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EDITORIAL

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One of the most commonly reported reasons for listening to music is simply because people find it enjoyable (Sanflippo et al., 2020). Despite aesthetic appreciation playing an important role in the motivation to listen to music, aesthetic responses to music have not been investigated as frequently as in other types of artistic modalities. This is perhaps due to the history of the field of music perception and cognition, which has traditionally focused more on basic perceptual functions and components of music, such as perception of pitch and rhythm, rather than aesthetic aspects of music listening. At this point, the study of music cognition and perception has spanned several decades, and music cognition is beginning to firmly establish itself as a key subfield within cognitive psychology and neuroscience more broadly. While the study of music cognition has continued to grow, it has done so somewhat in parallel with the psychology of aesthetics, creativity, and the arts. Although the two research communities (that is, music cognition and empirical aesthetics) study similar topics using similar methods, the level of interaction between the two communities has been less than what one might expect. This could in part be due to the fact that the study of "aesthetics" tends to come from an academic tradition that is often considered to refer more specifically to the visual arts or visual stimuli more broadly (e.g., Arnheim, 1966; Berlyne, 1971), or at least that may be the perception researchers have of the work done under the banner of the "psychology of aesthetics."

Despite this disconnect, there is quite a bit to gain from integrating work done on aesthetic responses to music with that of other artistic domains. To that end, in this issue of the journal, we focus on musical aesthetics. The goals of putting together this issue are twofold: For one, we hope to encourage music cognition researchers to see how their work fits within the broader community of the psychology of aesthetics, creativity, and the arts; we also hope to encourage crosstalk between researchers studying music and other artistic domains. Selecting the individual articles for this issue was a challenge, as we have received many interesting and important papers on the topic of music. Here, we choose to focus on different contributions to listeners' aesthetic and emotional judgments of music. That is, music listening is a multifaceted, and often, multisensory experience. Many features can contribute to one's enjoyment of (or other aesthetic responses to) music, including properties of the music itself, individual differences in the listeners, and context effects of where, when, and how one listens to music. This issue includes a selection of articles that contribute to our knowledge of one, or all, of the aforementioned domains, which we will discuss below.

The Context—Live Concerts

We start the issue with three papers investigating aesthetic responses to music in a naturalistic concert setting. The dramatic growth of work in studying music during live concerts parallels trends in the broader field of neuroscience, in which researchers are beginning to investigate cognition and perception in a variety of naturalistic settings, such as art museums (Rodriguez et al., 2021), classrooms (Ishiguro et al., 2021), and movie theaters (Fröber & Thomaschke, 2021). The first contribution of this subsection focuses on self-reports and psychophysiological responses to music in a live concert setting (Merrill et al., 2023). In this study, participants listened to three works, each of a different style (Classical, contemporary, and Romantic) while physiological responses were recorded. After each movement of each piece, participants made ratings of the piece on several aesthetic and emotional rating scales. Overall, participants found the contemporary piece to have the least positive and most negative emotions and showed higher physiological responses than the romantic piece. This work has particularly interesting implications for those considering how to program a concert if the goals are to create contrasting emotional arousal levels and physiological responsiveness across the various pieces.

The next paper also investigates physiological responses to live concerts, but in this case, the authors focus on physiological *synchrony* among audience members (Tschacher et al., 2023). In this study, participants rated several aesthetic scales after each musical piece and the concert as a whole. Physiological signals were measured during the concert. The authors calculated synchrony for dyads of participants for each possible pairing of audience members and investigated how this synchrony related to individual self-reports of the pieces and the entire concert. The authors found that physiological synchrony was generally significant for most pieces (i.e., significantly above zero), and that participants' enjoyment of each piece was positively related to higher audience physiological synchrony. This paper represents both methodological advancements in the study of synchrony during live concerts, as well as theoretical implications for how the social context relates to one's aesthetic judgments of a musical performance.

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The third and final live concert study focuses on similarities (and differences) between songs and poems experienced during a live concert (Scharinger et al., 2023). In this study, audience members attended a concert in which a series of poems were both recited orally and sung with a piano accompaniment. Participants made continuous liking ratings during the performance and post hoc ratings on a series of aesthetic scales after the concert, which were used to calculate "melodiousness" ratings. The authors analyzed acoustical features of the spoken and sung poems to obtain various measures in order to identify relationships between perceived melodiousness and acoustic features. They found that subjective ratings of melodiousness did correlate with several of the acoustic properties of both spoken and sung poems, and suggest that melodiousness is one important component of the aesthetic enjoyment of both songs and spoken poetry.

The Stimulus—Musical Features

When considering the role that stimulus features play in aesthetic judgments, it is first important to touch on the different levels that the word "feature" can denote. As shown in Scharinger et al., 2023, features can mean low-level acoustic features. Alternatively, the term "feature" has also been used to refer to subjective ratings of perceptual features (i.e., loudness, roughness), or even ratings of higher-level features such as the emotional qualities of a piece of music. The first paper in this section focuses on how such emotional features of music relate to one's overall enjoyment of a piece (Svanås-Hoh et al., 2023). In two experiments, participants listened to musical pieces and made continuous ratings of the emotional intensity of the piece while listening, as well as an overall enjoyment judgment at the conclusion of the piece. The authors calculated several scores from the continuous trace (including the average, beginning, end, peak, and peak-end) and investigated which best predicted the overall judgment. Across both experiments, they found that the average best predicted the overall rating for most pieces (although in their second experiment, the peak and peak-end were the strongest predictors for some pieces). This work suggests that emotional intensity is one important component of an aesthetic judgment of a piece of music and that the average of a listeners' continuous emotional intensity is one of the key metrics to predict the overall enjoyment of a piece of music.

The next paper in this subsection focuses on the criteria that individuals use when making aesthetic judgments of music (Juslin et al., 2023). In this task, participants first completed a questionnaire which measured personality traits and well as ranked the relative importance of several criteria for their own aesthetic judgments of music. These criteria included items such as beauty, groove, originality, etc. Next, participants listened to 50 musical excerpts and rated the aesthetic criteria (the same as those on the first questionnaire) of each piece, as well as their overall aesthetic value of each piece. The authors first looked at interrater reliability for the overall aesthetic judgments and found quite low interrater reliability. While there was low *inter*rater reliability, the authors found relatively high *intra*rater reliability for repeated items. Additionally, they looked at consistency within raters; that is, did each rater tend to weight the contributions of each criterion consistently across all pieces? They found that overall, raters tended to be internally consistent. However, similar to the finding of low interrater reliability for overall aesthetic judgments, they found that judges did not necessarily each use the same criteria. That is, listeners preferred different musical pieces overall, and they also differently weighted which criteria influenced their overall judgments of the pieces. Finally, when comparing the survey data to the task data, they found that individuals have little insight into which criteria they found most important. These findings have interesting implications in terms of which subjective features people use when making aesthetic judgments of music, and also, how individual listeners differ in terms of what components of music they find most important.

The Listener—Individual Differences

The first paper in this subsection begins by outlining the Scherer–Zentner Induction Rule Model of emotional induction by music (Scherer & Zentner, 2001) which includes components already discussed here such as structural features of music and contextual features such as location. But the goals of this article are to investigate the role of *listener* features (Gerstgrasser et al., 2023). In this task, participants listened to musical excerpts that were chosen to represent one of three emotions (sublimity, vitality, and unease) and rated each piece on several emotional scales that represented these three overarching emotional categories. Participants both chose *which* emotions they felt in response to the piece and rated the intensity with which they experienced each emotion. Participants also completed different individual difference measures, including the measure of musical aptitude, musical expertise, current mood, and personality traits. First, the authors found that musical experts experienced more intense emotions and more differentiated emotions than non-experts, where differentiation means the number of different emotions selected for each piece. Overall, musical expertise accounted for a higher proportion of variance of the emotional ratings than other listener characteristics like personality and current mood state (which did account for a small amount of variance). And notably, expertise did not influence the category of emotion ratings, as across all participants they tended to choose the emotions that matched the intended emotion of each excerpt. Instead, experts were more likely to rate their emotions as more intense and have more differentiated emotional responses than non-experts.

The next paper looks at the role that curiosity plays in a listener's enjoyment of a piece of music (Omigie & Ricci, 2023). The authors used a computational model to calculate the information content (IC) and entropy of each note in a piece of music—musical events with high IC tend to be experienced as surprising, whereas musical events with high entropy tend to lead to feelings of uncertainty. Participants listened to the musical pieces and rated how curious they were about how the music would unfold at various points during the piece. In Study 1, the authors investigated the effects of note IC and entropy on curiosity for both individuals with and without music theory training. They found that in both groups, higher IC notes were associated with greater curiosity. For entropy, they found a significant interaction between entropy and IC only in the theory-trained group, such that the relationship between IC and curiosity was strongest when entropy was low. In Study 2, the authors investigated the role of trait curiosity as an individual difference. In addition to rating their curiosity, participants also rated how much they were enjoying the piece at various points. The authors identified two groups of participants based on the personality measure: one group was referred to as stress-intolerant, the other as stress-tolerant. They found no effect

of group on curiosity ratings; when looking at enjoyment ratings, they found a significant interaction such that lower IC levels were associated with higher enjoyment, but only in the stress-intolerant group. The results from this study indicate that individual differences in both musical training as well as personality (in terms of the ability to tolerate curiosity-induced stress) relate to one's curiosity about and enjoyment of music.

The final paper in this issue focuses on the experience of chills in response to music (Bannister & Eerola, 2023). In this paper, the authors put forth a novel conceptualization of musical chills as consisting of two distinct types of responses: vigilance chills and social chills. They propose a series of hypotheses that would distinguish between the two types of chills based on stimulus features, the subjective feelings evoked during the chill experience, physiological responsiveness, and individual differences. In their study, participants listened to four musical pieces and indicated when they experienced chills with a button press. To manipulate stimulus features, each piece was accompanied by extramusical information about the piece that was either focused on the structural development of the music (which the authors propose would lead to vigilance chills) or a narrative related to the music (to evoke social chills). After each stimulus, participants rated their experience of awe (reflective of the subjective experience of vigilance chills) and feeling moved (reflective of social chills). Finally, participants completed personality scales to measure trait-level empathy (with the prediction that individuals higher in empathy would experience stronger feelings of being moved and stronger responses to the social stimulus condition). The authors found support for the stimulus manipulation and its relation to subjective feelings—stronger experience of awe were associated with listening to music with extramusical information about the structure, while strong experiences of being moved were associated with extramusical information about a narrative. However, there was no support for their prediction regarding individual differences. That is, individual differences in empathy were not associated with differences in subjective feelings in response to the different musical conditions.

Conclusions

To conclude, in this issue we present a series of interesting and important papers investigating the contributions of physical context, stimulus features, and individual traits on aesthetic judgments of music. While some of these manuscripts focus on a single one of these contributions, others investigate the interactions between these (for example, Bannister & Eerola, 2023, which investigates the roles of stimulus features and individual differences on the experience of musical chills). These manuscripts put forth interesting theoretical considerations which will inform future work on the topic and may provide important insights for those studying aesthetic judgments of other categories of art. We hope that this issue brings important crosstalk between the music cognition community and those investigating aesthetic judgments of other sensory modalities, and we wish to continue encouraging authors to submit their best music research to the journal.

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