparent between the HUMS and the K10 scores at pre-, or the change score. This is despite correlations being found between the K10 and the HUMS in a sample of 210 adolescents in schools (Saarikallio et al., 2015).

Key Themes from Interviews

Three key themes emerged from inductive analysis of the brief interviews. The largest theme that emerged from the data was related to a sense of agency that was apparent in the descriptions offered by 10 of the young people. Instead of seeing music as something that affected them, they described how, as a result of the intervention, they could actively use music to promote their own personal development. This distinction between being passive recipients of the effect of music and active agents who

appropriate the affordances of music is critical to the purpose of the HUMS intervention.

Table 2. *Key Theme 1: A sense of personal agency*

Music doesn't have an effect on what has happened in my life but I can use it to influence how I'm feeling
When I was sad, I didn't think about music impacting my mood, I just thought of it as my friend, and I'd put depressing songs on because I felt sad. So it comforted that sadness, and I would go for long walks, but it wouldn't be effective. I feel like if I hadn't had that session I would have done the same thing today, and I would have been still feeling sad now. Instead, it definitely made me be more mindful about songs generally.
It comes down to the fact that I'm going to be more aware and thinking about it more. I'm going to be a bit more calculated and just the intention behind it.
I've realised how I use music, and also different ways that I could use music that I didn't know before. It made me think about the ways that I use music and how it could help pick me up. It's things I've never thought about when I'm listening to music, and now it's like, I listen to music when I'm feeling this. It's connecting in my head now, understanding why I'm doing it.
It was helpful in giving me more tips about how to listen to music when I'm in my moods and make more sense of it.
When I'm feeling a bit down it's preventing me from getting worse or just sitting there and doing nothing about it. I reckon I can take it away and apply these ideas now, so don't need any more sessions.
Definitely something I've now been taught to use as a tool to help me when I'm anxious or angry, or something I can use for my nightmares and things like that.

Once you talk about it, you realise what you already know, but you had just kind of put it aside. And if I hadn't had that session, I wouldn't have thought about it and I would have just kept doing what I was doing. But I realised what the problem was and how I could fix it.
Really helped teaching me how to use music in certain circumstances. I wasn't using playlists before and now with the playlists, you just click on it. Everything is there.
The sessions helped me to devise strategies that are useful and effective in maintaining mood.

The second theme that emerged from the interviews related to changes in uses of music as a result of engagement in the sessions. Eight of the young people described a greater awareness of the relationship between music and their mental health, and many specifically noted a more intentional use of music. This rise in conscious uses of music, combined with the increased agency noted above, appeared connected to their plans for using music in the future.

Table 3. *Key Theme 2: Changes in uses of music after sessions*

I had been using it rather un-guidedly, and now I'll have a more focused and personalised way of using it that will be a coping strategy. Before I was using it in a very dulled down version of what I'm going to be using it for now. It was passively helping. Now it's directed.
I used to listen to songs that I never used to like, and now I go through the song to realise whether I should listen to it or not. Yeah, more carefully.
Before I was just putting on whatever, willy nilly, I didn't think about how it would impact my mood. But now I've tuned in to the songs and how they make me feel.

I think it can be really easy to slip into habits. Where I'm just bombarding myself with a couple of songs, it's a bit torturous. This has bought these habits to my attention; it wasn't something I was aware of. It's made me be a bit more conscious, for sure.
This has given me ideas on how to help myself. Picking the right music and putting it into a playlist that will help me when I'm down depressed or anxious.
Before coming to these, I just listened to music for, like, cheer leading or production or in spare time. I never thought of it as a healing method, but now it's helped me not feel as anxious.
Music doesn't bring me down so much now, because I've changed up the memories, and I've got too many good memories to songs now; I don't even think about the old ones any more.
Music's not really a mood amplifier anymore. I'm not going from angry to even more angry. I'm not going from sad to even sadder.

Some of the young people contributed rich descriptions of the ways that they were using music post-intervention, often emphasising more careful choices of music and/or the value of consciously creating playlists to help with managing their own moods. The following paragraphs summarise the descriptions of three of the young people whose stories were particularly illustrative.

One 17 year old had a score of 21 on the HUMS, with two uses of music being highlighted as potentially unhealthy, including 'Always' using music as "an excuse not to face up to the real world", and sometimes "listening to songs over and over even though it makes me feel worse". They had attended headspace because of anxiety related issues, and had a high level of distress (37) at pre-test, which then reduced by

17 points at post-test. They described listening to music "all the time, and definitely in certain situations, after I've had a fight with someone or had a bad day; I'm more likely to listen to certain things." "Even if I was sad, I would put on a sad song. I wouldn't do the thing of working my way up to more happy songs. I'd just put on whatever I could find because I wanted to block out what was around me and stuff." "But after our sessions I've tuned in to the songs and how they make me feel. I always used to make playlists, but probably not as much for those purposes, like making a Reflective Playlist or a Boss Playlist. 'The Boss' playlist, makes me feel better, like I can do it too." "Like, I had a bit of a situation where my sister and mum weren't getting on yesterday, so I went for a big walk to clear my head. I thought 'there's no sad songs today coz it's just going to make me feel worse'. So, I went straight to the Reflective Playlist and I thought I would just put something inoffensive on, that would make me feel ok. So, they were just chilled, acoustic guitar songs. And I was just walking for a few blocks, and it made me feel more relaxed." "So, I feel like music has had a positive effect on my mental health I wouldn't have thought of that. Without having those songs to boost my confidence, I would feel more nervous."

This participant was able to articulate specific examples of when intentional uses of music have been helpful. As someone who was already relying on music to make them feel better, this young person was able to apply the ideas discussed in sessions immediately, and experience direct benefits. This resulted both from being able to use music to relax rather than intensify moods, and also from developing the confidence in their own capacity to take steps that lead to change. Although listening to music that matches one's mood can be helpful for some people at some times (Saarikallio, 2007), this story illustrates how it can also be unhelpful at other times. This is more

likely to occur when people have mental health challenges (Miranda, Gaudreau, Debrosse, Morizot, & Kirmayer, 2012), possibly because they lack the insight to change their music uses when the strategy is not working. For some people, at some times, music can be used to support rumination (Garrido & Schubert, 2015) rather than for processing, release and recovery, as music can function at other times.

One 15 year old described a number of unhealthy uses of music in the HUMS, including 'Always' "trying to use music to feel better but actually ending up feeling worse", 'Always' finding it "hard to stop listening to music that connects me to bad memories" and 'Always' using music to "lead me to do things I shouldn't do." They also described 'Always' feeling happier after playing or listening to music. After participating in the HUMS sessions, they explained how "It's not really a mood amplifier anymore. I'm not going from angry to even more angry. I'm not going from sad to even sadder." "I was using music to just block everything out. But then it ended up amplifying things like anger and sadness. I was listening to a lot of metal and everything in the songs related to what I was going through and I would always translate it into what I felt." "I used to listen to metal because it related to my mood. Taylor Swift wouldn't have made any sense to me. If you are angry and listening to pop music, it would be weird. But it wasn't helpful. I would just think about things and replay it over and over again and how much it hurt. It sort of did make everything worse." "So, I started to use the 'Anger Playlist' and it just diffused it, step by step. I mean, at the start it didn't really help, but after a few times over, I gave it a try and it really started to help." "I'm listening to retro music now, and it sort of makes me happier. I rock out to it with my mum." "Now I'm really listening just for pleasure and keeping me out of trouble. If I'm listening to music, then I'm kept busy."

Although there has been a number of studies that correlate a preference for metal music with poor mental health (Lester & Whipple, 1996; Selfhout, Delsing, Bogt, & Meeus, 2008), it is important to recognise that no particular genre of music has been shown to 'cause' distress (Krajewska, Florkowski, & Gmitrowicz, 2017; North & Hargreaves, 2006). As this young person corroborates, people whose lives are intense often relate more readily to music that reflects this complexity, rather than to music that might portray a different, simpler life experience. Nonetheless, the risk and benefit of using any type of music for mood matching is that it can amplify current state, both in helpful and unhelpful directions. This young person describes how developing playlists that moved step-by-step away from an initial mood state could both initially match and then gradually change her mood state. This notion was introduced to her in sessions and is based on a music therapy principle used for mood management called the ISO principle (Heiderscheit & Madson, 2015). Rather than repeated listening to a single track, this emphasises conscious attention to a sequence of songs that can be pre-organised and utilised on demand, particularly beneficial with practice.

Although this 21 year old did complete the K10 at pre-, no data was registered due to a technical hitch. Although they described 'Sometimes' using music as "an excuse not to face up to the real world, there was little of concern in the initial HUMS ratings. However, it became clear that their uses of music had been unhelpful once they participated in the HUMS-based session. "That session helped me realise that it was my memories that were associated with the music. That helped me a lot in changing my outlook on music. I realised that the music was connected to memories and I was

trying to work out a way after the session that I could change that and keep listening to my music." "If I hadn't had that session, I wouldn't have thought about it and I would have just kept doing what I was doing. But I realised what the problem was and how I could fix it." "I've seen a way to stop that from happening. I've been making new memories for songs, so that they over-ride the old memories. I ended up making a playlist of all those sort of songs, and every time I knew something was going to go right, I would put the playlist on, and play it before I went and on the way home, and now I've got multiple good memories to those songs."" It doesn't bring me down so much now, because I've changed up the memories, and I've got too many good memories to songs now that I don't even think about the old ones anymore." "It was basically after our chat that I started doing that. That was at the transition point to getting better. Reaching out for help." "A big part of it was the music, but also the confidence I now have in myself, after having reached out and having made a bunch of changes." "Music is a big part of my life. And getting to listen to songs that I hadn't been able to before, that's a big happy for me. It's definitely worked. It took me a few times, but I kept doing it."

For this young man, the realisation that his preferred songs had developed powerful associations with negative experiences led to a range of actions that resulted in a profound shift of state. His engagement in music was the foundation for change when combined with carefully tailored input from the music therapist at the moment where he had reached out to get "help with my mental health." Help-seeking behaviour of young men has been identified as a priority for youth mental health (Rice, Parker, Telford, & Rickwood, 2017), and the need for services that effectively utilise this window of opportunity has been emphasised (Rickwood, 2014). As illustrated by this

case, many young people with mental health problems do not have insight into the ways they are using music to reinforce unhappy associations, and require professional support to facilitate that understanding (McFerran, 2016). For some, access to information and the opportunity to articulate their personal distress to others can facilitate personal growth swiftly (Cheong-Clinch & McFerran, 2016). For others, a longer series of support is necessary as the changes in their mental health are closely intertwined with changes in their musical identity (Hense, McFerran, & McGorry, 2014). Since the average number of sessions for young people attending headspace is typically about 4 or 5, and many attend only once (Rickwood et al., 2015b), it is critical to consider what information might be the most engaging and promote agency most efficiently.

Four of the young people in this study described using playlist creation following on from the HUMS-based sessions with the music therapist, and a further six described making more careful music choices. The interviews also gave young people the opportunity to give feedback about the sessions and make recommendations about the service. These insightful comments are compiled below and emphasise the value of talking about their music uses in relation to mental health, as well as expanding on the sessions to include greater awareness of gaming and movie watching.

Table 4. *Theme 3: Recommendations from young people*

I reckon people who really love music would find this useful. Not so much the really logical people, they might not take the same approach that I did. I think that certain people would get more from it than others.
It was cool to be able to talk about music in that sort of detail. I like to talk about music

Talking does a lot for me coz music is my top favourite thing to do, even to play music. I love it. So, it's good to talk about it.
You can really help people to get out of that rut. Kids my age, they really need it. Maybe not just for music, but also for games, people who really need a way to escape from bad memories and change it into a positive or something.
Really good to talk things out, coz I've always had ideas but it was good to talk out the best way of handling everything.

Discussion

This feasibility study aimed to determine whether involvement in a brief HUMS-based music therapy intervention was engaging and acceptable to a small sample of young people, and whether their levels of distress decreased and insight into music uses increased. Convergent analysis of the different data forms suggests that at least some of the measurable decreases in distress of all participants were related to participation in the HUMS-based sessions, according to the self-report of a number of the young people in interviews. This was demonstrated through descriptive data compiled under two key themes (Agency and Changed Uses), and illustrated through three case examples that were drawn largely from the words of the young people.

These findings corroborate previous investigations that suggest some young people unconsciously use music to intensify unhelpful states. The findings also suggest that engaging young people in contemplating their uses of music can lead to changes in their approach to music use. It is important to note that young people were not provided with a fact sheet that led to this change, rather, they participated in at least two sessions with a registered music therapist who gently supported them to bring their habitual uses of music into consciousness. The music therapist then

provided guidance about intentional playlist construction, and in some cases, set homework to test and rehearse the use of the playlist they had created. It is possible that these therapeutic conversations could be facilitated by intake workers, youth workers and psychologists, however, it is noteworthy that the primary focus of all sessions was on music and that considerable time and gentle probing was foundational to the success of the intervention.

'A Sense of Personal Agency' (Theme 1) was actively fostered by the music therapists in this study and was central to many descriptions provided by the young people. This contrasts with the assumption that music has a predictable effect on mental health; a position which places the power of music within the sounds themselves, rather than in the hands and choices of the young people. Many music psychology studies have investigated the relationship between people, music and wellbeing from the perspective of the 'effect of music' (Bodner & Bensimon, 2015; Sharman & Dingle). This rapidly leads to conclusions that distinguish music by genres that have distinct musical 'variables' such as tempo, harmony, texture and dynamics and which are assumed to influence the type of effect (McFerran et al., 2013). Some music apps have been designed based on these assumptions, including eScape, a mobile technology that allows young people to monitor their music use (Stoyanov et al., 2014). Whilst this does provide valuable feedback to young people about their music use, interpretations about mood are based on the musical variables of the piece and need to be manually altered to account for young people's associations with particular songs. New technologies may allow for more nuanced apps that build on this foundation but are not based on the assumption of musical effect. Alternately, an online and interactive version of the HUMS that integrates

suggestions and examples from real-life scenarios could be developed to prompt similar increases in consciousness, but may require real-time therapist involvement.

A sense of hopefulness was also evidenced across the themes as well the case illustrations generated from the data. Hopefulness has been identified as a key factor for young people accessing mental health services; higher hope is associated with lower psychological distress and may be an early sign and facilitator of therapeutic change (Dowling & Rickwood, 2016). Interventions that encourage the development of hope and optimism, along with maximising a sense of personal agency, and doing this quickly, are key priorities for youth mental health services. The impact that learning more conscious music choice had on both hope and agency evident in the current interviews provides support for this being effective as an engagement tool. Many young people struggle to be motivated and engaged in therapy, and a strong positive first experience of seeking help has been shown to be important (Watsford & Rickwood, 2013).

Some of the young people in this study felt that other media may also afford similar benefits to others in their situation - if they became more aware of how to use it, rather than to passively receive it. Jane Brown and Piotr Bobkowski (2011) have reviewed research on the broader use and effects of older and newer media on adolescents' well-being. Whilst acknowledging that many positive opportunities are afforded, the general pattern they report across media is similar to the music-specific studies underpinning this project: that some young people seem particularly vulnerable to health-related risks that have been identified. This dual recognition of positive potentials and increased risk is essential if we are to appropriate media effectively for the benefit of youth at-risk. The relationship between media and well-being is not simple, but when utilised with awareness and intention, may be an

important key to solving the personal and public health dilemma being faced by vast numbers of young people with depression and anxiety in western cultures.

Conclusion

The provision of engaging youth mental health services continues to challenge service providers in Australia. This feasibility study suggests that young people's relationship with music provides a powerful platform for leveraging engagement in services and improvements in distress, when well timed and carefully scaffolded. More rigorously designed studies are needed to examine whether music was critical in contributing to the improved distress levels of the young people in this study, or whether any preferred-media may be equally effective. In addition, it will be important to determine if this approach can be utilised by a range of health professionals, or whether the specialist knowledge of trained and qualified music therapists is necessary to achieve positive change from this brief intervention.

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