Psihološka istraživanja, Vol. XXVI (2) 2023.
269–297

UDK 159.937.51/52.072-057.875(497.11)
111.852:793.3(497.11)
TIP ČLANKA: Originalni naučni rad
DOI: 10.5937/PSISTRA26-44278

Music and Dance: The comparison between non-dancer's aesthetic experience and their bodily sensations

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The paper aims at investigating and comparing the observers' aesthetic experience and their bodily sensations in two different settings: when only listening to music and when watching dance choreographed to that particular music. The study included 209 students, non-dancers and non-musicians, aged between 17 and 27 (M = 19.39, SD = 1.37, 70.3% women) from Novi Sad Business School. The stimuli consisted of six audio-visual recordings of original dance performances including three contemporary and three hip hop pieces. The stimuli were presented in two different settings: in the first one, the participants only listened to the audio recordings of the music, while in the second they watched the audio-visual recordings of the choreographies made for that particular music. Each piece was assessed on two scales, one measuring the structure of aesthetic experience on three dimensions (Dynamism, Affective Evaluation and Exceptionality), and the other measuring the structure of bodily sensations (Focus, Excitement and Embodied Anticipation). The results show that the setting (music only/dance to music) had a statistically significant effect on students' assessments of their aesthetic experience and bodily sensations. Participants' assessments of the dimensions of Affective Evaluation, Exceptionality and Focus were significantly higher when they watched dance choreographies made to the music which they had previously only listened to. Based on these results, it is concluded that the higher the participants' assessment of the delicacy, elegance and their attention to dance movements, the higher their engagement with the piece.

Keywords: aesthetic experience, bodily sensations, listening to music, watching dance

Introduction

Dance in its natural form is a complex, usually multimedia artistry, which includes both vision and music. Although music and dance are two separate forms of art, during a dance performance, when music and dance are given in their original merged form, a unique aesthetic experience is created through

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their dynamic interaction (Jordan, 2011). Their relationship has been explored over the past 15 years from the perspective of choreomusical studies (Damsholt, 2017; Jordan, 2011; Mason, 2012; Schröder, 2017). As claimed by Carrol and Moore (2012), the performance of dance is closely related to the music because its final aesthetic appearance is accomplished only when a dance piece is performed with music, albeit there are very rare cases when the absence of music is used as a stylistic element, so dance is performed in silence (Hagendoorn, 2011). As explained by Krešić (1997), music is not only an inspiration for dancers and choreographers, it is also a powerful means which, when joined in effect with dance, influences the overall aesthetic experience both of dancers and of their audience. When exploring the audiences' aesthetic experience of dance, one of the most complex issues related to research design is the one related to music (Christensen & Calvo-Merino, 2013; Howlin et al., 2020; Jordan, 2011). According to Christensen and Calvo-Merino (2013), dance performed to music results in a special aesthetic experience, although it is not completely clear how dance and music are combined in the cognitive system of the observer. Thus, the main goal of this paper is to explore the observers' aesthetic experience of dance and to compare different sensations experienced while only listening to music and while watching dance choreographed to that particular music.

The impact of music is assumed to be a confounding factor because music is a separate artistic discipline which has its own effect on the listener, and, as such, it arouses aesthetic experience according to its particular principles and rules (Hanna, 1982). For example, it has been argued that music is an art form which elicits strong emotional responses in listeners (Egermann & Reuben, 2020). Moreover, the aesthetic experience of music is explained as an immersion of the listener into the music, where he or she devotes the attention to the specific multimodal evaluation and interpretation (Reybrouck et al., 2018). Across cultures, people spontaneously synchronize their body movements with the music (Foster Vander Elst et al., 2021; Carrol & Moore, 2012; Hagendoorn, 2011). According to Boso et al. (2006), music can be a source of different pleasant bodily sensations such as chills, thrills and tingles. There are bodily sensations which are a part of the overall aesthetic experience of music. These include, for example, changes in the heart rate and in the work of the respiratory system, blood pumping to the muscles of the legs and arms etc. (Bernardi et al., 2006; Cervellin & Lippi, 2011; Janata & Grafton, 2003; Janata et al., 2012; Reinhardt, 1999; Thaut et al., 2014; Thaut et al., 2015; Tormodsdatter Færøvik, 2017).

Due to this specific connection between dance and music, previous studies dealing with the aesthetic experience of dance adopted different approaches and research designs regarding music. In order to control for music as a possible confounding variable when exploring the observers' aesthetic experience of dance, some authors display dance movements

without music as a stimulus (Calvo-Merino et al., 2005; Cross et al., 2011; Vukadinović, 2013). On the other hand, there are studies dealing with the aesthetic experience of dance in which music and dance are not separated (Glass, 2005; Stevens & McKechnie, 2005; Vukadinović & Marković, 2017). Moreover, by exploring dance in the settings with and without music, several studies used this beneficial methodological solution to control for the effect of sound or music in the exploration of different aspects of both the dancers' (Stevens et al., 2009) and the observer's experience of dance (Howlin et al., 2020; Reason et al., 2016; Reynolds et al., 2014; Warrenburg et al., 2020).

Using a trans-disciplinary approach and combining qualitative research and functional brain imaging (fMRI) in the investigation of audio-visual congruency in the aesthetic perception of dance, Reason and collaborators (Reason et al., 2016) assessed dance which was performed three times, in the presence of three different soundtracks: Bach's concerto for Oboe and Violin in C, the sound of breathing and footfalls without music, and electronic music. They found that when the performance did not include music, both the sound of the performer's breathing and the footfalls had a significant impact on the spectators' aesthetic experience, i.e. some members of the audience found the setting which included the breathing soundtrack unpleasant. Later on, Howlin and collaborators (2020) explored the role of audio-visual congruency in the aesthetic appreciation of contemporary dance videos, using a single soundtrack and manipulating the temporal relationship between sound and movement. In their research, they used two different settings. In the congruent setting, they presented movement and sound as they were recorded, while in the incongruent one, the soundtrack was played in reverse. They found that, in the second setting, the audio-visual incongruence was assessed as more enjoyable and it can be perceived as aesthetically pleasant. The authors explained that such a finding occurred as a result of a different viewing pattern because the spectators structured "their attention within the visual continuous stream of dance movement" (Howlin et al., 2020, p. 16). They concluded that most probably non-expert observers of dance "typically expect musical accompaniment, or at least an arbitrary relationship between movement and sound that allows them to search for interesting correspondences and conflicts between auditory and visual content and structure" (Howlin et al., 2020, p.17).

Moreover, recent studies have shown that not only congruency between music and dance, but also the preference for some particular type of music could influence the overall aesthetic experience of a piece (Chin et al., 2018; Luck et al., 2014; MacDonald et al., 2012; Patton, 1991). For instance, Chin et al. (2018) suggest that music preference influences the way in which people engage with music and impacts person's musical identity and listening habits. Furthermore, in their research, these authors outlined six broad genres such as rock or metal; classical; pop or easy listening; jazz, blues, country or folk;

rap or hip/hop; dance or electronica. However, they have pointed out that music preference is difficult to measure since there is no consensus on what the basic genres should be. In addition, they have noted that music genres are constantly changing and evolving so that new genres and subcategories of genres are created.

Nevertheless, the topic of music preferences has been widely studied. Thus, compared to the findings of Chin et al. (2018), diverse papers report different but similar classifications of preferences, emphasising not the genres but the musical properties (Rentfrow et al., 2011, 2012). In this regard, Rentfrow et al. (2011, 2012) conceptualized a five-factor "MUSIC" model, which includes dimensions such as Mellow, Unpretentious, Sophisticated, Intense and Contemporary. This model is not dependent on genres, but it reflects the listener's emotional response to music. According to these authors, the five dimensions of the "MUSIC" model are affected both by the social and the auditory characteristics of music. Used in recent studies, the "MUSIC" model has been proven to be a comprehensive approach to studying universals and variations in musical preferences (Greenberg et al., 2022), as well as to investigating the relationship between personality traits and music preferences (Schäfer & Melhorn, 2017).

Although previous studies have provided significant insight into some aspects of the relationship between sound and dance, the question of the relationship between music and dance choreographed to that particular music remains open. It is a challenging issue which is hard to address because it lies on the border between art and science. Since science and art use opposing methodologies (Jola, 2010), when exploring the aesthetic experience of dance with the intention of following the strict rules of empirical aesthetics, achieving a holistic approach to dance becomes difficult (Jola et al., 2011). Namely, although research designs which investigate the aesthetic experience of dance without music may provide the most reliable information, their setting is unnatural because dance which is composed to the music and then performed without it loses its aesthetic effect both for the dancers and for the audience. On the other hand, in the studies which do not separate dance and music, the problem of reliability and validity of the results arises since it is difficult to distinguish whether the aesthetic experience of dance stems from music, dance itself, or the combination of the two.

The purpose of the study

The present study attempts to maintain a holistic approach to the exploration of the aesthetic experience of dance, while abiding the strict rules of empirical aesthetics. As previously suggested by Hanna (1982), dance performed to music has its own independent aesthetic value, while sound holds its primary values as a product of music. In an attempt to capture

the independent aesthetic value of dance, the main goal of this paper is to compare the observers' aesthetic experience and bodily sensations in two settings: while only listening to music (the first setting) and while observing dance choreographed to that particular music (the second setting).

Moreover, the difference in our approach is related to the measurements used. Two psychometric scales, one measuring the structure of the observers' aesthetic experience (Vukadinović & Marković, 2012) and the other measuring the structure of bodily sensations (Vukadinović & Marković, 2022), were applied. The scales for measuring the observers' aesthetic experience as well as their bodily sensations were constructed based on several assumptions. Firstly, the aesthetic experience is understood as a special state of mind in which a person strongly focuses on the object she or he is fascinated with while all other events are suppressed from consciousness (Beardsley, 1982; Cupchik 1974; Csikszentmihalyi, 1990; Koestler, 1970; Kubovy, 1999; Marković, 2017; Ognjenović, 2003). Secondly, the aesthetic experience includes a cognitive, affective and conative component (Marković, 2017). Finally, such engagement of the observer with the work of art is followed by kinaesthetic responses, i.e. bodily sensations (Foster, 2008, 2011; Jola et al., 2011; Martin, 1939; Reason & Reynolds, 2010; Reynolds & Reason, 2012; Strukus, 2011).

The structure which underlies the observers' aesthetic experience of dance consists of three dimensions: Dynamism is connected with the expressiveness and powerfulness of the piece, Affective Evaluation with the emotionality and elegancy, while Exceptionality is related to the admiration for the performance skills and originality of the artistic content (Vukadinović & Marković, 2012). Furthermore, the factor structure of the audience's bodily sensations consists of three dimensions: Focus is related to the audience's fascination and admiration of virtuosity, Excitement is connected with the pleasure of inner mimicry and Embodied Anticipation is related to the development of the piece of art which brings about the changes in the audience's breathing pattern and muscular tension (Vukadinović & Marković 2022).

Regarding the aesthetic experience of dance, earlier studies have shown that, based on these dimensions, the choreographer's style (Vukadinović, 2017a), as well as different dance forms (Vukadinović, 2017b), could be discerned. Moreover, concerning the dimensions of bodily sensations, the dimension of Focus significantly predicts all dimensions of aesthetic experience (Vukadinović, 2018). Finally, the observers' aesthetic experience is influenced by the overall context of the performance such as music, scenography, lighting, dancers' interpretation of the choreography and physical characteristics of the dancers (c.f. Vukadinović, 2019).

Thus, the principal aim of this paper is to compare how the observers (non-dancers) assess the aesthetic experience and bodily sensations in two different settings – when only listening to music and when watching dance

choreographed to that particular music. Moreover, regarding these two settings, the aim is to explore if there are any differences in the observers' assessments of their aesthetic experience and bodily sensations regarding two different genres: contemporary and hip hop genre.

Having in mind the dynamic interaction between music and dance (Jordan, 2011), the fact that visual information usually outweighs the auditory (Tsay, 2013; Woolhouse & Lai, 2014) and the assumption that dance has an aesthetic value of its own (Hanna, 1982), it can be hypothesized that watching dance choreographed to the music which was previously only listened to will result in higher assessments of the aesthetic experience and bodily sensations by the observers. More precisely, we assume that, regarding the dimensions of aesthetic experience, the participants will assess the dimensions of Affective Evaluation and Exceptionality with higher values when watching dance choreographed to the music they previously only listened to. Further, concerning the dimensions of Bodily sensations, we assume that the participants will also rate the dimension of Focus with higher values when watching dance choreographed to the music they previously only listened to.

Moreover, taking into account some previous findings regarding the audience's different aesthetic experience when watching choreographies of different types of dance (Kempe & Heinen, 2022; Orgs et al., 2016; Vukadinović, 2017b, 2018, 2019), it can be hypothesized that the observers will assess hip hop and contemporary genres differently on the dimensions of aesthetic experience, as well as on the dimension of bodily sensations. Based on the previous findings, it is assumed that differences will be related to the dimension of Affective Evaluation and the dimension of Focus, both when only listening to music and when watching dance choreographed to that particular music. In other words, we assume that the participants will assess the contemporary genre with higher values on the dimensions of Affective Evaluation and Focus.

Method

Participants

The participants included 209 students aged between 17 and 27 (M = 19.39, SD = 1.37, 70.3% women) from Novi Sad Business School.

Since earlier studies indicated that dance expertise (Orgs et al., 2018; Rose et al., 2020), as well as familiarity with the movement vocabulary (Kirsch et al., 2013; Orgs et al., 2013), have a significant impact on aesthetic judgement, students who participated in this study were non-dancers, which means that they did not have training of any kind in dance and physical activity, either

recreational or professional. Moreover, the participants did not have any kind of musical training or education (e.g. playing an instrument, making music through software, music production). Their preference for a particular music genre was controlled for. Only 15.3% of the participants preferred hip hop music. The participants had an option to add another genre if their genre of preference was not offered and a large number of them opted to state that they enjoyed all music genres (47.8%). Pop and rock music was preferred by 26.8%, while 10% of the participants preferred folk music. In addition, the participants were not familiar with either the audio-visual recordings of music or the choreographies which were used as stimuli.

The students gave informed consent to participate in the study. They did not receive any course credit or monetary compensation, their participation was voluntary and anonymous. The study was conducted in accordance with the Declaration of Helsinki.

Stimuli

The stimuli were downloaded from You Tube and adapted for the purpose of this research. They consisted of six video recordings of original dance performances from the American television dance competition show *So You Think You Can Dance* that aired on Fox between 2008 and 2016 (the websites are listed in Appendix – Table A1). There were choreographies of two different types of dance. To ensure the control for the influence of the choreographer's style (Vukadinović, 2017a), three contemporary pieces from the same choreographer – Sonya Tayeh, and three hip hop pieces from other two choreographers (Tabitha and Napoleon D'umo) were chosen. These choreographers are few-time nominees and winners of *Primetime Emmy Awards for Outstanding Choreography.* All choreographies were performed by a couple consisting of a male and a female dancer. Regarding the length of dance stimuli, earlier studies usually used fragments of a dance sequence, but it turned out that the overall aesthetic experience was diminished by such kind of fragmentation (Christensen & Calvo-Merino, 2013). Having this in mind, in this study, a full length of each single stimulus was presented to the participants to ensure ecological validity as it had been recommended in previous research (Jola & Christensen, 2015). The duration of each video recording was around 100 seconds (the range was between 97 and 105 sec.). Dance presented on the video recordings was accompanied by the music which was selected by the choreographer who made the dance piece. In addition, video recordings were similar in length, the performing stage was the same, all the recordings included a couple of dancers of similar age and abilities, while the costumes, lighting and music were designed and chosen by the choreographer and the team of producers in accordance with the main

idea of the choreography. The originality of the dance setting was preserved so that dance can be presented to the observers in a more natural setting. However, it should be underlined that a live performance compared to a recorded one brings significantly more enjoyment to the novice observers, as well as provides a better distinction across dance performances (Jola & Grosbras, 2013).

In the present study, the stimuli were presented in two settings. In the first setting, the participants only listened to the music from the recordings, without watching the choreography made for that particular music. After listening to a music piece, they made their assessments. The same procedure was repeated in the second setting, where they watched the entire recording – music with dance choreographed to that particular music. The participants made their assessments after each choreography.

Instruments

The questionnaire related to socio-demographic characteristics included questions about age and gender and the participants' dance practice (training in dance and training and education in music). Preferences for a particular type of music were measured in the following way: the participants marked the answer which suited their preferences most. Different music genres were offered: pop and rock, folk music, hip-hop, and other (they were offered a blank space to fill in the music genre of their preference). These particular genres were offered since recent studies had shown a particular cultural trend in the preference for folk music (Cvetičanin & Popescu, 2011; Cvetičanin et al., 2012; Jovanović, 2005), as well as a pattern of preferences for listening to pop and rock vs. folk music, especially among young people (Krnjaić et al., 2020).

For the assessment of the aesthetic experience, we used the instrument constructed by Vukadinović and Marković (2012). It consists of 12 seven-point rating scales that measure three dimensions: *Dynamism* (expressive, powerful, strong, and exciting), *Exceptionality* (eternal, unspeakable, unique, and exceptional) and *Affective Evaluation* (delicate, elegant, seductive, and emotional). When completing the scales, the participants were instructed to mark the number according to their impression: the higher the impression, the higher the number (1 being the minimum, 7 being the maximum). The Cronbach's alpha reliability of scales which measure Dynamism was $\alpha = .878$, for Affective Evaluation it was $\alpha = .872$ and for Exceptionality $\alpha = .919$.

In order to measure bodily sensations, the instrument constructed by Vukadinović and Marković (2022) was used. This instrument contains 11 dichotomous (yes/no) scales which measure three dimensions: *Focus* (I hold

my breath, I get goosebumps, I can't look away, and I can't blink), *Excitement* (My heart beats faster, I have butterflies in my stomach, I feel vibrations in my body, I mimic the movements while I sit) and *Embodied Anticipation* (My knees buckle, I get teary-eyed, I shake). The participants had to mark their experience on dichotomous scales, 1 = if they perceived a bodily sensation or 0 = if they did not perceive any bodily sensations. The Cronbach's alpha reliability of scales which measure Focus was α = .754, for Excitement it was α = .727 and for Embodied anticipation α = .730. All scales used in this study and the instructions for completing them were presented in the Serbian language.

Procedure

After the participants had given their consent to participate in the study, they answered a set of questions related to their age, gender, training in dance and training and education in music, as well as to their preferences for the music genre.

The equipment used in the research consisted of loudspeakers and an LCD projector with screen dimensions h = 1.20m x w = 2.20m.

All participants took part in two research settings.

In the first setting, the stimuli were presented only by displaying the music of the video recording. The participants listened to six music recordings and they made their assessments on the scales measuring the aesthetic experience and on the scales measuring bodily sensations. After each presented stimulus, the participants answered if they were familiar with that particular music by marking yes or no to the statement "I have heard this music before". The music was played through loudspeakers and the participants listened to music together in group.

In the second setting, the participants rated six dance pieces choreographed to the music that they had only listened to in the first setting. They assessed each choreography on the scales measuring the aesthetic experience of dance and the scales measuring bodily sensations. After each presented stimulus, the participants answered if they were familiar with that particular choreography by marking yes or no to the statement "I have seen this choreography before". The choreographies were presented on a screen via LCD projector. The participants observed the stimuli from a distance of 3m and each of them had the same perspective and point of view in all six videos.

In both settings, the recordings were displayed in a randomized order. The time for rating each stimulus was not limited. Only when they had finished the assessments of one recording was the next one displayed. In case the participants wanted to receive feedback on the study, a contact email of a researcher was provided to them at the end of the session.

Data analysis

Data analysis was performed using the statistical software SPSS for Windows v25.0. A multivariate analysis of variance (*GLM – Repeated measures*) was used to explore the differences in the students' assessments of both the aesthetic experience and bodily sensations when only listening to music and when watching dance choreographed to that particular music. Moreover, the same analyses were applied to investigate the differences in the students' assessments of aesthetic experience and bodily sensations when only listening to music and while watching dance choreographed to that particular music, regarding the contemporary and hip hop genres.

There were two independent variables: the setting in which the stimuli were displayed (music only/dance to music) and the genre (contemporary/hip hop). Dependent variables were the participants' assessments on the scales measuring the dimensions of aesthetic experience and on the dimensions of bodily sensations.

Regarding the dimensions of aesthetic experience, arithmetic means for each stimulus presented (listening to each of the 6 audio recordings of music and watching each of the 6 video recordings of choreographies made to that particular music) were calculated and entered into the analyses. Descriptive statistics (*M*, *SD*) for all music recordings and dance pieces choreographed to that music regarding the dimensions of aesthetic experience, as well as the dimensions of bodily sensations is presented in Appendix – Table B.

Furthermore, when it comes to the dimensions of bodily sensations, for each stimulus presented to the participants, the scores on the scales comprising each dimension were cumulatively summed, since dichotomous (yes – 1/ no – 0) measures were used. The total score for Focus may vary from 0 (minimum) – 4 (maximum), for Excitement from 0 to 4, and for Embodied Anticipation from 0 to 3. As such, they were entered into analyses. Descriptive statistics (*M*, *SD*) for all music recordings and dances choreographed to that music regarding the dimensions of bodily sensation is presented in Appendix – Table B.

Furthermore, there were six multivariate analyses of variance (*GLM – Repeated measures*) conducted in total. Two were conducted in order to examine the effect of the setting in which the stimuli were displayed (one for calculating the effect on the participants' assessments of the dimensions of the aesthetic experience and another one for the dimensions of bodily sensations). Within the first multivariate analysis, univariate tests were calculated for the participants' assessments on each single dimension of aesthetic experience, while within the second multivariate analysis, univariate tests were calculated for the participants' assessments for each dimension of bodily sensations.

In order to investigate the effect of genre on the participants' assessments of aesthetic experience and bodily sensations, four multivariate analyses of variance were applied. Within the first setting – only listening to music, we explored the effect of genre by conducting one multivariate analysis of variance (*GLM – Repeated measures*) in order to test the effect of genre on the participants' assessments of the aesthetic experience and another one to investigate the participants' assessments of bodily sensations. Moreover, in the setting where the participants only listened to music, in order to explore the effect of genre, within the first multivariate analysis, univariate tests were calculated for the participants' assessments on each single dimension of aesthetic experience, while within the second multivariate analysis, univariate tests were calculated for the participants' assessments for each dimension of bodily sensations.

Within the second setting – watching dance choreographed to previously heard music, we explored the effect of genre by conducting the third multivariate analysis of variance (*GLM – Repeated measures*) in order to test the effect of genre on the participants' assessments of the aesthetic experience and the fourth one for the participants' assessments of bodily sensations. Furthermore, in the setting where the participants watched choreographies made to the music they had previously listened to, in order to explore the effect of genre, within the third multivariate analysis, univariate tests were calculated for the participants' assessments on each single dimension of aesthetic experience, while within the fourth multivariate analysis, univariate tests were calculated for the participants' assessments for each dimension of bodily sensations.

In performing the multivariate analysis of variance (*GLM – Repeated measures*), independent variables were entered as Within-subject Variables, while gender and preference for a particular music genre were entered as Between-Subjects Factors.

Results

The results of two conducted multivariate analysis of variance (*GLM – Repeated measures*) have shown that there is a statistically significant effect of **the setting in which the stimuli were displayed (music only/dance to music)** on the students' assessments of the aesthetic experience and bodily sensations. Moreover, the results have shown that Between-Subject effects of and preference for a particular music genre are not statistically significant. This means that students' assessments were not moderated by their gender and their preference for a particular music genre. The results of these two multivariate analyses of variance are presented in Table 1.

Table 1
The effect of setting in which stimuli was displayed on the participants' assessments of dependent variables

	Aesthetic experience	*Bodily sensations*
The setting (music only/ dance to music)	$F(3, 199) = 40.61$; $p < .001$, $\eta_p^2 = .380$	$F(3, 199) = 48.22$; $p < .001$, $\eta_p^2 = .421$
Gender	$F(3, 199) = 0.27$; $p = .059$, $\eta_p^2 = .040$	$F(3, 199) = 0.59$; $p = .617$, $\eta_p^2 = .009$
Preference for a particular music genre	$F(9, 603) = 1.36$; $p = .199$, $\eta_p^2 = .020$	$F(9, 603) = 0.48$; $p = .884$, $\eta_p^2 = .007$

Further results of univariate tests calculated for each dimension of aesthetic experience, as well as for the dimensions of bodily sensations, are presented united in Table 2.

Table 2
Univariate tests for the participants' assessments on single dimensions of aesthetic experience and bodily sensations

	Two settings			
	1		2	
	Only listening to music		Watching dance choreographed to that particular music	
The dimensions of aesthetic experience	M	SD	M	SD
Dynamism	4.21	0.12	4.20	0.13
($F(1, 201) = 0.01$; $p = .971$, $\eta_p^2 = .000$)				
Affective Evaluation	2.66	0.09	3.37	0.11
($F(1, 201) = 68.57$; $p < .001$, $\eta_p^2 = .254$)				
Exceptionality	3.25	0.11	3.48	0.14
($F(1, 201) = 7.48$; $p = .007$, $\eta_p^2 = .036$)				
The dimensions of bodily sensations				
Focus	0.65	0.06	1.33	0.09
($F(1, 201) = 84.01$; $p < .001$, $\eta_p^2 = .295$)				
Excitement	1.41	0.08	1.18	0.08
($F(1, 201) = 14.55$; $p < .001$, $\eta_p^2 = .068$)				
Embodied Anticipation	0.25	0.03	0.28	0.03
($F(1, 201) = 0.94$; $p = .332$, $\eta_p^2 = .005$)				

M – mean of six stimuli belonging to music and six dances choreographed to that particular music.

The results of Post-hoc tests (the Bonferroni correction) indicate that the participants' assessments of the dimensions of Affective Evaluation (p <.001), as well as of Exceptionality (p = .007), were significantly higher when they watched dance choreographies made to the music which they had previously only listened to. Moreover, regarding the dimensions of bodily sensations, the Post-hoc test (the Bonferroni correction) has shown that the participants' assessments of the dimension of Focus (p <.001) were significantly higher when they watched dance choreographies made to the music they had previously only listened to. However, the dimension of Excitement was assessed with significantly higher values (p <.001) when participants only listened to music.

In order to explore the effect of genre (contemporary/hip hop), four multivariate analyses of variance were conducted (*GLM – Repeated measures*). The results have shown that there is a significant effect of genre (contemporary/hip hop) both regarding the observers' assessments of the aesthetic experience and bodily sensations when only listening to music, as well as on the assessments of the aesthetic experience and bodily sensations when the participants watched dance choreographies made to that particular music. Moreover, in all of these cases, the effects of gender and preference for a particular music genre were not statistically significant. The results of conducted analyses are presented in Table 3.

Table 3
The effect of genre on the participants' assessments of dependent variables

	Only listening to music		Watching dance choreographed to previously assessed music	
	Aesthetic experience	Bodily sensations	Aesthetic experience	Bodily sensations
Genre (contemporary/ hip hop)	$F(3, 199) = 35.67$; p <.001, $\eta_p^2 = .350$	$F(3, 199) = 39.81$; p <.001, $\eta_p^2 = .375$	$F(3, 199) = 57.40$; p <.001, $\eta_p^2 = .464$	$F(3, 199) = 25.33$; p <.001, $\eta_p^2 = .276$
Gender	$F(3, 199) = 1.11$; $p = .346$, $\eta_p^2 = .016$	$F(3, 199) = 0.97$; $p = .404$, $\eta_p^2 = .015$	$F(3, 199) = 4.07$; $p = .058$, $\eta_p^2 = .058$	$F(3, 199) = 0.05$; $p = .861$, $\eta_p^2 = .004$
Preference for a particular music genre	$F(9, 603) = 1.01$; $p = .426$, $\eta_p^2 = .015$	$F(9, 603) = 0.30$; $p = .974$, $\eta_p^2 = .004$	$F(9, 603) = 1.81$; $p = .062$, $\eta_p^2 = .026$	$F(9, 603) = 0.67$; $p = .732$, $\eta_p^2 = .010$

Further results of univariate tests calculated for each dimension of aesthetic experience and bodily sensations for students' assessments while only listening to music are presented united in Table 4 and while watching dance choreographed to that particular music in Table 5, also united.

Table 4
The effect of genre: Only listening to music.

	Only listening to music			
	Contemporary		Hip Hop	
	M	SD	M	SD
The dimensions of aesthetic experience				
Dynamism ($F(1, 201) = 3.37$; $p = .068$, $\eta_p^2 = .017$)	4.09	0.13	4.33	0.11
Affective Evaluation ($F(1, 201) = 61.56$; $p < .001$, $\eta_p^2 = .234$)	3.10	0.11	2.27	0.10
Exceptionality ($F(1, 201) = 3.40$; $p = .066$, $\eta_p^2 = .017$)	3.33	0.12	3.16	0.13
The dimensions of bodily sensations				
Focus ($F(1, 201) = 16.76$; $p < .001$, $\eta_p^2 = .077$)	0.80	0.07	0.51	0.06
Excitement ($F(1, 201) = 54.54$; $p < .001$, $\eta_p^2 = .213$)	1.07	0.09	1.76	0.10
Embodied Anticipation ($F(1, 201) = 0.43$; $p = .512$, $\eta_p^2 = .002$)	0.27	0.04	0.24	0.03

M – represents the arithmetic mean of three stimuli belonging to two different genre of music – contemporary and hip hop.

Table 5
The effect of genre: Watching dance choreographed to previously assessed music

	Watching dance choreographed to previously assessed music			
	Contemporary		Hip Hop	
	M	SD	M	SD
The dimensions of aesthetic experience				
Dynamism ($F(1, 201) = 2.07$; $p = .151$, $\eta_p^2 = .010$)	4.11	0.15	4.30	0.14
Affective Evaluation ($F(1, 201) = 92.15$; $p < .001$, $\eta_p^2 = .314$)	3.94	0.14	2.75	0.12
Exceptionality ($F(1, 201) = 3.74$; $p = .054$, $\eta_p^2 = .018$)	3.59	0.15	3.73	0.15
The dimensions of bodily sensations				
Focus ($F(1, 201) = 3.60$; $p = .059$, $\eta_p^2 = .018$)	1.43	0.11	1.23	0.09
Excitement ($F(1, 201) = 14.41$; $p < .001$, $\eta_p^2 = .130$)	0.93	0.08	1.43	0.10
Embodied Anticipation ($F(1, 201) = 1.74$; $p = .188$, $\eta_p^2 = .009$)	0.32	0.05	0.35	0.04

M – represents the arithmetic mean of three choreographies belonging to each dance genre – contemporary and hip hop.

Regarding the aesthetic experience, the results of Post-hoc tests (the Bonferroni correction) in both cases (only listening to music and watching dance choreographed to that particular music) indicate that the participants' assessments of the dimensions of Affective Evaluation are assessed with significantly higher values ($p < .001$) regarding the contemporary genre when compared to hip hop.

Furthermore, regarding the dimensions of bodily sensations, when only listening to music, the participants assessed contemporary genre on the dimension of Focus with significantly higher values (p <.001), while they assessed hip hop genre with significantly higher ratings (p <.001) on the dimension of Excitement. On the other hand, when the participants watched dance, they rated hip hop choreographies with significantly higher values (p <.001) on the dimension of Excitement compared to contemporary dance choreographies.

Discussion

As expected, the findings of this research indicate that when the participants watch choreographies made to the music they previously only listened to, their assessments of the dimensions of Affective Evaluation and Exceptionality are significantly higher. In other words, there is an effect of the specific setting (only listening to music / watching dance choreographed to the previously heard music) on the observers' aesthetic experience. This means that, when the participants observe dance choreographed to the music they previously only listened to, they assess their experience of the piece as more delicate, elegant, seductive, and emotional, as well as more unique and exceptional. Compared to the setting where the participants only listened to music, in the second setting, where they watched dance choreographed to that particular music, both the observers' fascination, and their affective response, as the components of the overall aesthetic experience, intensified. These findings are in line with Hanna's idea (1982) that dance has its own independent aesthetic effect. They could also be interpreted in the context of the results of some more recent studies. For example, Jordan (2011) points out the phenomenon of "visual capture" where the perception of music is influenced by the movement in such a way that if the musical sequence were heard alone, it may be barely perceptive. On the other hand, Christensen and collaborators (Christensen et al., 2016) assume that it is not the music itself which provokes an affective response, but rather the observers' self-conjured images that arise when they watch a dance performance. According to these authors, for some observers, dance elicits affective experience through their imagery and autobiographical memories. However, these could be only some of the possible ways of interpreting the results obtained in this study, since visual capture and the observers' autobiographical memories were not empirically tested or controlled for.

Moreover, regarding the dimensions of bodily sensations, the results have shown that the participants' assessment of the dimensions of Focus, as it was expected, was significantly higher when they watched dance choreographies made to the music they had previously only listened to. Since the dimension

of Focus is related to the audience's amazement and fascination, these findings indicate that the participants are more engaged with the piece when watching dance choreographed to the music they previously only listened to. Furthermore, the dimension of Focus includes sensations such as *I hold my breath*, *I get goosebumps*, *I can't look away*, *I can't blink*, which appear to be close to Jordan's (2011) phenomenon of "visual capture".

If observed together, the findings of the present study indicate that the dimensions of Affective Evaluation, Exceptionality and Focus are assessed with higher values in the second setting, when the participants watch dance choreographed to the music they previously only listened to. These results indicate that the participants rate their focus with higher values when they watch dance choreographed to the music that they previously only listened to, and that the higher the participants' assessment of the delicacy and elegance of dance movements, the higher their engagement with the piece. In addition, Christensen and collaborators have drawn a very similar conclusion from their study dealing with the affective response – the more impressive the dance movements, the more positive the affective responses they result in (Christensen et al., 2016).

However, the findings of the present study have also shown that the dimension of bodily sensations – Excitement – is assessed with lower values when the participants watch dance choreographed to the music they previously only listened to. This finding could be understood in the context of the familiarity of the stimuli. Previous studies indicated that familiarity played an important role in the appreciation of the aesthetic stimuli (Marković, 2017; Silvia, 2012; Verhaeghen, 2018). Marković (2017) explained that familiarity usually occured when subjects had been previously exposed to aesthetic stimuli and that the experience of aesthetic pleasantness was actually a consequence of the subject's relaxation when encountering a familiar environment. Regarding our research, in the first setting, the stimuli were novel to the participants, and thus the excitement could be assessed with higher values. However, in the second setting, where the music was already familiar because of the participants' previous exposure, the dimension of Excitement was rated with lower values. Novelty of the stimuli was related to the presentation of dance choreographed to that particular music which, as it was shown, resulted in higher assessments of the dimension of Focus and the dimensions of aesthetic experience, i.e. Affective Evaluation and Exceptionality.

Observed in two settings (only listening to music and watching dance choreographed to that particular music), the aim of this study was also to explore if there were any differences in the assessments of the observers' aesthetic experience and bodily sensations regarding two different genres – contemporary and hip hop. In both settings, when it comes to aesthetic

experience, the results have shown that contemporary pieces were assessed with higher values compared to hip hop on the dimension of Affective Evaluation. They were rated as significantly more seductive, emotional, elegant and delicate. This result was expected since earlier studies pointed out that these two genres belonged to different categories: contemporary to "stage" and hip hop to "street" genre (c. f. Dodds, 2018; Petracovschi, Costas, & Voicu, 2011; Vukadinović, 2017b).

Furthermore, regarding the dimensions of bodily sensations, there are two findings which should be singled out. The first one is related to the setting where the participants only listened to music. In that setting, the participants assessed the contemporary genre on the dimension of Focus with significantly higher values compared to the hip hop genre. This finding suggests that music which belongs to the contemporary genre engages the participants more than hip hop music. However, no matter the setting, hip hop genre brings more excitement to participants. Namely, the second finding which stands out is that, in both settings, the participants assessed the hip hop genre with significantly higher values compared to the contemporary genre on the dimension of Excitement. Even though contemporary genre elicits a more intense aesthetic experience, it seems that hip hop genre provokes a stronger body response such as faster heartbeat, a feeling of vibrations in the body, etc. This finding could be interpreted with several facts. Firstly, the genre of hip hop is strongly based on the rhythm (Bynoe, 2006; Hoffmann, 2005). Secondly, the rhythm is what connects music and dance (Fitch, 2016; Madison, 2006) and it is particularly accentuated in hip hop genre. What is more, it has been found that people synchronize their body movements with the music (Foster Vander Elst et al., 2021; Carrol & Moore, 2012) and that changes in the heart rate, blood pumping to the muscles of the legs and arms, as well as changes in breathing could be a result of the influence of the rhythm (Cervellin & Lippi, 2011; Janata et al., 2012; Reinhardt, 1999; Tormodsdatter Færøvik, 2017). All this leads to the conclusion that the hip hop genre singles out through its emphasized rhythmicity which, as a result, elicits higher Excitement in the audience.

Finally, based on our results, it can be concluded that the students' assessments of aesthetic experience and bodily sensations observed in two explored settings are not moderated by gender and their preference for a particular music genre. In relation to the music preferences, this result could be explained by the fact that the offered categories were rather "rough" and too broad so they did not cover the participants' passion for sub-genres (Chin et al., 2018). Thus, the influence of the preference for a particular music genre on the assessments of aesthetic experience and bodily sensation was not significant. For instance, trap was not offered as a sub-category of hip hop. On the other hand, it is also possible that the participants have not developed

a preference for a particular music genre yet, as Chin and collaborators (2018) suggest, or that their preferences are biased by social identity (Krnjajić et al., 2020). By all means, in future studies, when exploring the spectators' aesthetic experience and bodily sensations of dance choreographed to a particular music, an accurate measurement of music preference should ensure that the spectators' preference is precisely captured (Chin et al., 2018).

Limitations

Several limitations of the present study should be mentioned. Concerning the sample of participants, the number of male and female participants was not balanced. Since there were around 70% of female participants, the results which refer to the effect of gender not moderating the participants' assessments of the aesthetic experience and bodily sensations should be taken with reservation. This is especially important since previous studies have shown that, when compared to men, women assess dance as more harmonized, precise, powerful, mysterious, dynamic, rhythmic, flaunting, diverse and rich (Mandarić & Jovančević, 2017; Pflug & Mandarić, 2012).

Moreover, even though a preference for a particular music genre was controlled for, the lack of control for the variables which may alter the aesthetic experience (Carrol & Moore, 2012; Glass, 2005; Reason & Reynolds, 2010), such as liking or disliking the particular music presented in the stimuli, could represent a limitation as well. In addition, only non-dancers and non-musicians participated in the present study, so the variable of expertise in a particular discipline of art was controlled for. However, since previous studies have shown that the observers' artistic expertise influences their overall aesthetic experience (Orgs et al., 2018; Rose et al., 2020), the groups of dancers and musicians should be included in future research. It is very likely that those who have training in dance or music will differ from non-dancers or non-musicians in their aesthetic experience and bodily sensations when only listening to music and when watching dance choreographed to that particular music.

The second group of limitations is related to the fixed research setting and only one group of participants. Although several previous studies explored and compared different settings such as listening to music only, combining sound and movement and watching dance without music (Reason et al., 2016; Howlin et al., 2020; Warrenburg et al., 2020), in the present study, a fixed setting was chosen as the best solution in order to ensure the ecological validity (Jola & Christensen, 2015), as well as the natural setting of listening to music and watching dance. However, based on the results of previous studies, it can be assumed that if the present research had, for example, three different

groups of participants, one listening to music and watching dance afterwards, the other with the reverse order of displaying the stimuli – watching dance and after that listening to music, and the third group which would only watch dance without music, our findings would be different. Namely, in the setting where dance is watched together with music in the first place, all dimensions of aesthetic experience and bodily sensations would be assessed with higher values compared to the other settings mentioned. In addition, having only one group of participants with the same fixed setting disables the possibilities for the mentioned comparison between groups, which would have a different setting in which the stimuli is displayed.

The third group of limitations is related to the stimuli. The stimuli were presented as audio-visual recordings, which may be an issue, since earlier studies have shown that the medium of presentation, i.e. live or recorded, significantly influences the audience's aesthetic experience of dance (Jola & Grosbras, 2013; Vukadinović & Marković, 2012). Furthermore, the fact that only two genres (contemporary and hip hop) were investigated and compared represents another limitation of this study. A variety of dance and music genres such as, for example, tango, salsa, or classical ballet pieces, would be interesting to explore and compare. The selection of choreographies which constituted the stimuli poses one more limitation. Since it has been shown that the choreographer's style also affects the observers' aesthetic experience (Vukadinović, 2017a), to ensure the control for the influence of the choreographer's style, three contemporary pieces by the same choreographer – Sonya Tayeh and three hip hop pieces by other two choreographers (Tabitha and Napoleon D'umo) were chosen. This solution ensured better control for the choreographer's style, but it also limited the choice of stimuli, which means that other choreographies from different choreographers of the same genre could potentially result in different assessments. Based on our earlier findings, we assume that possible differences could be related to the intensity of the aesthetic experience but not its structure (Vukadinović & Marković. 2017; Vukadinović, 2017a; 2017b; 2018). In other words, regardless of the choreographer's style within one particular genre, Affective evaluation will differentiate the contemporary genre from hip hop. Excitement would also, in any case, be higher when assessing the hip hop genre compared to the contemporary genre.

Nevertheless, the results of present study provided a better insight into the difference between the observers' aesthetic experience and bodily sensations when they only listened to music and after they had watched dance choreographed to that particular music. In addition, regarding these two settings, a better insight was gained into the differences in the observers' aesthetic experience and bodily sensations between the contemporary and hip hop genre.

Conclusion

Before the final conclusion of this study is drawn, it is important to mention some practical implications of our results. On one hand, the findings of this study could be useful for researchers in the domain of psychology, especially those interested in the psychology of art and aesthetic experience. This research indicates how the dimensions of aesthetic experience and bodily sensations are perceived in two different settings. It reveals how the structure of the aesthetic experience and bodily sensations varies when the participants only listen to music first and afterwards watch dance choreographed to that particular music. By understanding the structure of the audiences' aesthetic experience, as well as their bodily sensations, the findings of this research also offer a possible explanation and tell us more about the nature of "visual capture" which can be gained when watching dance. Compared to the earlier studies of the aesthetic experience of sound and movement (Howlin et al., 2020; Reason et al. 2016; Reynolds et al., 2014), this study uses a different research design, especially regarding the stimuli, which consisted of the recordings of complete audio-visual pieces including music sequence, scenography, lighting and costumes, which all contributed to the overall aesthetic experience. Even though the control for all the possible variables that could be influential is hard to achieve in such a design, the benefit of our results lies in the fact that entire pieces are explored in the most natural settings. In other words, by choosing such a research design, although the science remains deprived of the highest degree of reliability and exactness is not entirely addressed, some significant solutions, as well as implications in the field of art, could be provided.

On that basis, practical implications for artists can be highlighted. The results of this research could be very useful for dancers, choreographers, musicians, etc. For example, the result pointing out that the observers which do not have any dance or music training are sensitive to rhythmicity of the piece could be beneficial for the choreographers when choosing the music for their piece if they want to engage the audience more or provoke higher excitement in non-expert audience. Moreover, by forcing emotionality, elegance and grace in a movement sequence when creating a dance piece, choreographers could reach a greater aesthetic impact on the observers. In addition, it could be very helpful and applicable for dancers to know that, besides improving the mastery of movement and perfecting the dance technique, developing and working on the groove of their movements (Janata et al., 2012), as well as on "body musicality" as Macpherson (2015) calls it, could help them achieve not just a better performance, but also a more powerful aesthetic effect on the audience.

Generally, it can be concluded that when the participants observe dance choreographed to the music they previously only listened to, they assess their experience of the piece as more delicate, elegant, seductive, and emotional, as well as more unique, and exceptional. Their bodily sensations (getting goosebumps, holding the breath etc.) indicate that they are more engaged in the piece when they watch dance choreographed to the music they previously only listened to. The natural context of dance, its representation with respect to every detail which constitutes it as a complex form of art, as well as its joined impact with the music, offers a challenging field for the artists and researchers to explore, enabling an intriguing and rewarding dialogue between them.

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DATUM PRIJEMA RADA: 4.30.2023. DATUM PRIHVATANJA RADA: 11.7.2023.

Muzika i ples: Poređenje estetskog doživljaja i telesnih senzacija kod neplesačke publike

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U ovom radu se ispituju estetski doživljaj i telesne senzacije koje doživljava neekspertska publika za vreme slušanja muzike i gledanja plesa koreografisanog uz tu muziku. Studija uključuje 209 studenata Visoke poslovne škole u Novom Sadu koji nemaju ekspertizu u muzici niti u plesu, uzrasta između 17 i 27 godina (*M* = 19.39, *SD* = 1.37, 70,3% žena). Stimulus koji se sastoji od ukupno šest videosnimaka plesnih koreografija (tri koreografije hip-hopa i tri koreografije savremene igre) prezentovan je učesnicima u dve različite situacije. U prvoj situaciji učesnici su samo slušali audio-snimke muzike, dok su u drugoj posmatrali audiovizuelne snimke plesa koreografisanog uz tu muziku. Svaki pojedinačni stimulus procenjen je na dvema skalama. Prva je skala estetskog doživljaja i obuhvata tri dimenzije (dinamizam, afektivnu evaluaciju i izuzetnost), dok drugu skalu čine telesne senzacije i ona obuhvata takođe tri dimenzije (fokus, uzbuđenje i utelovljenu anticipaciju). Rezultati su pokazali da situacija (samo slušanje muzike / posmatranje plesa) ima statistički značajan efekat na procene estetskog doživljaja i telesnih senzacija koje se javljaju kod učesnika. Procene učesnika na dimenzijama afektivne evaluacije, izuzetnosti i fokusa su značajno više onda kada posmatraju ples koreografisan uz muziku koju su prethodno samo slušali. Na osnovu ovih rezultata zaključeno je da što višim vrednostima učesnici procenjuju delikatnost i eleganciju igračkog pokreta i što više usmeravaju pažnju na plesne pokrete, to je snažnije njihovo angažovanje u posmatranju igre.

Ključne reči: estetski doživljaj, telesne senzacije, slušanje muzike, posmatranje plesa

Appendices

Appendix –Table A

The list of video recordings used as stimuli in this study. Choreographies which were originally performed in the American television dance competition show "So You Think You Can Dance" were downloaded from the YouTube.

Choreographies*
Contemporary dance
Choreographer: Sonya Tayeh
1 *"Tore my Heart" – Oona & Dave Tweedie* https://www.youtube.com/watch?v=I6tp8xByIAE
2 *"The Gulag Orkestar Beirut"*
https://www.youtube.com/watch?v=lecijwOXX1g
3 *"Brotsjór" – Olafur Arnolds*
https://www.youtube.com/watch?v=Skb_urlQ4Zg
Hip hop Dance
Choreographers: Tabitha and Napoleon D'umo
1 *"Outta your Mind" – Lil Jon & LM*AO*
https://www.youtube.com/watch?v=mhyWzC7df-0
2 *"Get Low" – Dillion Francis & DJ Snake*
https://www.youtube.com/watch?v=neexFho8Z0I
3 *"My Chick Bad" – Ludacris & Nicki Minaj*
https://www.youtube.com/watch?v=XrT5ca9EbTw

Note: * Choreographies were made by the choreographers who were few-time nominees and winners of *Primetime Emmy Awards for Outstanding Choreography*.

Appendix – Table B

Descriptive statistics (M, SD) for all music recordings and dances choreographed to that music regarding the dimensions of aesthetic experience as well as the dimensions of bodily sensation

			TWO SETTINGS			
			1 Only listening to music		2 Watching dance choreographed to that particular music	
GENRE	Stimuli		M	SD	M	SD
		AESTHETIC EXPERIENCE				
1 Contemporary	1	Dynamism	3.85	1.64	4.30	1.85
		Affective Evaluation	3.31	1.50	3.96	1.71
		Exceptionality	3.13	1.43	3.63	1.80
	2	Dynamism	3.83	1.74	3.76	1.89
		Affective Evaluation	2.80	1.34	3.70	1.83
		Exceptionality	3.15	1.51	3.34	1.86
	3	Dynamism	4.28	1.84	3.94	1.88
		Affective Evaluation	2.96	1.62	3.72	1.77
		Exceptionality	3.41	1.71	3.45	1.83
2 Hip Hop	4	Dynamism	4.22	1.89	4.22	1.89
		Affective Evaluation	1.95	1.15	2.23	1.31
		Exceptionality	2.98	1.60	3.31	1.75
	5	Dynamism	5.00	1.60	4.58	1.83
		Affective Evaluation	2.43	1.41	3.02	1.63
		Exceptionality	3.59	1.77	3.66	1.87
	6	Dynamism	3.73	2.00	3.92	1.88
		Affective Evaluation	2.18	1.28	2.67	1.55
		Exceptionality	2.80	1.76	3.18	1.81
		BODILY SENSATIONS				
1 Contemporary	1	Focus	0.49	0.83	1.53	1.35
		Excitement	1.08	1.20	1.03	1.15
		Embodied Anticipation	0.16	0.46	0.29	0.62
	2	Focus	0.75	0.95	1.26	1.39
		Excitement	0.91	1.07	0.77	1.03
		Embodied Anticipation	0.26	0.57	0.29	0.63
	3	Focus	1.06	1.12	1.40	1.44
		Excitement	0.44	0.70	0.94	1.12
		Embodied Anticipation	1.24	1.21	0.45	0.81
2 Hip Hop	4	Focus	0.40	0.76	1.24	1.19
		Excitement	1.70	1.30	1.49	1.33
		Embodied Anticipation	0.23	0.51	0.23	0.50
	5	Focus	0.68	1.05	1.50	1.33
		Excitement	2.10	1.34	1.62	1.40
		Embodied Anticipation	0.33	0.65	0.33	0.61
	6	Focus	0.43	0.87	0.98	1.08
		Excitement	1.30	1.30	1.19	1.20
		Embodied Anticipation	0.17	0.47	0.17	0.45

Notes: Within two settings of displaying the stimuli – only listening to music and watching dance choreographed to that particular music, there were two genres – contemporary and hip hop. Within two genres, three stimuli were presented. In total, there were 6 stimuli of music and 6 six stimuli of dance choreographed to that particular music.