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ARTICLE

Identifying different states of music-facilitated relaxation

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ABSTRACT

Music-facilitated relaxation is commonly employed by professionals such as music therapists, as well as used recreationally by music listeners. According to the Russel's Circumplex model of affect, relaxation can be understood as a state of low arousal whilst Smith suggested that it includes a variety of positive affect states. The goal of this study was to explore how music listeners describe music-facilitated relaxation. The aims are to investigate 1) whether Smith's relaxation model can be applied to music-facilitated relaxation, and 2) what is the role of valence and arousal in music-facilitated relaxation. Data was collected using an online survey. 109 participants were asked to describe their experience of music-facilitated relaxation in an open-ended question. Based on Smith's relaxation model and circumplex model of affect, the data was analysed using mixed methods content analysis. Participants described states of both reduced arousal and increased arousal, as well as positive and negative valence. Smith's model could not be used to successfully identify all music-facilitated relaxation states. Based on the data and Smith's model, five main categories, comprising 15 states of music-facilitated relaxation, were identified: Mindful (36% of total relaxation descriptions), Restful (21%), Transcendental (21%), Fulfilment (16%), and Energetic (6%). These results suggest that music-facilitated relaxation cannot be understood a state of low energy and positive emotions but rather aimed at achieving an optimal state for a current activity and situation. The findings of this research can inform future research and practitioners when planning to use music for relaxation or assessing client's music use.

KEYWORDS

relaxation,
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BACKGROUND

Relaxation plays an important role in stress management, and it is one of the most common self-regulating processes that can be assisted by music listening (van Goethem & Sloboda, 2011). Music-facilitated relaxation is commonly used among professionals such as music therapists as well as individually by music listeners. In clinical settings, music-facilitated relaxation is typically used to reduce patients' arousal (e.g., Davis & Thaut, 1989; Robb, 2000; Staum & Brotons, 2000). Music can even be used directly to facilitate sleep and a meta-analysis revealed that music can have an overall moderate positive effect on sleep quality (De Niet et al., 2009). Music-facilitated relaxation can be approached as an affect regulating process (Saarikallio et al., 2017). However, researchers do not fully understand the mechanisms behind music-facilitated relaxation and the variety of ways it affects everyday music listeners. Smith (2007) proposed a relaxation model, arguing that relaxation is not one state, but rather an umbrella term for different states that vary from sleepy to energised. He proposed 19 relaxation states that can be divided into four groups: Basic relaxation, Positive energy, Core mindfulness and Transcendence. In comparison to the Circumplex model of affect (Russell, 1980), the states described in Smith's model mainly represent positive valence, but are notably more nuanced in their arousal content.

In addition to sleep, music-facilitated relaxation also helps with managing stress (e.g., Pelletier, 2004; de Witte et al., 2019). Although previous models explore the concept of relaxation from the researcher's perspective, these leave open the question of what relaxation entails for everyday music listeners. Creating more detailed knowledge on what musical relaxation is can also further our understanding of how music helps stress management. Before delving into the topic of using music for relaxation, we would like to discuss functions of music from a broader perspective. Functions of music have been the subject of music psychology research for the past few decades. Hargreaves and North (1999) concentrated on the social functions of music and proposed that social function is manifested in three principal ways: management of self-identity, interpersonal relationships, and mood. Later, Schäfer et al. (2013) proposed three dimensions of music functions: people use music to regulate arousal and mood, to achieve self-awareness, and as an expression of social relatedness. Van Goethem and Sloboda (2011) discussed music's role in broader affect regulation processes (e.g., distraction, introspection, active coping) as well as in creating happiness and relaxation. Saarikallio et al. (2019) observed that music-related pleasure is linked to experiences of either relaxation or connectedness. Groarke and Hogan (2016) highlight the role of music evoked strong emotions, reminiscence, and eudaimonic experiences that include meaning and transcendence, in adaptive music listening that enhances wellbeing.

The perception of emotions in music has been linked to gender, age, and culture related factors. Hofbauer and Rodriguez (2023) found that older participants reported higher positive emotional valence, whilst subjective arousal was positively linked to higher tempo and level of education. Habe et al. (2023) established that female participants experienced positive and negative effect more frequently, and used music more often in intrapersonal and social contexts than men. Functional organisation of the brain for music processing has been proposed as a neurological basis for gender differences (Koelsch et al., 2003; Wuttke-Linnemann et al., 2019) whilst cultural and social norms affecting personality traits have been suggested as a cause for psychological differences (Herrera et al., 2018; Sergeant & Himonides, 2014). Some authors argue that although factors such as age and gender have an effect on the personal experience of music listening, their effects are likely to be very small (Gabrielsson & Juslin, 1996, 2003; Juslin, 2005). This is supported by a study on relaxation in elderly Taiwanese people (Hui-Ling, 2004), which found that whilst music induced relaxation,

as shown by heart and respiratory rates and finger temperature of participants, there were no significant differences based on preferences or demographic variables.

The debate about prescribed and self-selected music for relaxation has a long history. While some authors favour "prescribed" relaxation music (Pelletier, 2004), other researchers (Davis & Thaut, 1989; Labbé et al., 2007; Yehuda, 2011) highlight the role of preference, familiarity, and the sense of control that are associated with self-selected music. While both approaches have their pros and cons, and are equally capable of achieving the desired states, the current trend in clinical practice acknowledges individual differences, which involves using self-selected music and understanding the effects of music from a constructivist perspective (Thaut & Davis, 1993). This aligns with the paradigm shift from stimulus-response approaches towards more constructivist approaches in research, which can be observed in general affective sciences (e.g., Feldman Barrett, 2017) as well as in research on music and emotion, of which emotional responses to music are understood as being embedded in our individual contexts and meanings (Lennie & Eerola, 2022).

In a previous study on adolescents' music listening for relaxation (Minkkinen et al., 2022) some surprising results were observed. First, contrary to expectations, some participants felt more energetic after reporting successful relaxation with music. Second, no links were found between musical genres and relaxation response. Instead, the clearest predictor of a successful relaxation was a strong personal relationship with music. The current study was designed to explore the links between music and relaxation in a more in-depth manner. A variety of data was collected for this study, which was not included in this article, including music listening habits, music preferences (including examples), free descriptions of relaxation experiences, self-reported cognitive, emotional, and physical stressors, and various demographic information. The present article is the first step in systematically analysing a variety of variables that could contribute to music-facilitated relaxation. Since the verbal discourse is so rich and varied, we dedicate the present article to the analysis and classification of the participants' descriptions of their experiences of music-facilitated relaxation.

Aims

The aim of the current study was to explore how music listeners describe music-facilitated relaxation. Emphasis was placed on how music listeners themselves define the experiences of music-facilitated relaxation. Smith's relaxation model and the Circumplex model of affect were used as reference points for the mapping of experiences. The research questions were as follows:

1. Can Smith's relaxation model be applied to the experiences of music-facilitated relaxation and if so, how?
2. How do the experiences of music-facilitated relaxation reflect the affective dimensions of valence and arousal according to the Circumplex model of affect?

Music-facilitated relaxation is a complex phenomenon that changes not only from person to person but also from day to day. As such, the decision was made not to ask participants to depict one specific example of music-facilitated relaxation, which could reflect differing needs and varying resource availability, but to ask for an ideal situation that would describe how a person would use music to relax if there were no limitations. This decision led to rich and varied descriptions of experiences that were not limited to the most frequent or available ways of utilising music in everyday life. With regard to the subject of the current article, a second decision was made to perform discourse analysis separately from the analysis of musical parameters and lyrics. It was felt that if researchers knew the musical and lyrical content associated with a particular description, this could

affect their analysis of the discourse. Subsequently, the current article is based on participants' experiences of music-facilitated relaxation, and a forthcoming article will compare how this information relates to (or contradicts) information retrieved from musical parameters or lyrics.

METHOD

Participants

Participants were recruited via an online survey, which was distributed via social media (Facebook) and mailing lists, inviting anyone who uses music to relax to participate (convenience sampling). All participants provided informed consent prior to answering the questions.

A total of 109 participants completed the survey. Fifty-nine of them were female (54%), 47 were male (43%) and 3 of other gender (3%). Participants were aged from 19 to 77 years old (M = 35, SD = 3.19), and they were from 17 different countries from Europe (Belgium, Germany, Greece, Finland, Latvia, Lithuania, Spain, Sweden, and the United Kingdom), from Asia (India, Israel, Russia, State of Qatar, Turkey), from North America (United States of America), from Australia (Australia) and from Africa (Kenya), while the majority (n = 62, 57%) were from Finland.

Procedure

The online survey consisted of a variety of qualitative and quantitative questions about participants' experiences of music-facilitated relaxation and demographics-related questions. The main question of the survey was:

> Imagine that you are feeling as relaxed as possible whilst listening to music. Please describe, in as much detail as you can, where you are, what you are listening to, and what you are thinking and feeling. Are you humming, singing along or playing an instrument? Are you staying still, moving around, dancing or doing some other activity?

The aim of this question was to provide rich and comprehensive knowledge about how participants described their personal experiences of music-facilitated relaxation.

Data analysis

The data consisted of answers to the main open-ended question stated above and short answers or multiple-choice answers to demographic questions. Answers to the open-ended questions varied in length from extremely short like "Sitting relaxed" to a few paragraphs long. Most answers were, however, a few sentences long. Participants described real and imaginary situations of relaxation with music in different forms. The nature of descriptions was usually rather static: participants described the situations, their feelings and sensations from the here-and-now viewpoint, and descriptions of continuing processes were rare. For examples see "Describing five categories of music-facilitated relaxation" in the Results section.

Mixed-methods content analysis was conducted with a deductive-inductive approach. Smith's model was used as the first theoretical basis for categorising the content of the relaxation experiences, but new themes were also allowed to emerge based on descriptions. The second framework used as a reference point of our analysis was the Circumplex model of affect (Russel, 1980).

Analysis of relaxation states based on Smith's model

Step 1: Exploratory coding by author 2. At this stage, the data was coded using a data-driven approach to familiarise ourselves with the data, and to learn about its quality and main characteristics.

Step 2: Group discussions involving all authors in order to reach consensus on how to conduct further analysis. First, Smith described relaxation states in a brief and broad manner, thus the states were not clearly defined and differentiated, and the authors had different interpretations of his writing. Second, the authors had to agree on how exactly the data needed to fit to Smith's states. For example, if a described state was very close to one of Smith's states but was not an exact match, would it be coded as a completely new state or as a variation of Smith's state? Third, the authors debated on whether states should be mutually exclusive, and concluded that each description could have more than one state.

Step 3: Developing and defining codes by author 1 and author 2. At this stage, codes and definitions of the states were developed using a combination of Smith's model and exploratory coding. For example, when participants used the word "mindfulness" in the description, but described experiences of physical relaxation, the authors agreed not to code these descriptions under Smith's core mindfulness category. Instead, the authors agreed to code it to the category of basic relaxation based on implicit meaning. Definitions of states were based on descriptions provided by Smith and further developed when needed.

Step 4: Author 1 and author 2 coded all the descriptions independently from each other, using the definitions developed in Step 3. After independent coding was completed, the authors compared their coded documents and discussed the differences. When a mistake was identified in one of the coded documents, it was corrected. All the remaining differences in the coded documents were used to calculate the inter-rater reliability of the relaxation states.

Analysis based on the Circumplex model of affect was conducted in three steps:

Step 1: After completing the analysis of the states, author 1 and author 2 independently coded all the data a second time to assign two numerical values to each relaxation description. The first number identified valence (5-very positive, 4-slightly positive, 3-neutral, 2-slightly negative, 1-very negative), and the second identified arousal (5-very high, 4-slightly high, 3-neutral, 2-slightly low, 1-very low). After independent coding was completed, authors 1 and 2 checked the assigned valence and arousal values of each description together to check for mistakes. When a mistake was identified in one of the coded documents, it was corrected, but all the remaining differences were averaged for each description.

Step 2: The states coded according to Smith's model were integrated into the results of the Circumplex model. All the descriptions were sorted into relaxation states, and author 2 calculated descriptive statistics of each state's valence and arousal values.

Step 3: Each relaxation state was placed on a Valence-Arousal map. At this step, the numeric values for valence and arousal were converted from 1-5, as described in Step 1, into -2 to +2 for convenient visualisation.

RESULTS

The applicability of Smith's states to music-facilitated relaxation

Initial coding revealed 17 music-facilitated relaxation states. Twelve of these corresponded with Smith's model and fitted into one of the four groups he has described. Five states, on the other hand, did not directly correspond to any relaxation states described by Smith. These states include discharge of negative emotions (Discharge), Imagery, reflections-memories-fantasies (Reflecting), aesthetic appreciation (Aesthetic) and the feeling of Agency (see Table 1).

	State	Inter-rater reliability (%)	Definition
States identified by Smith			
Basic relaxation	**Sleepy**	100%	Falling asleep
	Disengaged	100%	Isolating from the outside world
	Physically relaxed	78%	Physical sensations of relaxation
	Mentally relaxed	44.5%	Absence of worry about current issues, calm down
	Rested/Refreshed	N/A	N/A
Core Mindfulness	**Aware/focused/clear**	45.5%	Concentrating on a task, being in a flow state
	Quiet	55.6%	Being here-and-now, not thinking
	Accepting	N/A	N/A
	Innocent	N/A	N/A
	Centred	N/A	N/A
	Awakening	N/A	N/A
Positive Energy	**Joyful**	80%	Experiencing strong positive emotions
	Optimistic	87.5%	Experiencing low intensity positive emotions
	Energised	100%	Enjoying music-related physical activities
	Thankful/Loving	100%	Experiencing feelings of gratitude and love

Transcendence	**Prayerful/reverent**	100%	Religious and spiritual experiences
	Timeless/boundless/ infinite/at one	63%	Transcendental experience of being the part of something bigger
	Mystery	N/A	N/A
	Awe and wonder	N/A	N/A
New states			
	Reflection/memories/fantasies	90%	Remembering the past, reflecting, fantasising
	Imagery	100%	Visual or kinaesthetic imagery
	Discharge	100%	Releasing negative emotions and stress with music
	Agency	100%	Feeling in control of one's life
	Aesthetic	100%	Appreciating the beauty

Table 1: Relaxation states, their definitions and inter-rater reliability

Note: Bolded – empirically identified by Smith; *Italic* – theoretically identified by Smith

Inter-rater reliability analysis revealed that the states Mentally relaxed and Aware/Focused/Clear had the lowest inter-rater agreement, 44.5% and 45% respectively. Quiet had 55.6%, Timeless/Boundless/Infinite/At one had 63%, Physically relaxed had 78% and Joyful had 80% inter-rater agreement. The states Optimistic and Reflection/Memories/Fantasies had the highest inter-rater reliability at 87.5% and 90% respectively.

Valence and arousal of music-facilitated relaxation states

Authors 1 and 2 assessed valence and arousal of each relaxation description using the Circumplex model of affect. Table 2 shows descriptive statistics for the valence and arousal values for each individual state.

Figure 1 illustrates each states' valence and arousal values. The size of the circles indicates how prevalent the states were in our data (bigger circles - more common state). The most common states were Physically relaxed (n = 18), Mentally relaxed (n = 18), and Quiet (n = 18). However, there was a high percent of coding differences in states Mentally Relaxed (44.5%), moderately high in Quiet (55.6%) and moderate in Physically relaxed (78%). The least common states were Prayerful (n = 1), Agency (n = 2), and Energised (n = 3).

All of the states except for Discharge had positive mean valence. Both Energised and Discharge had similar high arousal levels (1 and 1.33), but differed in valence, where Discharge had negative valence (-0.38) and Energised positive (0.5). There was a cluster of states with high arousal and high positive valence: Thankful/Loving, Joyful and Prayerful/Reverent are very close to each other. Agency also had high positive valence but had higher mean arousal scores than the other three. Sleepy was the state with the lowest arousal, and the nearest state to it was Physically Relaxed, although the latter was much closer to the central large cluster of states. The remaining states have low positive arousal and either low negative or low positive valence. It seems that Imagery, Timeless/Boundless/Infinite/

	Valence *M*	Valence *SD*	Arousal *M*	Arousal *SD*	*n*
Sleepy	0.25	0.61	-2.00	0.00	6
Physically relaxed	0.44	0.62	-0.99	0.70	18
Disengaged	0.63	0.48	0.25	0.87	4
Mentally relaxed	0.39	0.70	-0.44	1.25	18
Aware	0.32	0.46	0.23	0.90	11
Quiet	0.28	0.57	-0.83	0.57	18
Agency	1.75	0.35	2.00	0.00	2
Joyful	1.75	0.54	0.45	0.93	10
Optimistic	1.03	0.69	0.03	1.19	16
Thankful	1.70	0.45	0.90	0.22	5
Energised	0.50	1.50	1.33	0.58	3
Prayerful	2.00	0.00	1.00	0.00	1
Timeless	0.75	0.89	-0.25	0.89	8
Aesthetic	0.75	0.76	-0.42	0.80	6
Reflection	0.75	0.75	0.25	0.72	10
Imagery	0.60	0.70	-0.15	1.06	10
Discharge	-0.38	1.49	1.00	0.71	4

Table 2: States' Valence and arousal mean, SD and total number of instances

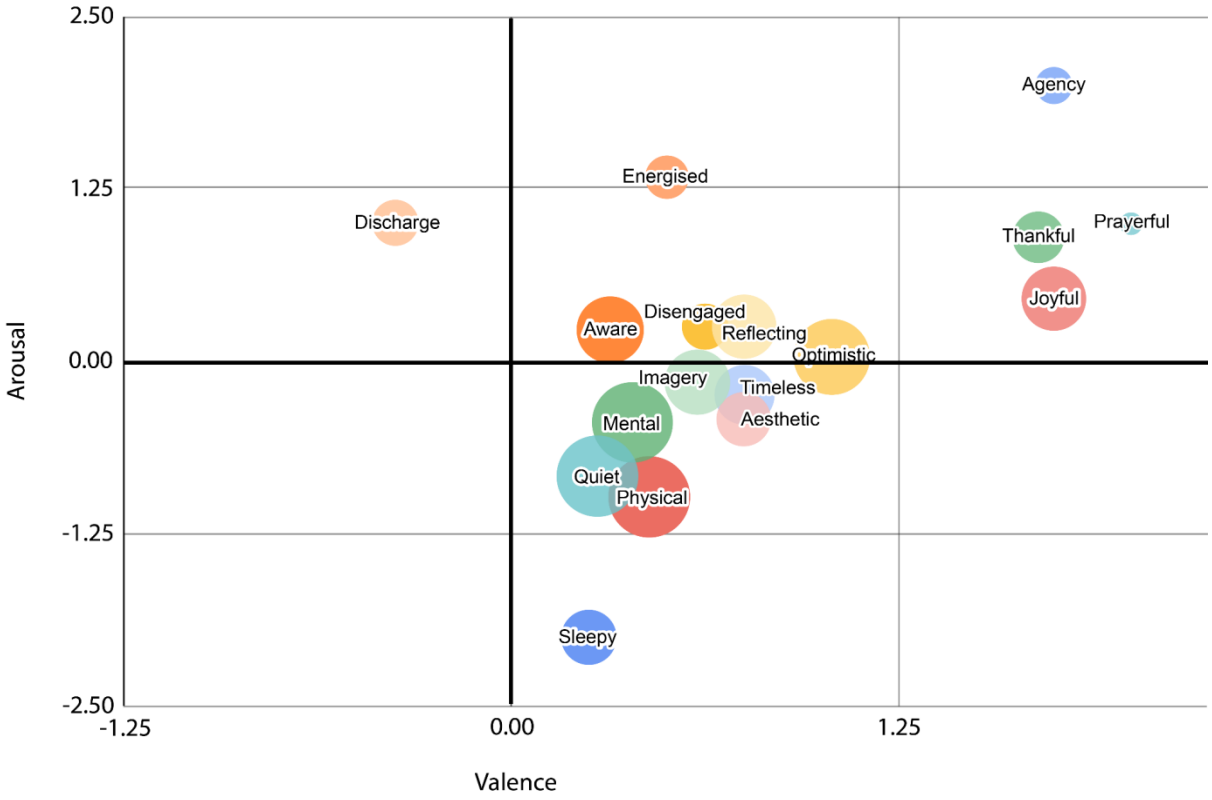

Figure 1: The states were mapped onto a Valence-Arousal map

Note: Mental - Mentally relaxed, Physical - Physically relaxed, Aware - Aware/Focused/Clear, Timeless - Timeless/Boundless/Infinite/At one, Thankful - Thankful/Loving, Prayerful - Prayerful/Reverent.

At one and Aesthetic are fairly close to each other, as well as Mentally relaxed, Quiet, and Physically relaxed, although the subgroups in the central cluster are less distinct from each other.

Identifying five categories of music-facilitated relaxation

There were three reasons why it was necessary to make adjustments to Smith's model for the purposes of describing music-facilitated relaxation (see Table 3). First, Smith's model includes exclusively positively valenced relaxation states, which were insufficient to describe our data since it included relaxation through the release of negative affect. Second, Smith's model does not include clear state definitions. As a consequence, a number of states had low inter-rater reliability due to conceptual overlap. Third, Smith grouped his states mostly on a theoretical basis, and we observed different clusters on the Valence-Arousal map. Consequently, the titles of the main categories were modified to reflect the conceptual change. Taking all of this into account, the results of this study can be summarised by five categories: Restful (21%), Energetic (6%), Mindful (36%), Fulfilment (16%), and Transcendental (21%). Restful relaxation refers to a state of resting, whether by tuning into the bodily sensations (Physical) or falling asleep (Sleepy). Energetic relaxation refers to the modulation of arousal, whether by increasing the energy levels (Energised) or releasing excess energy (Discharge). Mindful relaxation refers to states of thinking (Reflection), feeling (Optimistic), and being in the moment (Aware, Disengaged). Transcendental relaxation refers to altered states of consciousness, where one experiences loss of time (Timeless), beauty (Aesthetic), and spontaneous visuals (Imagery). Fulfilment relaxation refers to the sense of power (Agency), contentment (Thankful, Joyful), or spirituality (Prayerful).

Restful relaxation

State Sleepy. Using music to fall and stay asleep.

> In bed trying to sleep, probably something like Sleeping At Last or There's A Light. Thinking about breathing and relaxing my body. I feel tired but warm inside. (P 64, F, amateur musician).

State Physically Relaxed. Experiencing physical sensations such as relaxing muscles, warmth, heaviness, and slow breathing.

> I am laying down - Either in bed or a sofa etc, and I probably am at home or somewhere I feel safe and comfortable. My body feels relaxed - no tensions in muscles and the body feels "weighted" against the surface I am laying on. I am really still and my eyes are closed. (P 10, F, professional musician).

Energetic relaxation

State Discharge. Releasing negative emotions and stress.

> If I'm annoyed/frustrated I choose something heavy and loud. (P 4, M, amateur musician).

State Energised. Enjoying physical activities such as dancing or working out.

> When I want to be more in an upbeat or energetic mood, I listen and dance to EDM or house music in the private studio at my apartment gym to express how I'm feeling or simply have a good fun workout. (P 66, F, amateur musician).

Mindful relaxation

State Reflection. Remembering the past events, reflecting on one's life, lyrics of the song, etc., fantasising about the future. Includes reflection, memories, and fantasies.

> I would be either in residence or a local bar joint, I would be listening to country music by legendary singers say, Kenny Rodgers, and I would be reflecting on the stories the singer would be telling. Since I don't usually memorize songs, I would be trying to sing along in parts though, while moving my head in line with the rhythm. (P 85, M, non-musician).

State Optimistic. Experiencing low intensity positive emotions such as feeling nice, good, peaceful.

> I am in the bath, lying still with my eyes closed, listening to ambient music such as Brian Eno or Enya. I am feeling warm, cosy, safe and free. This feels like luxury time that I am making the most of. (P 11, F, professional musician).

State Aware. Being present in the moment such as concentrating on a task or simply not thinking or worrying about anything specific.

> I am either at home or driving my car on a long stretch of familiar road. In both cases I am doing something time taking but monotonous: doing craftwork or art, for example, is more pleasant while listening to something. I may be singing along to familiar lyrics. Generally I listen to Spotify, my cds or occasionally my vinyls. If I am truly relaxed, I am not thinking of much else than the moment, as I am focused on the act of creation. (P 33, Other, professional musician).

State Disengaged. Isolating oneself from the outside world physically and mentally.

> I am alone in the flat, I have headphones or earphones on - never listening to something worthwhile if someone else may hear it and either be disturbed in their day or disturb me in any way, so essentially I'm cutting myself off any outside world as much as possible, and not subjecting the outside world to my music as much as possible. Door of my room is locked. (P 50, F, non-musician).

Fulfilment relaxation

State Prayerful. Having religious and spiritual experiences.

> [...] Worships, thinking about life and what it has to offer, feeling God's presence and being grateful, humming and singing along to the lyrics I know, moving around and equally doing some activities. (P 67, F, non-musician).

State Joyful. Experiencing strong positive emotions such as joy or happiness.

> Sitting in stationary car with family listening to Michael Jackson music. We loved the music while travelling but it hadn't finished when we reached our

> destination so we stayed in the car for greater enjoyment and to relax. Some members sang, I clapped and swayed to the music feeling happy. (P 47, F, non-musician).

State Thankful. Experiencing feelings of gratitude and love.

> I love to play music while I dust my bedrooms and living rooms and I sing and think about my childhood. My mum is always in my thoughts as a lot of my music reminds me of her and her beautiful mind. (P 28, F, non-musician).

State Agency. Feeling in control of one's life, powerful, and capable.

> In my small student apartment by myself, I am listening to national radio station, and I am singing all the parts I know as well as maybe dancing without thinking how I look. I am feeling like I am owning my own life and that I am independent. (P 49, F, non-musician).

Transcendental relaxation

State Timeless. Experiencing being a part of something bigger such as cosmos, nature, or music.

> I'm lying in my bed and listening to slow music with low volume. Music takes me somewhere where I can't feel my body anymore; I just float without any strong emotions like sorrow, longing, excitement or happiness. I'm calm and I'm not thinking anything. My mind or soul is a part of Cosmos. (P 15, F, professional musician).

State Imagery. Experiencing visual and kinaesthetic imagery or synaesthesia.

> I associate music with colours in my minds; relaxing music makes the colours very clear and I'm very emerged in them. I feel light and calm, like I'm floating on water or flying. I also feel inspired, my thoughts make sense and I can follow them easily. (P 40, F, non-musician).

State Aesthetic Appreciation. Appreciating the beauty of music or nature.

> It is at home, I like high quality sound. There are two types of music: sentimental and energetic. While I'm listening sentimental music - I can feel beauty of the melody, fragility and it makes me feel elevated, calm. (P 43, F, professional musician).

Summarising five categories of music-facilitated relaxation

The music-facilitated relaxation experiences captured in our data included all Smith's proposed categories and an additional one (Table 3). Interpreting the five proposed categories within Smith's model would place Agency, Imagery, and Reflection within Core Mindfulness, whilst Aesthetic would fit within Transcendence. Discharge could not be placed within the existing Smith's model, because of its high negative valence.

Category	State	Link to Smith's model of relaxation
Restful relaxation	Physical	Smith's Basic Relaxation state
	Sleepy	Smith's Basic Relaxation state
Energetic relaxation	Energised	Smith's Positive Energy state
	Discharge	New state
Mindful relaxation	Aware	Smith's Core Mindfulness state
	Disengaged	Smith's Basic Relaxation state
	Optimistic	Smith's Positive Energy state
	Reflection	New state
Fulfilment relaxation	Agency	New state
	Joyful	Smith's Positive Energy state
	Prayerful	Smith's Transcendence state
	Thankful	Smith's Positive Energy state
Transcendental relaxation	Aesthetic	New state
	Imagery	New state
	Timeless	Smith's Transcendence state

Table 3: Five categories of music facilitated relaxation and their link to Smith's model

The most prevalent music-facilitated relaxation category was Mindful and the least common was Energetic (Table 4). When comparing the five relaxation categories to each other with regards to the Circumplex model of affect, the most positive was Fulfilment and the least positive was Energetic categories, while the category with the highest arousal was Energetic and the lowest arousal was Restful.

	Restful	Energetic	Mindful	Fulfilment	Transcendental
Valence *M*	0.35	0.06	0.68	1.80	0.70
Valence *SD*	-1.50	1.17	0.19	1.09	-0.27
Arousal *M*	0.62	1.50	0.60	0.34	0.78
Arousal *SD*	0.35	0.65	0.92	0.29	0.92
n	24	7	41	18	24

Table 4: Valence and arousal of five categories of music-facilitated relaxation

DISCUSSION

When talking about relaxation, participants often described a wide variety of states varying in valence and arousal. This suggests that music-facilitated relaxation cannot be understood purely through reduced arousal and positive valence but is a broader self-regulatory process. Our findings confirm the complexity of this phenomenon and stress the necessity of trying to understand the nuanced nature of it. Based on our findings we suggest that "relaxation" could be used rather as an umbrella term, and when possible, more specific terms for specific relaxation states could be used.

One of the main goals of this paper was to examine if Smith's model (2007) could be successfully applied to music-facilitated relaxation. Out of the 19 states in Smith's model, we found 12 states in our data. However, our results showed that Smith's model was not specific enough, and we had to clarify and extend it by adding 5 novel states of music-facilitated relaxation. In total, we identified 15 music-facilitated states of relaxation that could be organised into five categories. The biggest limitation of Smith's relaxation model, with regards to its applicability to music-facilitated relaxation, was that it only identifies positive relaxation states, while our analysis identified the Discharge state which had negative affect.

To sum up our findings, Mindful relaxation (36%) refers to states of thinking (Reflection), feeling (Optimistic), and being in the moment (Aware, Disengaged). Restful relaxation (21%) refers to a state of resting, whether by tuning into the bodily sensations (Physical) or falling asleep (Sleepy). Transcendental relaxation (21%) refers to altered states of consciousness, where one experiences loss of time (Timeless), beauty (Aesthetic), and spontaneous visuals (Imagery). Fulfilment relaxation (16%) refers to the sense of power (Agency) and contentment (Thankful, Joyful) or spirituality (Prayerful). Energetic relaxation (6%) refers to the modulation of arousal, whether by increasing the energy levels (Energised) or releasing excess energy (Discharge).

A question arises from our findings: if the music-facilitated relaxation is so nuanced, and if arousal is not the main element in it, what is the defining characteristic for all these relaxation states? Luberto et al. (2020), addressed the multiplicity of relaxation forms in the following way: "Relaxation can also be elicited during everyday activities. Any activity during which individuals maintain undivided attention and experience parasympathetic dominance can be considered a relaxation practice, and these likely vary across individuals" (Relaxation Practices section, para.2). This view offers some explanation for the multiplicity of relaxation states, but it only takes into account states with parasympathetic dominance. Parasympathetic dominance is traditionally associated with relaxation, but some states like Energetic and Discharge include sympathetic activation.

Another common element mentioned in the definition of relaxation is tension (American Psychological Association Dictionary of Psychology, n.d.). Perceived tension might potentially be a more suitable candidate for the role of a unifying element for music-facilitated relaxation. However, some participants described very intense experiences when talking about music-facilitated relaxation (e.g., of being connected to God, intense imagery and reflection upon one's life). It is also worth noting that tension is sometimes understood as one of the dimensions of arousal, along with energy arousal (Thayer, 1989).

Perhaps the most realistic interpretation of the multiplicity of the relaxation states is that relaxation is a broader self-regulatory process: instead of always aiming for arousal or tension reduction, participants used music to regulate themselves to an optimal state for a current situation or activity.

The interpretation can be also approached from the viewpoint of music functions. Participants' descriptions of their use of music for relaxation included different elements such as emotion

regulation, social, or transcendental. Traditionally in music research literature, these elements are described as separate music functions (Groarke & Hogan, 2016; Hargreaves & North, 1999; Schäfer et al., 2013; Van Goethem & Sloboda, 2011). One possible explanation might be that music is so embedded in our everyday lives, which creates a sort of inflation. When music is everywhere, it might become difficult for people to differentiate between different music use reasons and function, and the borders between some of them dissipate.

Limitations

This study is exploratory in its nature and is based on a fairly small sample. For example, the Energetic category is comprised of only seven descriptions, which is not sufficient to perform statistical comparison between different categories. More data needs to be collected in order to assess age, gender, and geographical location as factors in music-facilitated relaxation.

In our survey, participants were asked to imagine a scenario where they were relaxed while listening to music. The wording of the question was broad, to encourage a variety of experiences. Although the prompt generated a wide variety of descriptions, as was intended at this exploratory stage, some participants might have described a memory while others might have described a fictional situation. Future research should further investigate differences between ideal and practical situations, and the effect of the environment and other contextual factors on music-facilitated relaxation.

Smith's model (2007) lacks detailed descriptions of relaxation states which makes it difficult to apply them practically. We had group discussions to aid the development of our interpretation of Smith's model and created our own definitions of each state. This process led to a shared and consistent understanding of relaxation states, but we have no way of verifying whether they may differ from Smith's original ideas.

Some of the presented states are more commonly known in the music psychology literature as strategies or processes, e.g., Discharge (Saarikallio & Erkkilä, 2007). However, in this paper we chose to use the term "states" due to the nature of our data: participants' responses provided us with "snapshots" of experiences so the picture is rather static, and thus we considered "state" as a more appropriate term in this situation. So, we acknowledge that although we are presenting these phenomena as states, in reality some of these relaxation experiences also have a procedural nature.

CONCLUSION

Our results suggest that music-facilitated relaxation cannot be understood purely through reduced arousal or increased positive affect but is, rather, a broader self-regulatory process aimed at achieving an optimal state for a current situation. Although Smith's model of relaxation was not sufficient to fully explain all the variability in our data, it provided a good foundation for differentiating music-facilitated relaxation states. The next step in our research is to compare participants' descriptions as defined in this article with music analysis of their relaxation music selection and also participants' emotional, cognitive, and physical state. We hope that this exploratory study will provide the basis for larger studies that will investigate the factors contributing to this complex phenomenon.

In addition to its scientific impact, the findings of this research can inform practitioners when planning to use music for relaxation or assessing client's music use. First of all, it is important to better understand the challenges related to promoting relaxation as a part of stress management strategy. When developing and applying interventions that include music-facilitated relaxation, we

need to take into account the multiplicity of relaxation states and a person's preference towards some of these. When assessing one's stress management strategies and relaxation skills, we need to make sure that our understanding of relaxation aligns with the client's understanding, so that our understanding of the coping repertoire is adequate and our efforts to improve relaxation-based interventions are relevant. Finally, although this study focused on music-facilitated relaxation specifically, some of our results may be applicable for understanding relaxation in other contexts too, such as those combined with other creative activities.

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Ελληνική περίληψη | Greek abstract

Προσδιορισμός διαφορετικών καταστάσεων μουσικά-υποστηριζόμενης χαλάρωσης

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ΠΕΡΙΛΗΨΗ

Η μουσικά-υποβοηθούμενη χαλάρωση χρησιμοποιείται ευρέως από επαγγελματίες όπως οι μουσικοθεραπευτές, αλλά και από ακροατές μουσικής ως ψυχαγωγία. Σύμφωνα με το Κυκλικό μοντέλο (Circumplex) του Russel για το συναίσθημα, η χαλάρωση μπορεί να κατανοηθεί ως μια κατάσταση χαμηλής διέγερσης, ενώ ο Smith πρότεινε ότι περιλαμβάνει μια ποικιλία θετικών συναισθηματικών καταστάσεων. Σκοπός της παρούσας μελέτης ήταν να διερευνήσει πως οι μουσικοί ακροατές περιγράφουν την μουσικά-υποβοηθούμενη χαλάρωση. Οι στόχοι ήταν να εξεταστούν, 1) αν το μοντέλο χαλάρωσης του Smith μπορεί να εφαρμοστεί στη μουσικά-υποβοηθούμενη χαλάρωση, και 2) ποιος είναι ο ρόλος της συναισθηματικής φόρτισης και της διέγερσης στη μουσικά-υποβοηθούμενη χαλάρωση. Η συλλογή δεδομένων έγινε με τη χρήση ενός ηλεκτρονικού ερωτηματολογίου. Ζητήθηκε σε 109 συμμετέχοντες να περιγράψουν την εμπειρία της μουσικά-υποβοηθούμενης χαλάρωσης σε μία ερώτηση ανοιχτού τύπου. Βάσει του μοντέλου χαλάρωσης και του Κυκλικού μοντέλου συναισθημάτων του Smith, τα δεδομένα αναλύθηκαν με τη χρήση μικτής μεθόδου ανάλυσης περιεχομένου. Οι συμμετέχοντες περιέγραψαν καταστάσεις αποφόρτισης και αυξημένης διέγερσης, καθώς θετική και αρνητική συναισθηματική φόρτιση. Το μοντέλο του Smith δεν μπορούσε να χρησιμοποιηθεί για τον επιτυχή εντοπισμό όλων των καταστάσεων χαλάρωσης που διευκολύνονται από τη μουσική. Με βάση τα δεδομένα και το μοντέλο του Smith, αναδύθηκαν πέντε βασικές κατηγορίες, αποτελούμενες από 15 καταστάσεις της μουσικά-υποβοηθούμενης χαλάρωσης: Ενσυνειδητότητα (36% του συνόλου των περιγραφών χαλάρωσης), Ανάπαυση (21%), Υπερβατικότητα (21%), Πληρότητα (16%) και Ενεργητικότητα (6%). Τα αποτελέσματα αυτά υποδηλώνουν ότι η χαλάρωση με τη βοήθεια της μουσικής δεν μπορεί να θεωρηθεί μια κατάσταση χαμηλής ενέργειας και θετικών συναισθημάτων, αλλά μάλλον αποσκοπεί στην επίτευξη μιας βέλτιστης κατάστασης για μια τρέχουσα δραστηριότητα και κατάσταση. Τα ευρήματα αυτής της έρευνας μπορούν να ενημερώσουν τη μελλοντική έρευνα και τους επαγγελματίες όταν σχεδιάζουν τη χρήση μουσικής για χαλάρωση ή αξιολογούν τη χρήση μουσικής από τους πελάτες.

ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ

χαλάρωση, μουσικά-υποβοηθούμενη χαλάρωση, αυτορρύθμιση, διέγερση, ένταση