



## 'Go with the "wave of music" to dive deep': Exploring perceptions of psychedelic-assisted therapy and the role of music within this practice

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### ABSTRACT

There is increasing interest in psychedelic-assisted therapy (PT) as a mental health intervention; however, there is a long history of stigma associated with psychedelics, which may be a barrier to implementation. For this reason, it is important to examine the acceptability and perceptions of PT among mental health professionals, service users and the wider public. In almost all PT research carried out to date, music listening is used as an essential adjunct to support the therapeutic aims, such as having a 'peak experience' and emotional release, however existing research has not addressed the perceptions of the role of music in PT. This qualitative study used a novel hybrid vignette-story completion method to explore understandings of PT and the role of music in the practice. Reflexive thematic analysis was used to develop three themes: (1) 'Psychedelic therapy can reach the parts that other therapies cannot reach'; (2) 'Music as a guide'; and (3) 'It's no magic bullet': the potential risks of PT. The analysis highlights the important role that music is perceived to play in the practice of PT, positive perceptions of PT as a mental health intervention, alongside concerns about potential risks.

### Introduction

Psychedelic-assisted therapy (PT) is reported to be an effective treatment for several mental health problems including depression (Carhart-Harris et al., 2018a; Ross, et al., 2016), post-traumatic stress disorder (PTSD) (Hoskins et al., 2015) and addiction (Bogenschutz et al., 2015; O'Callaghan, et al., 2020). PT combines psychotherapy with sessions in which a psychedelic, such as psilocybin, is administered to the client. Psychedelics work by stimulating the serotonin 2 A receptor in the brain (Carhart-Harris et al., 2014) and this stimulation causes a range of psychological effects including visual and auditory hallucinations, significant impacts on emotions and potentially profound changes in consciousness (Barrett et al., 2018; Kaelen et al., 2015). Research shows that psychedelic substances can be used as a catalyst to aid the therapy process and that PT is different from any other form of therapy as it relies on the synthesis between the substance and the psychotherapy (Pearson et al., 2022; Schenberg, 2018). PT research trials usually consist of several preparatory therapy sessions, then one or two sessions in which a psychedelic such as psilocybin is administered supported by two therapists, and then finally integration sessions (O'Callaghan et al.,

2020).

In most PT research trials, listening to music during the session has been deemed an essential part of the therapeutic process and has been linked to improved and longer lasting positive impacts for participants (Barrett et al., 2018; Kaelen, 2017). Many researchers rely on the protocols developed by music therapist Helen Bonny and psychiatrist Stanislav Grof in the 1970s to design the music programming for the psychedelic journey (Kaelen, 2017). Bonny laid out several ways in which music was able to support the therapeutic aims of PT, they included:

1. Helping the patient relinquish usual controls and enter more fully into their inner worlds of experience;
2. Facilitating the release of intense emotionality;
3. Contributing towards a peak experience;
4. Providing continuity in an experience of timelessness;
5. Directing and structuring the experience.

(Bonny & Pahnke, 1972)

The music was often considered as a 'co-therapist' by Bonny (Bonny

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& Summer, 2002) because of its perceived importance in the process. Research to date on the music used in PT suggests that psychedelics have a significant effect on the auditory system (Timmermann et al., 2018) and those areas of the brain that process music partially overlap with those affected by psychedelics (Barrett et al., 2018). The interaction between the psychedelic and the music can enhance both the positive effects of the psychedelic experience and sensitivity to the music (Barrett et al., 2018). This is particularly true of music-evoked emotion, as psychedelics reduce the usual regulatory processes within the brain so that the intensity of the emotional response to music may be increased. Music has the ability to express several emotions simultaneously and hold complexity and contradictions, hence more than one feeling or sensation may be heard or felt at once (Davies, 2010). It has been demonstrated that the music experience can support autobiographical meaning making and may also induce mystical experiences and insightfulness (Barrett et al., 2018; Johnson et al., 2019). A mystical experience describes several states such as interpretations of sacredness or a noetic quality as well as feelings of unity or transcending time and space (Griffiths et al., 2011). The extreme alterations in the subjective experience during a mystical experience can allow individuals to frame their lived experience in new ways and potentially facilitates significant change (Johnson et al., 2019). This has been shown to be particularly successful for those for whom other treatments have proven ineffective (Carhart-Harris et al., 2018a; Hoskins et al., 2015; Pearson et al., 2022) and music is a significant aid to this process (Barrett et al., 2017; Bonny & Pahnke, 1972; Kaelen, 2017). Research is yet to explore the use of musical instruments during sessions or the potential of music therapy as a part of the integration process post-treatment. However, songs and live music have been used for thousands of years by communities around the world in medicinal ceremonies using psychoactive plants such as peyote, ayahuasca and ibogaine (Dobkin de Rios, 2006; Pollan, 2018).

### Perceptions of psychedelic therapy

Perceptions of PT are critical for future implementation – understanding mental health professionals, service users and the wider public's perceptions of PT are important given that these perceptions may impact professionals' willingness to refer clients for these interventions and clients' willingness to accept these referrals (Hearn et al., 2022). Psychedelics have a long history of stigma – associated with Government policy around illegal drug use, media perpetuation of myths and public misperceptions – which may negatively impact the implementation of PT (Davis et al., 2022; Hearn et al., 2022). In the last few years there has been a flurry of research examining attitudes toward and perceptions of PT, with most research focused on the perceptions of health and mental health professionals - including psychiatrists (Barnett et al., 2018; Berger & Fitzgerald, 2023; Page et al., 2021), psychologists (Davis et al., 2022), and counsellors and psychotherapists (Hearn et al., 2022; Meir et al., 2023). Some attention has also been paid to the perceptions of mental health service users and the wider public (Corrigan et al., 2022).

Several studies have indicated that across different mental health professions, there are mixed attitudes, with concerns about potential risks, but an openness to the potential benefits of PT and support for further research (Barnett et al., 2018; Davis et al., 2022; Hearn et al., 2022). Research on mental health service users' attitudes to psychedelics and psychedelic therapy has identified similarly mixed attitudes, with 55 % of participants in one study indicating willingness to accept the treatment if recommended by a doctor, and concerns expressed about adverse effects, a lack of research and illegality. As with research on mental health professionals, most service users supported the need for further research (Corrigan et al., 2022). Research on the perceptions of the wider public has identified similarly mixed attitudes and endorsement of the need for further research (e.g., Ross & Neil, 2023; Wildberger et al., 2017).

Several qualitative studies have explored health and mental health professionals' perceptions of PT and psilocybin as a treatment for

existential distress in seriously or terminally ill patients (e.g., Mayer et al., 2022; Niles et al., 2021; Reynolds et al., 2021). Reynolds et al. (2021) interviewed cancer healthcare professionals about their views on PT as a treatment for depression, anxiety and existential despair in cancer patients. PT was perceived as a potentially transformative approach and there was openness to using PT, alongside concerns about the safety of psychedelics and risks to mental and physical health, and a felt need for further research, with those without prior knowledge of PT more hesitant. Mayer et al. (2022) interviewed palliative care providers about their perceptions of psilocybin as a treatment for existential distress. They reported uncertainty about the risks and benefits of psilocybin, and varied perceptions of psilocybin as a treatment for existential distress, with different levels of experience with and knowledge of psilocybin among the participants. Niles et al. (2021) interviewed nurses, doctors, therapists and chaplains involved in palliative care. In common with most existing research, the participants had mixed views on PT. For some, PT was a potentially powerful tool to treat existential distress, allowing patients new perspectives from which to frame their existential struggle. There was also a perception that the current evidence base is insufficient, concerns about the stigmatisation of patients and professionals administering PT, the potential for harm to patients with previous substance use disorders and the risk of psychological harm from negative psychedelic experiences.

### The current study

The current study will extend existing perceptions research by qualitatively exploring understandings and perceptions of the role of music within PT, something yet to be addressed in existing research, and by using a vignette scenario of a PT session in which the client takes a psychedelic for the first time, with the aim of exploring assumptions and expectations about how a session of PT unfolds. This will extend existing examinations of the general acceptability of PT by exploring perceptions of PT and the role of music in PT in the context of a (hypothetical) PT session. The research question is: What assumptions and understandings do participants have about PT and the role of music within the practice?

### Methodology

Data were generated using a novel hybrid vignette-story completion (SC) technique. In the vignette method, participants are presented with a hypothetical scenario and asked questions about it (Grey et al., 2017); vignettes have been used in a quantitative study of attitudes to PT, including one depicting a client with depression who had an experience with psychedelics that they deemed therapeutic (Davis et al., 2022). SC by contrast is a creative method that involves presenting participants with the start of a story (the story 'stem') about a hypothetical scenario and inviting them to complete or continue the story (Clarke et al., 2017). SC typically permits participants considerable creative freedom to determine how they respond – how they interpret the scenario, aspects of which may be deliberately vague, the timescale of their story and so on. Both of these methods have the advantage of allowing researchers to explore participants' perceptions of things they may have little or no prior experience or knowledge of – a strong possibility with PT. They are also both argued to access the socially embedded meanings surrounding a topic (Braun & Clarke, 2013), and allow – when third person questioning/completion is used, as it was in this study – indirect exploration of a topic. The latter was important ethically given the sensitive nature of the topic and is also argued to facilitate access to a wider range of meanings around a topic, not just socially desirable ones, because participants don't have to 'own', and aren't directly accountable for, the perspectives shared (Clarke et al., 2017). Combining these methods enabled us to direct participants' focus to particular aspects of the scenario, and ensure they engaged with these, such as the music, while also harnessing the creative freedom of SC. The vignette/story stem included details such as PT being part of a 12-week therapeutic programme for a

research trial to ensure that responses did not focus on malpractice or the illegality of psychedelics.

### Participants and recruitment

The study was shared through the researchers' professional networks and on social media. There were forty responses to the vignette-SC. The first and third author are music therapists which likely accounts for the participation of six music therapists and six musicians; 11 participants indicated a professional interest in PT. The participants were aged 21–52 (mean 37) years, and twenty-three identified as women, thirteen as men and four as non-binary/third gender. Thirty-seven had received personal therapy, including psychotherapy and creative arts therapies such as music therapy; three had received PT or attended psychedelic ceremonies. Twenty-eight reported having no religion, four identified as practicing Buddhism, one Christianity, one Judaism, four another religion/spirituality, and two preferred not to say. Of the 39 participants who provided demographic data about race/ethnicity, 29 identified as white, four as mixed race, two as Asian, two others referenced nationality or skin tone. Thus, the participants were mostly white and non-religious younger adults.

### Development of the vignette-story completion

To develop an authentic hypothetical scenario, we drew on a range of resources - documentaries such as *The Wisdom of Trauma* (Benazzo & Benazzo, 2021) and the BBC's *The Psychedelic Drug Trial* (Eastall, 2021), as well as autobiographical descriptions from the journalist Michael Pollan's book *How to Change Your Mind* (2018). The first author also visited the Awakn clinic in Bristol, the first PT clinic to open in the UK. Awakn's therapy rooms were intentionally neutral in appearance and this encouraged us to change some details of the vignette to fit with current practice. The final vignette/SC stem scenario presented to participants was:

Alex is taking part in a 12-week programme of psychedelic-assisted therapy as part of a research trial. Alex has already had several psychotherapy sessions with two experienced therapists, Rob and Linda, in preparation for today's session. Today Alex will be given a pill with a high dose of psilocybin (a synthesised compound from magic mushrooms) which is legal in this context. The session will last for several hours and Rob and Linda will sit with Alex throughout.

Alex walks into the familiar and cosy therapy room, it has warm, soft lighting and there is a comfortable sofa against one wall with two chairs next to it. The colours in the room are neutral and relaxing. Alex feels safe in this room and is accompanied by the therapists, Alex sits on the sofa and talks through the process with them. Linda says, 'It is important to trust and let go, explore every landscape or room that you enter. Be curious and move towards, rather than trying to flee, anything that feels threatening or scary. Ask questions of it; "Why are you here?" and "What can I learn from you?" may be helpful. We have designed a soundtrack for you to listen to on headphones during the session. We will be here for you throughout.' Alex feels a bit nervous but also intrigued by what is to come. Rob offers Alex the psilocybin pill and a glass of water. Alex takes the pill and swallows it. Alex lies back and gets comfortable on the big sofa and is covered with a blanket, Linda gives Alex some headphones and an eye mask to put on. Music starts to play through the headphones and so it begins.

The main character was given a gender-neutral name, allowing participants to identify Alex's gender however they wanted to. The vignette questions focused the participants' responses on specific aspects of PT. The final question was the SC, which allowed participants to imagine what might happen next to Alex over any length of time they chose. The questions were:

1. Why do you think Alex is here? What do you think might have led to Alex trying this form of therapy?

2. What do you imagine Alex experiences during the session?
3. What music might Alex listen to?
4. How do you imagine Alex's experience of the music is affected by the psilocybin?
5. How do you imagine the music affects Alex's experience?
6. If there were instruments in the room, how do you imagine them being used during the session? (What instruments? Who is playing them? What effect might they have?)
7. Please complete the story, what happens next? You can use any time frame (e.g. what happens to Alex in the next days, weeks or months?).

The study was delivered online via the Qualtrics survey platform, which provided participants with a strong sense of felt anonymity (Terry & Braun, 2017); an important consideration given the sensitivity of the topic. The research was given a favourable opinion by the University of the West of England Psychology Ethics Committee, and was conducted in line with the British Psychological Society's (2021) Code of Human Research Ethics. The study was piloted with a small group of music therapy trainees; no substantive changes were made to the study following the pilot.

### Data analysis

The data were analysed with reflexive thematic analysis (Braun & Clarke, 2022) underpinned by a critical realist ontology, which coheres with the aim to explore participants' assumptions and understandings that arise from shared social meanings (Moller et al., 2021). The vignette and SC responses were treated as one dataset. The first author led the process of analysis, beginning with familiarisation and immersion in the data. She then coded the data - there were two rounds of coding, the first involved coding the response to each data generation question/task, the second coding the responses participant by participant. This is in line with guidance that suggests that one of the key challenges in developing patterns in more structured survey-type data, where participants are asked exactly the same questions in the same order, is 'the process of moving away from the organising structure provided by your questions' (Braun & Clarke, 2013, p. 227). The data associated with each code were then collated, and candidate themes were developed using the codes as the 'building blocks' to ensure the themes fitted well with the coded data (Braun & Clarke, 2013). The theme development process resulted in the creation of three themes, one of which had two subthemes:

1. *Psychedelic therapy can reach the parts that other therapies cannot reach*. This theme captures understandings and assumptions of what PT is, and how and why it works.

2. *Music as guide*. This theme focuses on the role of music within the practice; it contains two subthemes that explore the different ways in which participants thought music would work:

Music: 'Designed to evoke an emotional response';

Music: 'A back drop that isn't going to overwhelm or penetrate the process too much'.

3. *'It's no magic bullet': the potential risks of PT*. The third theme captures the potential risks that PT may pose and the ways in which these risks could be mitigated. The phrase 'it's no magic bullet' was used by several participants; the term 'magic bullet' is common in western cultures, and has several meanings including the meaning invoked here of a quick and effective solution (or treatment, in the case of medicine) to a difficult problem.

Participants are identified by a number (P1-P40).

### Analysis

*Psychedelic therapy can reach the parts that other therapies cannot reach*

One of the prevailing assumptions across the participants' responses was that PT may be able to delve further into the unconscious than

conventional therapies. The character of Alex and their reasons for seeking out PT were mainly conceptualised in two ways by participants - with some responses intertwining these two conceptualisations to give a more nuanced and complex representation of Alex. One understanding of Alex was as someone who is open and willing to try something new, seeking deeper self-knowledge in therapy, and sometimes with an interest in psychedelics or other illegal substances. In these responses Alex was framed as 'curious, possibly intrigued' (P7), with an 'acceptance of substance use as part of Alex's belief' (P4) and a 'desire to go deeper into his subconscious and become more acquainted with himself.' (P1) These descriptions of Alex as having desire and intrigue about PT suggests a position of the intrepid explorer, seeking new depths of the unconscious mind. In the second depiction, Alex was characterised as someone experiencing mental health problems, with a history of trauma, who has tried everything else and is desperate - PT was sometimes framed here as a last resort. Alex was understood, in these responses, as living with experiences 'which could be disabling, extremely troubling, frightening and stopping them living life to potential' (P18) and 'continuing to struggle with anxiety and depression without any breakthroughs in understanding' (P16). Many also mentioned the term 'treatment resistant' (P14). One music therapist participant appeared to draw on their own experience of working with clients in their response:

'When working with clients familiar to mental health services it's not uncommon to find people who have tried a variety of commonplace treatments and to have found them unsatisfactory, people complain of side effects, or lack of response and I can imagine if I were in this position a feeling of desperation and a willingness to try other methods.' (P13)

Some of the explanations for why Alex may choose PT alluded to wider societal causes for many of the difficulties that individuals experience: 'Maybe some trauma or more pronounced reason, I think in a lot of us there is a need for connection and a grounding that I feel all of us yearn for and don't always get in this individualist modern society.' (P5) This participant commented on the isolation and social alienation that many experience within a neoliberalist society, which are argued to lead to mental health problems (Davies, 2021). Here, PT was positioned as a potential treatment pathway for many people within society and even as a force for social good.

There was often an assumption that conventional therapy did not go far enough or was missing something and Alex was often portrayed as stuck. For example:

'He is here as he has struggled with depression, addiction and fears which he has resisted letting go of in talking therapy.' (P22)

'the feeling that something is stuck in his body/mind due to trauma and conventional therapy was unable to get it out' (P6).

'He may want to get beyond the given narrative of other forms of therapy and want to grapple with or get a new perspective on things that he hasn't been able to push through in other modalities of therapy' (P26).

In these descriptions the phrases 'get beyond', 'get it out' and 'push through' suggest that conventional therapy cannot reach far enough, that there is a resistance that cannot always be let go of. In articulating their understandings of PT, participants gave insight into their assumptions about what they thought conventional therapy lacked and also their hopes and desires for what therapy 'should' ideally do. Some of the most prevalent assumptions across the data about what PT does suggest that it could provide a new perspective, get beyond psychological defences and provide insight into the self, facilitate letting go, catalyse therapeutic processes and also rewire neural pathways. For example:

'Alex has likely received some form of insight. These will probably be relating to something Alex already knew, but didn't fully appreciate. Alex may now see traumas or stressors in a new light, no longer weighed down and burdened by them, but instead seeing them as forming episodes - the silver linings become the emphasis.' (P19)

'He would experience things that he may have tried to avoid before

and they present themselves again in this context as exaggerated and magnified and being unavoidable.' (P26)

'I imagine the experience would allow Alex to continue with psychotherapy with Rob and Linda with a much more open and less guarded perspective. Alex may feel closer to the therapists, and more able to articulate their experience whilst on the psychedelic drug.' (P16)

In these responses, PT is perceived as facilitating seismic changes for individuals through making issues 'unavoidable'. There is a speeding up of the therapeutic processes, including the therapeutic relationship with the therapists and an understanding that this allows for a deeper connection and, perhaps, a more effective treatment for those experiencing treatment resistance. This assumption is echoed in current research that suggests PT is as effective as some anti-depressants and could offer a viable alternative for those experiencing treatment-resistant depression (Carhart-Harris et al., 2018a; Pearson et al., 2022).

There were many ways in which participants described how the process of PT may facilitate 'going deeper'. There was a particular focus on the impact of psilocybin on the body and senses - references to increased sensitivity in the body, synaesthesia, altered perceptions, hallucinations and a dream-like quality were common across the data set. There was a sense that the mind and body had become more interwoven. Participants described the experience as being like the 'awareness of self is in high-definition' (P1), 'senses are interwoven' (P24) and 'they might feel, listen and smell things they haven't before.' (P8) These descriptions suggest Alex is in a state of heightened neuroplasticity in which they can experience new sensations and connections. This effect is echoed in the research on the effects of psychedelics on the brain. While certain specialised neural networks of the brain become disintegrated during the drug effects, such as the visual processing system, the whole brain actually becomes more integrated (Carhart-Harris et al., 2014). As connections are made between regions that would not ordinarily be linked, there is increased entropy within the brain and the possibility for change (Pollan, 2018). In the data, this new or novel experience had the potential to lead to experiencing meaningful imagery and memories, processing traumatic memories, facing things head on and the release of something stuck. For example, one participant wrote:

'Openness to their own feelings or experiences, revisiting difficult experiences and seeing them clearly, realising their own innocence and inherent loveability, maybe a spiritual experience of seeing themselves as part of an interlinked and loving universe, profound emotions of grief and happiness' (P40).

This list of experiences could be read as the potential different options Alex might experience or as a narrative, one experience leading on to the next. Some of these processes would, it is hoped, be experienced in conventional therapy such as: openness to feelings, revisiting difficult experiences, experiencing profound emotions and realisations. However, in this response there is something more intensive in the account of what Alex experiences in the session - all of these aspects of therapy may be encapsulated in one session and there is the addition of the possibility of a spiritual or mystical experience. There is a sense, in these responses, that a deep and powerful experience may be had in the session. In this way, there is an understanding that PT is able to reach further than other treatments may be able to.

### *Music as a guide*

The role of music within PT was predominantly understood to guide the experience, both by participants who disclosed experiencing psychedelics themselves and those who did not. The music was often considered to be the container, providing a sense of emotional safety and grounding. Participants described the role of music as 'providing that steady holding space' (P1), 'a safe playground' (P16), and 'a kind of anchor for Alex, a sense of familiarity' (P20), which suggests the music almost acts as an additional therapist. This echoes research describing music as the 'hidden therapist' in PT, which found that 'the nature of the music experience was significantly predictive of reductions in

depression one week after psilocybin, whereas general drug intensity was not.' (Kaelen et al., 2018, p. 505) Another participant described the role of the music in similar terms:

'The music may follow the intensity of the trip, e.g. slowly building with minimal tones initially, reaching a steady intensity for the middle couple of hours with emotionally charged music, and then move to a more ethereal, soothing and warm sound as a way of 'coming home' to guide Alex back to himself.' (P22)

In this description, the music is perceived to match the contours of Alex's experience much as a music therapist may match a client in a musical improvisation to create a sense of safety and connection (Wigram, 2004). Most responses suggested the music should match Alex's experience and, as in P22's response, the musical shape of the programming was often described as an arc – beginning calm, building up in intensity before returning to calm and relaxing music, as a way of following the perceived journey of the experience. There is also a sense of familiarity in this response, the idea of 'coming home' through the music suggests that music is in some way an anchor that can return Alex to themselves after this novel and intense experience. Interestingly, the assumption of the musical journey as an arc relates to some of the first musical programming used to support a clinical PT session, devised by Bonny (Bonny & Pahnke, 1972). Music had already been identified as playing a significant role in this early PT research (Chandler & Hartman, 1960; Eisner & Cohen, 1958) and Bonny had identified six phases of the psychedelic experience that could be matched by the music: pre-onset, onset, building toward peak intensity, peak intensity of drug action, re-entry and finally, return to normal consciousness. In terms of the music programming used in PT research today, this structure is still often used (Barrett et al., 2018). Indeed, following on from Kaelen's current research into the use of music in PT, he has developed a tool called Wavepaths (Wavepaths, 2022) that can facilitate 'live, unique, personalised music experiences' that can be programmed by the therapists to musically match each individual clients' PT journey.

The synthesis of the psilocybin and music was assumed to have an intensifying and heightening effect on the senses. In some responses Alex became 'more sensitive to changes in the music' (P3), 'listening becomes more astute and creative' (P9) and there is 'a bodily feel for the music' (P23). This aligns with research into the brain effects of the combination of music and psychedelics, which has shown an increase in the response to the timbre of music (Kaelen, 2017). The timbre is the perceived sound quality or tone colour that allows differentiation between different instruments and with an increased sensitivity to timbre, the sound may be felt as bodily sensation too. This research has also shown that this increased activation was associated with intensified music-evoked emotions of wonder (Kaelen, 2017). In many of the stories Alex's experience of the psilocybin also allowed for a deeper emotional connection to the music and in this way the music was able to evoke images and memories. For example:

'Alex may experience deeper layers to the music which may be accompanied with emotional connections to the frequencies. Alex may experience visual phenomenon which aligns with the sounds and rhythms of the music.' (P19)

'I imagine they might have a stronger emotional reaction to certain parts of the music than without psilocybin. It could bring up strong images or memories, especially if they have heard the music before or if it reminds them of something.' (P2)

These descriptions of the combination of music and psilocybin suggest that the music is perceived to support the process of autobiographical meaning making. This connection has been reported in neuroscientific research on the interaction between psychedelics and music, which have demonstrated that 'the music experience during psychedelic therapy correlates with the experience of mystical experiences and insightfulness' (Barrett et al., 2018, p. 352). In some responses, this connection to the music was described as mystical or spiritual, and Alex experiences a sense of 'becoming one' with the music:

'Frequencies of music would "penetrate" deeper becoming one with

the experience itself. Alex could go with the "wave of music" to dive deep within his experience.' (P28)

'There may be a reduced sense of self as separate from the music, Alex's thoughts and feelings becoming interlinked with the music that's playing.' (P16)

There appears to be an assumption that there is a profound connection to the music during the PT and the quality of this connection could determine some therapeutic outcomes. However, the perceived intensity of the psilocybin experience in combination with the music led to a mixture of responses in terms of *how* the music should be used to guide the experience – there was a distinct split here between the music taking an active or passive role. The possibility of bringing instruments into the room caused a similar split in the responses between Alex either being actively involved in the music-making or being receptive to the music. This split appeared to be related in part to whether the participant was a music therapist/musician, most of whom thought that the music should take an active role in matching the feeling states and also that the instruments could be actively involved in the process.

#### *Music - 'designed to evoke an emotional response'*

Some participants suggested that the music would shape the whole experience and therefore have a significant impact. In some of these responses there was a sense that the music could take an active role in evoking and supporting the exploration of emotions, guiding Alex deeper into the unconscious. For example:

'In particular, it sets the tone and the colour of how he will feel and therefore how the processing will take place.' (P25)

'I think the music will give Alex the capacity to explore his emotions better than without it. If the music is sad that will maybe remind Alex of sad memories and likewise if the music is happier. It will give him a medium to safely explore his emotions.' (P27)

In these examples, there is a focus on the emotive power of music and the perception that music can set the 'tone and colour' of Alex's feeling state suggests that this power could be utilised within the experience to help catalyse the therapeutic process. The music is perceived to give Alex the 'capacity' to explore emotions 'better', meaning Alex has access to certain emotions such as sadness but in a safe way. Many studies suggest that the prime motive for listening to music for many people is to influence emotions, 'whether that be to change emotions, release emotions, match their current emotion, to enjoy or to comfort themselves, or to relieve stress.' (Juslin & Sloboda, 2010, p. 3) The connection between music and emotion is well supported and the research on PT to date suggests music can play an integral role in the therapeutic process (Barrett et al., 2017, 2018; O'Callaghan et al., 2020).

The way in which music and emotion were perceived to interplay extends to the question of having instruments in the room. Some participants suggested that instruments could support the experience:

'These will be used to add different dimensions of sound so it is not only through audio. This also gives Alex the opportunity to explore making sound at points in his journey as well.' (P1)

This response raises questions about what impact the experience of making sound might have on the therapeutic process, particularly when thinking about the increased sensory connection to music whilst under the effects of the psilocybin. Having the 'opportunity' to make sound may support a sense of agency during the experience and allow for another way in which to explore emotions through music. In some responses, the playing of instruments had the potential to allow for a shared and collaborative experience with the therapists. For example, when describing using instruments in the session one participant suggested, 'Alex might then experience a greater sense of feeling held and supported by the therapists playing alongside him.' (P18) In this response it is not only the music that is able to match Alex's experience but also the therapists. Being able to respond more sensitively musically in the moment may in turn increase the strength of the therapeutic relationship and the sense of safety experienced by Alex. There is the

suggestion here that instruments could create a greater sense of containment, be more immersive and the therapist could match and respond to Alex's affect more acutely. However, the responses often underlined the importance of the use of instruments in this way being led by Alex; that they had a choice in the way the instruments were used and a sense of agency over the experience.

*Music - 'A back drop that isn't going to overwhelm or penetrate the process too much'*

Many participants assumed the role of the music should be to calm and relax. For example:

'As it is a therapy setting I would think something personal to him, relaxing, non-challenging but neutral in some way - I imagine the effects of the medication would make the person highly susceptible to outside influences and that much like the cosy setting described the music would need to be as unobtrusive as possible'. (P13)

Due to the intensity and sensitivity of the experience, it is suggested that the music should take a containing role but without intensifying the experience or challenging Alex. Describing Alex as 'highly susceptible' gives the impression that they could be distracted by the music or even manipulated by it. There was also a concern in some responses that the music may not match Alex's affect and this could be off-putting, exemplified in the following response: 'The music may be pleasant or at times unwanted and annoying, as everything will likely be amplified.' (P19) This relates to Kaelen et al.'s (2018) PT research in which both welcome and unwelcome influences of music were experienced by participants; some of the unwelcome influences included intensification, resistance and misguidance (Kaelen et al., 2018). The role of music is framed in these responses as being, ideally, without too much contrast, uncomplicated, repetitive and unobtrusive so as not to influence the therapeutic process. The idea of unwanted sounds or influences from music is important to consider and indicates the need for a trained professional who is able to observe and respond to both the verbal and non-verbal cues from a client that suggest the need for adjustments in the music. In music therapy this is always a dynamic, ongoing process as an individual's responses to a particular piece of music might change frequently (McFerran & Grocke, 2022). In the UK, music therapists are also trauma informed through their training and therefore able to respond to challenging content that may be brought up during music listening (Health & Care Professionals Council, 2023).

Regarding the notion of playing instruments in the room, in these responses, this was often understood as being the role of a music therapist or trained musician or that instruments would only be played by the therapist. For instance:

'This would be better if the therapists were music therapists. They would be trained to be able to hold the session with the music and respond musically to anything that came up or played by Alex. If done by a talking therapist, having instruments in the room could do more harm than good. If movements are not correctly met it can disengage relationships.' (P12)

In terms of the possibilities for the therapeutic process, there is the potential for a disconnect within the therapeutic relationship if the therapist is not able to respond effectively to Alex. This places a greater responsibility on the therapist to be able to hold the experience musically with the potential risks of miss-attunement leading to some breakdown in the relationship.

*'It's no magic bullet': the potential risks of PT*

Throughout the responses there was an awareness of the potential risks of PT; the phrase 'no magic bullet' was mentioned several times in the data as was the potential for both positive and negative responses to the experience. For example, one participant responded:

'He may feel like he is experiencing his worst nightmares, and may either find himself wanting to control and struggle, experiencing

discomfort, or give over to the experience and feel release and love.' (P22)

Here, as in many of the responses, the participant suggests a range of ways in which Alex might experience the therapy, conveying the subjectivity of the experience and the many possible outcomes. This response suggests possible risks such as resistance, fear of losing control, discomfort and feeling distressed. Further risks mentioned elsewhere in the data included feeling alone or having a retraumatising experience. The potential risks extended to the role of the music in combination with the psilocybin and the power it may have to 'overwhelm' (P5), be 'too stimulating' (P3) and 'accidentally trigger some trauma memory' (P13). Bonny and Pahnke (1972) acknowledged the possibility for both positive and negative sub-conscious content to be released in PT. However, the cathartic quality of this experience is emphasised, with the release of intense emotionality being cited as one of the key roles of music in PT.

There was also an awareness of safety and ways in which the risks of PT could be mitigated. The importance of the environment or 'setting' in which the therapy takes place was often mentioned, alongside the preparation and mind 'set' of the person receiving the psilocybin (Pollan, 2018). The containing role of the therapist was also seen as significant. One participant wrote, 'Any good psychedelic practitioner will appreciate the concept of 'set' and 'setting' and will guide Alex to achieving optimal states in both regards.' (P19) This relates to research on context within PT, which found that it was of critical importance to minimise harm and maximise the potential benefits (Carhart-Harris et al., 2018b).

In terms of safety, emphasis was placed particularly on the importance of the integration process, as there was an assumption by many that there would be a period of adjustment and vulnerability after the experience. One participant described:

'Alex feels like a stranger in his own life as if their inner axis has shifted slightly, and the structure of their life no longer matches their experience of themselves. This is where the real change becomes possible but it is intimidating.' (P33)

The assumption of such a seismic shift in perspective is conveyed as extremely unsettling in this response. An experience such as this would need much support and guidance to integrate the experience into everyday life and ensure positive outcomes. In several responses the role of the music was seen to extend to the integration process. Listening to the music that was played in the psilocybin session afterwards was thought, by some participants, to be a helpful link between the session and the integration of the experience afterwards. For example:

'Alex needs to process his trip. What is interesting is that he connected with the music and is able to recall parts of his trip by re-listening to the soundtrack.' (P25)

This response suggests that music listening could help with processing the experience by helping to 'recall' particular moments.

The potential risks of PT have been noted in much existing research on perceptions of PT. For example, the risks caused by a lack of integration process was also noted by ceremonial ayahuasca leaders (Callon et al., 2021). The authors of a recent systematic review of research on perceptions of and attitudes toward PT noted perceived ethical challenges around PT practice including:

"heightened power differentials between therapist and participant, greater risk of transference and countertransference, concerns about embodiment or sexual expression, client vulnerability and reduced autonomy, as well as challenges associated with different availability needs compared to other therapy" (Wells et al., 2024, p. 48).

Some of these concerns could potentially be addressed by involving the client in the choice of music within their PT sessions. For example, having the choice to use instruments in the session as well as consultation on the music programming could support a sense of autonomy in the session.

The SC question in the survey allowed participants more creative freedom to explore the topic. A common feature in the SC responses was a framing of this sense of risk and safety through following the narrative

structure of a mythical hero's journey – the protagonist must go on a journey, leave what is familiar and face challenges along the way but returns with a new insight or is in some way changed (Williams, 2019). Williams describes the hero's journey as a 'mudmap for change' in the process of therapy. To address the issues that require change, new and 'polar opposite' skills and a shift in perspective are required. The application of the hero's journey to the process of therapy emphasises the point that to exact change a person must enter the unknown and face things head on. This narrative suggests that there are risks involved but also perhaps, much to be gained. There was a sense, in many of the responses, that the experience of PT would not be easy and there may be challenges but that there was also the potential to find: 'A point of calm, inner peace' (P7), 'connection to the world' (P5) and that 'a huge weight has been lifted of his shoulders.' (P20) This model narrative suggests a hope for the future and an imperative for further research for those who may benefit from this form of treatment.

## Conclusions

The data reflected existing perceptions of the transformative potential of PT/psilocybin (e.g., Niles et al., 2021; Reynolds et al., 2021), with PT conceptualised as 'going deeper' than other therapeutic interventions and facilitating profound change for the client. PT was presented as having both positive outcomes for the client and potential risks, with an emphasis on mental health rather than physical health risks; a difference from existing research where both types of risk are emphasised (e.g., Corrigan et al., 2022; Reynolds et al., 2021). Music was understood as contributing both to the perceived benefits and risks of PT – with music having the power to enhance the experience or provide a sense of emotional safety as well as to overwhelm or trigger trauma.

These perceptions reflect aspects of popular cultural understandings of psychedelics and the music associated with these. For some participants, their understandings of the role of music in PT may have been, in part, shaped by the cultural associations with psychedelic music of the 1960s and influential works such as the novel 'Fear and Loathing in Las Vegas' by Thompson (1998), and the subsequent film adaptation, in which the stereotype of the drug-taking 'psychonaut' is depicted. However, popular discourses around psychedelics are not homogenous (Gearin & Devenot, 2021). Psychedelics were a catalyst for policies such as the US-led 'war on drugs' starting in the early 1970s (Nichols & Walter, 2021) and most recently mainstream media reporting on the 'third wave' in psychedelic research has at times oversimplified results leading to perceptions of psychedelic therapy as a 'miracle cure' (or 'magic bullet') (Wells et al., 2024). The alignment of some responses with popular discourses of PT highlights the preconceived ideas that some individuals may bring to PT and that could influence their experience of PT (McGruddy et al., 2024). This also raises questions about the barriers that these perceptions could create for some in accessing PT in the future. The authors of a recent systematic review cited earlier concluded that, 'education of health professionals and public should be a priority' to elucidate how PT may be implemented in public health settings (Wells et al., 2024, p. 43).

Perceptions of *how* music should be used in PT varied in the data – from being actively involved in evoking certain states to taking a calming and unobtrusive role – yet there was a shared understanding that the role of music may be significant in supporting the process and there was a preference for music over silence. The responses suggest that what each individual needs during their experience may differ, however, there was a consistent focus on the importance of creating a sense of safety and containment. One way in which a sense of containment is assumed to be achieved in the PT process is through the music being able to match Alex's feeling states; this was often related to positive therapeutic outcomes in the responses. This technique of matching is often used in music therapy, and is based on the theory of affect attunement (Stern et al., 1985), which was later adapted into a music therapy clinical improvisation technique by Tony Wigram (Wigram, 2004).

There was a question raised in the responses as to whether a qualified music therapist or trained musician should be responsible for the music in PT. Although this question cannot be answered with this study, there are many practices within music therapy that can be drawn on to aid the use of music in PT sessions including active music making techniques such as grounding, matching, containing and mirroring (Wigram, 2004) as well as receptive techniques such as relaxation and guided imagery (McFerran & Grocke, 2022).

Participants' perceptions of whether the music played a primarily active or passive role varied. It is interesting that the notion of 'active listening' is explored in depth in the literature relating to 'receptive music therapy'. Receptive music therapy involves a range of practices where the client does not physically make music through instruments or voice, but is instead engaged in the act of listening. In these therapy practices, listening to music is not considered a passive act as the listening is particularly engaged (McFerran & Grocke, 2022). Bruscia (2014) lists several goals of receptive music therapy such as promotion of receptivity, evoking affective states, imagery and fantasies, exploring ideas and thoughts, facilitating memories and regression, relaxation or stimulating peak and spiritual experiences, which align with potential goals in PT. As shown in Bonny's research in the 1970s (Bonny & Pahnke, 1972), the needs of the individual will likely change throughout the PT session and therefore a dynamic approach to the role of music is key. In terms of choosing which pieces of music to play there are some foundational ideas within receptive music therapy that can be applied to guide thinking, these principles relate to 'musical characteristics' (McFerran & Grocke, 2022, p. 31) such as melody, timbre, rhythm and can be applied to diverse musical genres. These principles may be useful when considering the therapeutic goals of the PT sessions and how they be met musically.

We consider the diverging perceptions of the role of music in PT evident in the data worthy of further research, as there may be important implications for clinical practice and a need for sensitivity in the curation of the music experience in PT (McFerran & Grocke, 2022). A 'one size fits all' playlist may not suffice with regard to the individual experiences and clinical goals of those receiving PT. We suggest that music therapy clinical and research knowledge could make a significant contribution to research and development of PT. Our view is obviously influenced by the fact that the first and third authors are music therapists, although we argue that the data also support this.

## Study limitations

Because PT is only in the research phase our impression was that some responses reflected a desire to promote this form of therapy. Furthermore, there was a sense in the responses from music therapists of an awareness of needing to maintain professional credibility and therefore being cautious in their engagement with PT. Thus, some responses were perhaps at least partly shaped by participants' professional positioning. A larger study would benefit from a wider range of perspectives, including those who may be less likely to access and have prior knowledge and understandings of PT. A study of this kind may give insights into barriers faced by some to potentially accessing PT. Consideration of medical ethnomusicological studies exploring how conjunctions of musical and psychoactive rituals can promote access to beneficial meditative states, such as Sherwin et al. (2024), may bring new understandings and broader cultural dimensions to the relationship between music and psychedelics, and assist strategies for broader recruitment and framing of future projects.

We developed a novel and creative method for exploring assumptions around PT; the method allowed for a creative approach to the topic that felt particularly appropriate given the focus on music in PT. A key understanding in the responses was that PT may be able to 'reach further' than some conventional forms of therapy. Across the participant responses music was perceived to be an integral part of the process both guiding and containing the psychedelic experience.

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**MacLeod Ann:** Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Clarke Victoria:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Formal analysis, Conceptualization. **Warner Catherine:** Writing – review & editing, Writing – original draft.

## Declaration of Competing Interest

None.

## Data availability

The authors do not have permission to share data.

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