Psychological Perspectives on Musical Experiences and Skills

Research in the Western Balkans and Western Europe

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2. The Role of Affective Dimensions in the Aesthetic Experience of Music

Dragan Janković and Maja Mađarev

Introduction

Affective and aesthetic experiences are ubiquitous aspects of our experience of music. When we listen to music, we can effortlessly tell whether we like it or not or how it makes us feel. However, questions as to why we like or dislike some music, and what role emotions play in our aesthetic experiences, still have ambiguous answers. Although aesthetic experiences are common in everyday life, we still do not have a comprehensive theory that explains what psychologically constitutes such experiences. In the present chapter, we will offer a model based on dimensional theories of emotion, with special interest paid to the question of how our aesthetic experiences, although they may involve a great number of complex cognitive and emotional responses, can be related to a few basic mechanisms of affective processing.

Approaches to aesthetic experiences can generally be divided into two broad groups. In the first, aesthetic experiences are considered normal, everyday psychological experiences. Theories that are typical representatives of this approach suggest that our aesthetic experiences are only a special instance of the psychology of perception, cognition, motivation, or emotion (Silvia, 2012). In this approach, the intensity of aesthetic experiences in studies is mainly represented with some continuous dimension, such as: how much people like or dislike a certain stimulus, how much they evaluate it as beautiful or ugly, or how attractive or unattractive they find it. Of the many proposed

measures, various factorial, psycholinguistic, and neuropsychological studies found the assessment of stimuli on the ugly–beautiful scale to be the most representative measure of our aesthetic experience, both for music (Istók et al., 2009) and for the visual domain (e.g., Augustin et al., 2012). The second approach includes theories where aesthetic experience is mostly understood as an idealised, exceptional experience, that sometimes occurs as a reaction to stimuli of special importance, most often to works of art. In this context, aesthetic experience can be viewed as an exceptional state of mind that is qualitatively different from everyday mental states (e.g., Marković, 2012).

Building on the strong connection between emotions and aesthetic experience, we believe that the psychology of emotion is the right place for studying the nature and origin of our aesthetic reactions, even though there are questions about whether music induces true emotions in listeners (e.g., Konečni, 2008). For example, Vladimir Konečni (2005) suggests that instrumental music cannot directly induce genuine emotions in listeners, and that when such emotions are induced they result only indirectly, by means of extramusical associations (e.g., in memory), rather than directly from auditory inputs. Other authors suggest that music does induce emotion in the listeners and that emotion is a central component for creating, learning, and interpreting music (e.g., Juslin & Sloboda, 2010; Juslin & Västfjäll, 2008). Most researchers today believe that music can induce emotions and the focus of discussion has shifted to the nature of these emotions.

One of the fundamental questions addressed in the psychology of music is whether the emotions we experience in relation to music differ from those we experience in everyday life (Juslin & Sloboda, 2010). These are usually termed aesthetic emotions and everyday emotions, respectively. According to one perspective, artworks mainly evoke the same emotions we experience in everyday life, such as happiness, sadness, pleasure, or surprise. According to another perspective, the emotions evoked by artworks are specifically referred to as aesthetic emotions, often without implying that these emotions are of a special kind. Recent studies on music and emotion, have frequently used the term aesthetic emotions in a more restricted sense, suggesting that music evokes unique or music-specific emotions (e.g., Scherer & Zentner, 2008). For a more detailed review of aesthetic emotions, see Chapter 4

in this volume. Here we use models of everyday emotions and explore how these may need to be extended to account for aesthetic experiences.

The structure of affective experiences of music

A final distinction to introduce is that between 'discrete' and 'dimensional' theories of emotion. Although a large number of different theories and models of emotion have been proposed by authors to date, these are two of the most influential. Discrete theories of emotions suggest the existence of a limited number of discrete categories, i.e., basic emotions (e.g., fear, anger, happiness, sadness) that are independent, irreducible to each other, accompanied by qualitatively different subjective experiences, with distinctive facial expressions, and having a special neurophysiological basis (e.g., Ekman, 1992). However, recent studies in affective science have questioned the reliability of evidence to support the main assumptions of this approach (e.g., Barrett & Wager, 2006).

On the other hand, dimensional models of emotion suggest that a large number of different affective experiences are actually based on a smaller number of underlying dimensions or neurophysiological systems and can be represented by a linear combination of those dimensions (e.g., Janković, 2000a, 2015; Osgood et al., 1957; Russell, 2003). Dimensional models have a long tradition in psychology. In early studies from the late 19th century, Wilhelm Wundt (1896) suggested that all affective experiences are based on three bipolar dimensions: pleasure–displeasure, tension–relaxation, and arousal–calmness. In the mid-20th century, Charles Osgood suggested the existence of three dimensions: (1) evaluation, (2) potency, and (3) activity (Osgood et al., 1957). James Russell (1980) proposed a circumplex model of affect consisting of two orthogonal bipolar dimensions, valence (pleasure) and arousal (activity), and all individual affective experiences can be represented by their values on the coordinates of such two-dimensional affective space. In addition to Russell's valence and arousal model, other two-dimensional models with differently conceptualised dimensions have been proposed: among others tension and energy (Thayer, 1996); positive affect, negative affect (Watson et al., 1999); and approach and withdrawal (Lang et al., 1998).

With respect to emotional experiences of music, there is still a lack of a broader consensus on the structure of music-induced affective responses. In an early study on the structure of affective experiences of music (Nordenstreng, 1968), participants rated their affective experiences of musical stimuli on 32 semantic differential scales that included emotional attributes. Exploratory factor analysis of the participants' responses to the musical stimuli revealed four factors, which were interpreted as softness, colourfulness, relaxation, and magnitude. In the study that followed, Lage Wedin (1972) suggested that music emotions can be accounted for by three bipolar factors: tension–energy (vehement, violent, furious); gaiety–gloom (playful, exuberant, glad); and solemnity–triviality (solemn, sublime, grand). In a more recent study on the structure of subjective experiences of classical music (Živanović et al., 2018), results suggested that descriptors of music experience are best represented by five interrelated dimensions: aesthetic experience, affective tone, tension, content-fullness, and structure. The lack of a broader consensus on the structure of music-induced affective reactions directed a number of researchers to rely on a two-dimensional model of emotion, in accordance with widespread recognition of valence and arousal as basic dimensions of affective experience. However, numerous studies have also suggested that the two-dimensional model is not able to account for all the variance in music-induced affective experiences and that two dimensions may not be enough (e.g., Collier, 2007; Fontaine et al., 2007).

In previous research (Trkulja & Janković, 2012), we analysed the latent structure of affective experiences of music through a comprehensive approach that included a large collection of music-evoked affective responses and a wide range of musical stimuli. The results suggested that affective experiences of music are best represented by three underlying dimensions: affective valence (pleasant-unpleasant, attractive-unattractive), arousal (interesting-boring, exciting-calming), and cognitive evaluation (familiar-unfamiliar, expected-unexpected). These results shed light on cognitive evaluation as a possible third dimension underlying the affective experiences. In this three-dimensional model, cognitive evaluation is understood as one of the basic evaluative mechanisms that, along with valence and arousal, contributes to the formation of affective experiences. The

role of cognitive processes in the formation of affective experiences has received considerable attention in all modern cognitive theories of emotion, which assume that a certain type of cognitive processing is an inevitable component of emotions (e.g., Lazarus, 1991; Scherer, 2001). Cognitive evaluation as a dimension is partially similar to the concept of cognitive appraisal from appraisal theories of emotion (e.g., Scherer, 2001) in the sense that it influences the formation of emotional experience, but has a somewhat narrower meaning and includes only attributes related to the cognitive evaluation of objects and events (e.g., novelty, familiar-unfamiliar, clear-unclear, meaningful-meaningless, expected-unexpected, etc.). Cognitive evaluation as an additional dimension in the affective space offers the possibility of overcoming some of the main objections to previous dimensional models, which relate to the inability of valence and arousal dimensions to adequately distinguish some of the basic emotions such as fear and anger, as well as a group of knowledge emotions such as surprise, interest, confusion, and awe, which are highly relevant to aesthetic experience (Silvia, 2010).

Aesthetic experience is often understood as a complex process that seems to involve not only emotions but also a combination of perceptual and cognitive factors (e.g., Brattico & Pearce, 2013; Leder et al., 2004). Some authors have recently argued that aesthetic experience relates to the formation of meaning, interpretation, and understanding (e.g., Cespedes-Guevara & Eerola, 2018; Janković, 2014; Leder et al., 2004). The idea that meanings (associations) play an important role in the formation of our aesthetic experiences dates back to the beginnings of experimental aesthetics as a field. According to the aesthetic association principle proposed by Gustav Fechner in his paper from 1866, aesthetic choices are largely shaped by the observer's learning history (associative factors) rather than by the formal properties of an object (direct factors; Ortlieb et al., 2020). However, the various perceptual, cognitive, and affective factors involved in the formation of our aesthetic experience are not independent and isolated, but rather highly interrelated. Recent studies that tested this interrelationship in the visual art domain showed that the affective experience of different meanings activated in the mind of beholders while observing the artworks explained 98% and 95% of the variance in the aesthetic experience of paintings and

photographs, respectively (Janković, 2014; Janković et al., 2019). The term 'meanings' here refers to the sum of the various perceived stimulus features, associations from episodic memory, knowledge, emotions, and cognitive interpretations that are activated or constructed in the viewer's mind when viewing the artwork. In the studies presented in this chapter, we will examine the relevance of cognitive evaluation as an affective dimension alongside emotional valence and arousal in the domain of music.

Aims

Emotion is a fundamental aspect of our aesthetic experience and understanding the involvement of emotions in the aesthetic evaluation of music is an essential question within the field of music psychology. Regardless of the great variety of emotional reactions that music can evoke in the listeners, as well as whether we are talking about everyday emotions, aesthetic emotions, or music-specific emotions, an assumption derived from dimensional theories of emotion would be that all of them include an underlying core affect represented by affective dimensions. In this chapter, we will present two studies in which we analysed the role of evaluative/affective dimensions in the aesthetic experiences of music.

The aim of the first study was to analyse the relation between three dimensions of affective experience: valence, arousal, and cognitive evaluation (Janković, 2000a, b; Trkulja & Janković, 2012) with the aesthetic experience of music. In the second study, we implemented a novel procedure, similar to the one employed in Dragan Janković's (2014) study in the field of visual arts, to further explore where the affective experience of music originates from and in what way it affects the aesthetic experience of music. We hypothesized that the aesthetic experience of music actually results from the affective experience of various meanings that are activated or constructed in the listener's mind when listening to music (e.g., associations from episodic memory, knowledge, cognitive interpretations, etc.), rather than merely from the affective experience of music as a physical stimulus and its objective characteristics.

Both studies examined the role of affective dimensions in the aesthetic experience of music. The difference between the two is that in the first study, the aesthetic experience of music was investigated using the affective experience of musical stimuli (directly rated by the participants), whereas in the second study, the aesthetic experience of music was investigated via the affective experience of (verbally expressed) meanings (associations) that the participants had in mind while listening to music.

Study 1: Relation between affective dimensions and aesthetic experience of music

Materials and methods

Forty-two first-year psychology students aged 18 to 20 years ($M = 18.95$, $SD = .66$, 81% female) from the Department of Psychology, University of Belgrade, participated in the study and received course credit for their participation. The authors and participants were from the same academic institution, and the authors were not involved in teaching any courses to the first-year psychology students who participated in the study.

The selection of music stimuli was conducted in two phases. First, a collection of 275 music excerpts (each part of existing music compositions, and 4–5 seconds long) was prepared. Excerpts were then rated by an additional group of participants ($N = 13$) on three dimensions of affective experience: valence (pleasantness), cognitive evaluation (familiarity), and arousal (impressiveness). In the second phase, 60 music excerpts were selected for the main study. Stimuli were selected to cover a wide range of genres (classical music, pop, rock, electronic, jazz, folk, ambient, etc.), themes, instruments, and affective experiences. Stimuli included both unfamiliar and familiar pieces of music (the average familiarity rating on a seven-point scale was $M = 4.45$, $SD = 1.27$).

In order to measure the affective experience of music we used an instrument consisting of nine seven-point bipolar scales measuring three dimensions of the affective experience (with three scales for each

dimension) (Trkulja & Janković, 2012): valence (unpleasant–pleasant, bad–good, unattractive–attractive); arousal (boring–interesting, unimpressive–impressive, calming–exciting); and cognitive evaluation (unfamiliar–familiar, unclear–clear, incomprehensible–comprehensible). As a measure of aesthetic experience, a seven-point bipolar ugly–beautiful scale was used.

The questionnaire was administered via a computer interface employing an online survey form using Qualtrics software. Participants were asked to rate their own aesthetic and affective experience of each of the presented musical stimuli on seven-point bipolar scales with opposite attributes at each end (e.g., ranging from –3 = unpleasant, to 3 = pleasant). The order of the presented music stimuli was fixed for all participants and the scales were presented in randomised order for each stimulus and for each participant. The total duration of the study was around 30 minutes.

Results

This study was conducted to determine the relation between basic dimensions of affective experience and aesthetic experience of music. First, we calculated the average valence, arousal, and cognitive evaluation ratings from three representative scales for each of the affective dimensions. Results of the Pearson correlation indicated that there was a significant positive association between valence and aesthetic preference, $r(58) = .97$, $p < .001$, arousal and aesthetic preference, $r(58) = .57$, $p < .001$, and cognitive evaluation and aesthetic preference, $r(58) = .87$, $p < .001$.

In addition, we hypothesised that the aesthetic experience of music could be substantially explained by valence, arousal, and cognitive evaluation as basic dimensions of affective experience. To test this hypothesis, we used multiple regression analysis. The results showed that 96.3% of the variance of aesthetic preference could be explained by three affective predictors, $F(3, 56) = 507.30$, $p < .001$ (Figure 2.1).
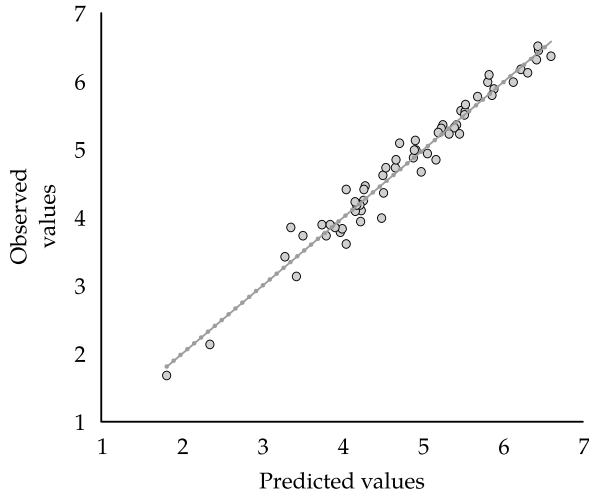
Fig. 2.1 Regression plot between observed values (ratings of aesthetic experience) versus predicted values (aesthetic experience predicted by the model)

Looking at the unique individual contributions of the predictors, the results indicated that all three affective dimensions showed a significant contribution to the prediction of aesthetic preference, with the largest contribution of affective valence ($\beta = .88$, $t = 16.00$, $p < .001$), followed by cognitive evaluation ($\beta = .22$, $t = 3.16$, $p < .001$) and arousal ($\beta = -.16$, $t = -3.88$, $p < .001$).

Study 2: The role of the affective experience of meanings activated in the listener's mind during the aesthetic evaluation of music

Materials and methods

Participants consisted of two groups made up according to music expertise: one group of music non-experts ($n = 33$) and one group of music experts ($n = 30$). The group of music non-experts included volunteers and undergraduate psychology students ($M_{age} = 24.1$, $SD = 2.2$, 66.7% female and 33.3% male) from the Faculty of Philosophy, University of Belgrade. All participants from this group stated that

they had no formal music education and did not engage in music professionally. The group of music experts ($M_{age} = 24.3$, $SD = 3.6$, 76.7% female and 23.3% male) consisted of participants who had completed a university degree in music or music production and sound design ($n = 25$) or had been professionally involved in music for more than five years ($n = 5$).

The pre-testing and selection of music stimuli followed the same procedure as in Study 1. A total of 24 new music excerpts (4–5 seconds long, and part of existing music compositions that were not included in Study 1) were selected to cover a wide spectrum of genres, instruments, and subjective experiences. The research session consisted of two phases in which the same respondents participated. In the first phase, music stimuli were presented to the respondents one by one, and their task was to rate on a seven-point bipolar scale how much they liked or disliked the musical stimulus they had heard (ranging from –3 = I don't like it, to 3 = I like it). Respondents were then asked to report what they had in mind while making their aesthetic evaluation of each musical stimuli (i.e., to write down at least two and at most five associations they had in mind while making their aesthetic evaluation). Participants were free to write down any thoughts that occurred to them during the aesthetic evaluation of the music (e.g., perceived musical features, associations from episodic memory, prior knowledge, experienced or perceived emotions, formal features of the music, its cognitive interpretation, etc.). In the second phase of the same research session, all participants were shown on a screen the associations (verbal responses) they had reported in the first phase, and below each response, three seven-point bipolar scales were presented for them to rate their affective experience of that response: unpleasant–pleasant (valence), unimpressive–impressive (arousal), and unfamiliar–familiar (cognitive evaluation). For instance, if a participant rated a musical stimulus in the initial phase and reported having thoughts of 'mystical', 'summer', and 'Kyoto' during the aesthetic evaluation of the music, in the subsequent phase, the participant was asked to rate their affective experience of 'mystical', 'summer', and 'Kyoto'. Music stimuli and scales were presented in randomised order for each participant. The total duration of the study was between 25 and 35 minutes.

Results

The basic hypothesis in this study was that the aesthetic experience of music would be related to the affective experience of the meanings (associations) that a given piece of music evoked in the listeners. Additionally, we wanted to examine this phenomenon independently in groups of music experts and non-experts. First, we calculated the average valence (pleasantness), arousal (impressiveness), and cognitive evaluation (familiarity) of all the meanings (verbal responses) that a certain musical stimulus evoked in the respondents. The data were analysed separately for music experts and non-experts. Results of the Pearson correlation indicated a strong positive association between the valence of verbal responses and aesthetic preference for music, both in non-experts, $r(22) = .87, p < .001$, and experts, $r(22) = .86, p < .001$. Statistically significant positive correlations were also obtained between cognitive evaluation of verbal responses and aesthetic preference for music, both in non-experts, $r(22) = .70, p < .001$, and experts, $r(22) = .62, p < .001$, and also for arousal both in non-experts, $r(22) = .72, p < .001$, and experts, $r(22) = .85, p < .001$.

In addition, we analysed whether the aesthetic experience of music could be substantially explained by valence, arousal, and cognitive evaluation of the meanings that music evokes, using multiple regression analysis separately for the music experts and non-experts. The results for the experts showed that a linear combination of three dimensions of affective experience of verbal responses explained 90.6% of the variance in aesthetic preference of music, $F(3, 20) = 64.05, p < .001$ (Figure 2.2). The results also indicated that valence ($\beta = .54, t = 6.21, p < .001$) and arousal ($\beta = .56, t = 4.55, p < .001$) showed significant contributions to the prediction of aesthetic experience in the regression model, while the contribution of cognitive evaluation did not reach statistical significance ($\beta = -.05, t = -.47, p = .641$).
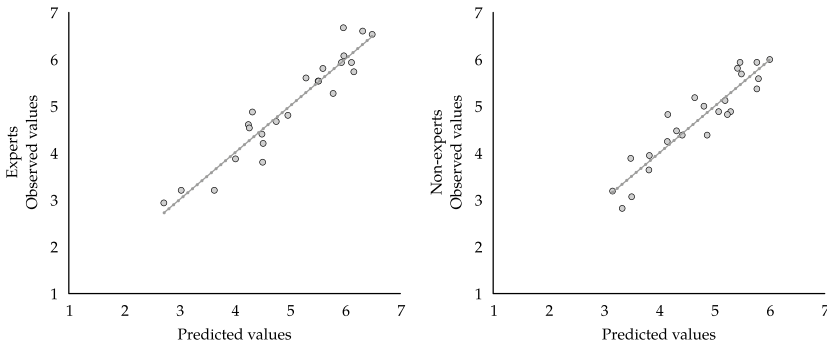
Fig. 2.2 Regression plots between observed values (ratings of aesthetic experience) versus predicted values (aesthetic experience predicted by the model) for music experts and non-experts

Similarly, the results for the non-experts showed that linear combination of three dimensions of affective experience of verbal responses explained 86.4% of the variance in aesthetic preference, $F(3, 20) = 42.47$, $p < .001$. The results also indicated that valence ($\beta = .66$, $t = 6.47$, $p < .001$) and arousal ($\beta = .31$, $t = 2.55$, $p = .02$) showed significant contributions to the prediction of aesthetic preference, while the contribution of cognitive evaluation did not reach statistical significance ($\beta = .10$, $t = .83$, $p = .415$).

Discussion

In two studies, we analysed the role of affective dimensions in the aesthetic experience of music. The results of the first study where participants evaluated their affective responses to the music indicated a positive association between all three affective-cognitive dimensions and the aesthetic experience. Valence showed the strongest association with aesthetic experience, followed by cognitive evaluation and finally arousal. These findings are in line with previous research and theories that have highlighted the positive effect that certain individual dimensions of subjective, affective experience have on our aesthetic experience. First of all, an aesthetic experience is understood as a state of pleasure or satisfaction (e.g., Leder et al., 2004; Reber et al., 2004). Secondly, numerous studies have shown that the intensity of arousal is associated with the intensity of music preference (e.g., Salimpoor et al., 2009). Thirdly, previous experimental studies suggested that familiarity is one of the most important factors that influence our aesthetic judgments (Brattico

& Pearce, 2013). The contribution of the present study in relation to previous research is that the various components of affective experience that were previously individually associated with aesthetic experience are now integrated into one coherent dimensional model of emotion that is able to explain 96% of the variance of aesthetic experience of music by the combined effect of the three dimensions of affective experience.

In the second study, we tested whether the aesthetic experience of music can be substantially explained by the affective experience of meanings activated while listening to that music. The results showed a strong positive correlation between the valence of activated meanings (verbal responses) and the aesthetic experience of music, both in non-experts and experts. Significant positive correlations were also obtained for both groups between the other two dimensions of cognitive evaluation and arousal and the aesthetic experience. These results suggest that for both non-experts and experts, musical preference is related to the activation of pleasant, arousing, and familiar associations. Indeed, the linear combination of the three dimensions of affective experience of the activated meanings explained a high proportion of the variance in the aesthetic experience of music for both groups, suggesting further parallels between the groups.

In the first study, cognitive evaluation showed a significant positive relationship with aesthetic experience and made a significant contribution to the explained variance of aesthetic experience in the regression model. In the second study, however, cognitive evaluation also showed a significant positive association with aesthetic experience, but the contribution of this predictor to the explanation of aesthetic experience in the regression model was not significant. The reason for this could be the lower variance in ratings of the familiarity of the associated meanings in the second study compared to the direct ratings of the familiarity of the music in the first study. Namely, participants largely rated the meanings they associated as familiar, whereas ratings of the familiarity of the music varied significantly more in the first study. Moreover, it is possible that the familiarity scale as a representative of the cognitive evaluation dimension in the second study was not the most appropriate solution for the task used in this study. In subsequent studies, it would be useful to test this result with another scale from the cognitive evaluation dimension (e.g., unclear-clear, incomprehensible-comprehensible, meaningful-meaningless, concrete-abstract, expected-unexpected) or with several of them used together, as was the case in the first study.

The results of the second study are in line with previous approaches that emphasized the role that the meanings (associations) evoked by artworks play in the formation of our aesthetic experiences (Cespedes-Guevara & Eerola, 2018; Fechner, 1866; Janković, 2014; Leder et al., 2004). These results are also consistent with findings of recent studies that used a similar approach in the visual art domain which showed that the affective experience of different meanings activated in the mind of beholders explained 95%–98% of the variance in the aesthetic experience of visual artworks (Janković, 2014; Janković et al., 2019). Similar findings obtained for music and visual artworks could suggest that music evokes aesthetic experiences through mechanisms that are common to different sensory modalities.

Based on the results of the studies presented in this chapter, we propose a Valence, Arousal, and Cognitive evaluation (VACe) model of the aesthetic experience of music. According to this model, the aesthetic experience of music is the result of affective experience (valence, arousal and cognitive evaluation) of specific meanings (perceived music characteristics, knowledge, emotions, associations from episodic memory, cognitive interpretations) activated or constructed in the mind of the person while listening to the music (Figure 2.3). Although we have focused on music in the present study, we believe that the model we propose could also be transferable to the aesthetic experiences of other forms of art.
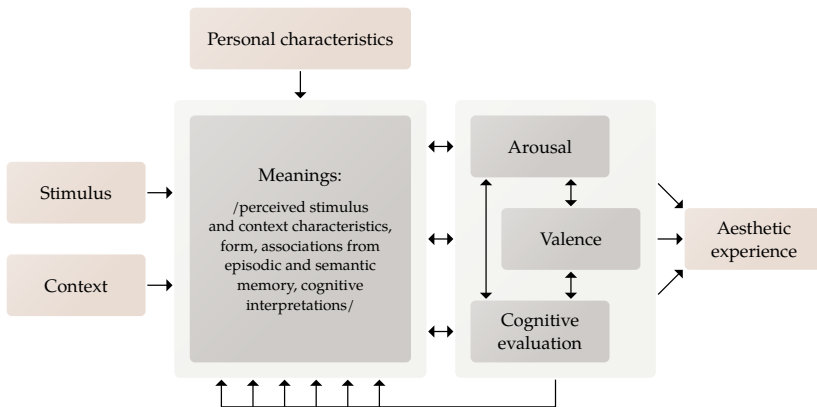

Fig. 2.3 Valence, Arousal and Cognitive evaluation (VACe) model of the aesthetic experience of music

According to the VACe model, aesthetic experience includes two broader constitutive components–meanings that are activated in the mind of the listener at the moment of perception of the music, and affective processing that is continuously executed on all activated meanings. Any meaning activated or constructed in the mind of the listener, whether it be perceptual (i.e., music characteristics), cognitive (i.e., knowledge, episodic memory, interpretation), or emotional (i.e., experiencing music as boring, happy, or sad) is automatically evaluated by three affective mechanisms. The meaning here is not conceptualised statically, in the sense of simply activating perceptual characteristics of stimuli or previously stored associations from episodic memory, but rather dynamically, as a result of the active construction of meaning that arises when the listener with particular characteristics interacts with a stimulus and context characteristics. Consequently, these meanings may be quite different in different individuals, in different age groups (Parsons, 1987), in experts and laymen, and even in the same person listening to the same piece of music on two different occasions. Moreover, as cognitive appraisal theorists have noticed, people can experience different emotions in response to the same eliciting event (Scherer, 2001) or in response to the same activated meaning, as this model suggests. Regardless, the assumption arising from the VACe model is that our aesthetic experience of music always depends on the affective experience of the meanings activated or constructed in the moment of perception of the stimulus, no matter what specific meanings, types of meanings, complexity, or number of meanings are generated.

There are a few potential limitations of these studies that need to be acknowledged. First, the results of the studies presented are based on correlations, which means that they do not themselves provide sufficient evidence for affective dimensions as causal mechanisms in the aesthetic experience of music. However, given the results of previous experimental studies that clearly demonstrated causal effects of valence, arousal, and cognitive evaluation (familiarity, clarity and meaningfulness) on aesthetic experience (Berlyne, 1971; Bornstein, 1989; Janković, 2014; Murphy & Zajonc, 1993; Reber et al., 2004), our assumption about their causal effects suggested in the VACe model was based on the results of previous studies. Another potential limitation is that, in the second study, participants expressed the meanings they had in mind during the aesthetic evaluation

of music in verbal form, using a self-report. It is possible that some of the perceptual, cognitive, or emotional reactions that the participants had to the presented musical stimuli could either not at all or could not easily be transferred to the language modality and verbally expressed. For this reason, it is possible that the decline in the percentage of explained variance of aesthetic experience in the model from 96% in the first study to 90.6% and 86.4% in the second study, when meanings were verbally expressed, could be a consequence of participants' inability to express some aspects of the experience of music in words.

In terms of future research, it would be useful to extend the current findings by examining the structure of meanings activated and constructed in the mind of persons who listen to music. Namely, previous studies have suggested that the structure of activated meanings and the criteria participants use during aesthetic evaluation can vary considerably depending on age, level of expertise, or previous experience. Also, one of the open questions is whether the different types of meaning activated in the listener's mind while listening to music contribute differently to the aesthetic experience. We might ask, for example, whether the affective experiences of the sensory characteristics of music and the activated meanings from episodic memory equally contribute to the aesthetic experience.

Conclusion

In this chapter, we have presented the results of two studies whose aim was to examine the nature of the relation between affective dimensions and the aesthetic experience of music. We approached this from the framework of dimensional theories of emotions, more precisely from the framework of the three-dimensional model of affective experience (Janković, 2000a, 2014; Trkulja & Janković, 2012), where valence, arousal, and cognitive evaluation are conceptualised as three biologically based mechanisms whose role is evaluation of stimuli from the environment or organism. The results of the first study suggested that aesthetic experience is strongly related to affective valence (pleasantness) and cognitive evaluation (familiarity), and moderately related to arousal. The results of the second study suggested that the aesthetic experience of music can be substantially explained by the affective experience of meanings

activated or constructed in the mind of the person while listening to that music. In other words, we like music that activates pleasant, arousing, and familiar meanings. Based on the results of these studies we proposed the Valence, Arousal, and Cognitive evaluation (VACe) model of aesthetic experience of music, where aesthetic experience is a result of affective experience of all individual meanings activated or constructed in the mind of the listener while listening to the music. The results of these studies suggested that studying the aesthetic experience of music from the perspective of core affective dimensions can provide a useful framework for understanding the role of different affective experiences in the aesthetic experience of music, and that cognitive evaluation is one of those dimensions. We also believe that the proposed VACe model can offer a useful theoretical framework for the interpretation of the results of previous studies, as well as offer hypotheses that encourage new studies in the field of the aesthetic experience of music.

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