Music researchers propose that meaningful experiences during music listening are greatly dependent on listeners' level of attentiveness (Madsen, 1997). For example, several authors have suggested that extended periods of intense attention are conducive to meaningful and engaged listening (Madsen & Geringer, 2008) and may result in heightened or “peak” affective responses among listeners (Diaz, 2013; Madsen, Brittin, Caparella-Sheldon, 1993). Researchers also suggest that affective responses vary based on focus of attention to specific musical elements (Madsen, 1997; Madsen, Geringer, & Fredrickson, 1997), variations in pitch or tempi (Geringer, 2010; Geringer & Madsen, 2003; Montgomery, 1996), articulation (Geringer, Madsen, & Macleod, 2007; Geringer, Madsen, Macleod, & Dro, 2006), and authentic versus arranged music (Demorest & Schultz, 2004).

There is also evidence that children’s preference for unfamiliar music may be heightened through instruction (Shehan, 1985; Siebenaler, 1999) and that instruction enhances conceptual understanding but not preference for unfamiliar music among adults (Daynes, 2011).

Some researchers have examined methods for enhancing attention during music listening tasks (Flowers, 2001), as well as how these strategies might affect emotional responsiveness (Diaz, 2013; Madsen & Coggiola, 2001). In a study by Flowers (2001), sustained attention improved when participants were asked to register their distractions throughout an experimental listening task. Attention during music listening also seemed to benefit from engagement in mindfulness meditation (Diaz, 2013), but it was unclear how mindfulness may have affected emotional responses. Madsen and Coggiola (2001), however, found that participants who registered their emotional responses to music after using a continuous response device demonstrated higher levels of response, suggesting the possibility that attention may be heightened as an artifact of an experimental task. Other researchers have examined how attentional capacities vary in respect to multitasking (Madsen, 1987; Madsen, Diaz, & Geringer, 2009), with findings indicating that attention to music reduces performance on competing cognitive tasks.

Music educators often use guided listening strategies as a means of enhancing engagement during music listening activities. Although previous research suggests that these strategies are indeed helpful in facilitating some form of cognitive and emotional engagement, little is known about how these strategies might function for music of differing styles, or how they might affect attention, emotion, and peak affective experiences specifically during listening. In this study, these factors were investigated through the lens of three previously examined strategies: a distraction index, labeling of musical elements, and unguided listening. General findings suggest that the most consequential factor in enhancing musical engagement was presenting students with some type of goal either during or at the end of listening, regardless of the musical style or listening strategy used throughout the task. Furthermore, implications of the use of listening strategies during academic settings are discussed.

Abstract
Music educators often use guided listening strategies as a means of enhancing engagement during music listening activities. Although previous research suggests that these strategies are indeed helpful in facilitating some form of cognitive and emotional engagement, little is known about how these strategies might function for music of differing styles, or how they might affect attention, emotion, and peak affective experiences specifically during listening. In this study, these factors were investigated through the lens of three previously examined strategies: a distraction index, labeling of musical elements, and unguided listening. General findings suggest that the most consequential factor in enhancing musical engagement was presenting students with some type of goal either during or at the end of listening, regardless of the musical style or listening strategy used throughout the task. Furthermore, implications of the use of listening strategies during academic settings are discussed.

Keywords
attention, emotion, engagement, listening, listening strategies, peak experiences

Listening and Musical Engagement: An Exploration of the Effects of Different Listening Strategies on Attention, Emotion, and Peak Affective Experiences

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In research on listening among children, investigators have examined how “passive” versus “active” listening might affect perception, preference, and listening time for specific types of music. In these studies, the investigators described “active” listening as music listening paired with an additional task. In a study by Fung and Gromko (2001), active listening seemed to heighten both perception and preference for culturally diverse music. Specifically, children who engaged in active listening were more accurate in their perception of rhythm and phrasing than their “passive” counterparts, and they indicated a higher degree of preference for the music. Related studies suggest that children do not listen significantly longer based on engaging in either passive or active listening (Sims, 2005) and that despite some level of inattentiveness, children who register their distractions seemed to have a more positive response to music when compared to prose (Flowers & O’Neill, 2005).

In a related area of investigation, researchers have attempted to identify exactly what types of musical features might result in an especially heightened emotional response. In a study by Sloboda (1991), heightened physiological responses to music were evoked by passages containing sequences, appoggiaturas, and new or unexpected harmonies. Grewe, Nagel, Kopiez, and Altenmüller (2007) found that changes in volume and the entry of a particular voice correlated with musical “chills,” an indicator of heightened emotional response. Using a continuous response protocol, Schubert (2004) found strong relationships between changes in loudness and tempo and increased arousal, and in valence with melodic contour.

In Schubert’s (2004) study, emotional experiences were interpreted through the conceptual lens proposed by Russell (1989), in which affective responses are reduced to two primary and independent dimensions: valence and arousal. The term affective response is used here to denote the wide range of feeling states relating to emotion, such as preference, mood, and taste. In general, valence refers to the pleasantness or hedonic quality of an affective experience, whereas arousal refers to its magnitude. Therefore, it is possible to have an intense (arousal) but negative (valence) affective experience, a calm (arousal) but pleasant (valence) experience, or any combination thereof. Semantic differentials of valence are often listed as negative through positive, unpleasant through pleasant, and so on, whereas arousal is typically differentiated using terms such as calm through exciting.

To promote meaningful listening, many music educators spend a great deal of time guiding listening experiences for students throughout various levels of musical sophistication. The studies surveyed in this review support the premise that in most cases, attention during music listening improves when listening is guided or otherwise paired with other tasks. However, these improvements do not always lead to greater preference or enjoyment; an outcome that seems antithetical to the goal of promoting listening that is both richer and more meaningful. Music educators must also consider the effect of variables such as familiarity, focus of attention, and stylistic differences on affective response, as these also seem to play a significant role in how affective experiences are appraised.

To address these questions, the present study examined the effect of three listening conditions on affective responses to four excerpts of varying styles using trained musicians. The study focused on trained musicians because there are already a number of studies that address engagement among children and older nonmusicians, and because trained musicians might provide clearer verbal accounts of how their experiences might relate to subtle features of the music. The listening conditions examined included a distraction index (Flowers, 2001), a discrete adaptation of a continuous tracking protocol previously employed by Madsen (1997), and a nondirected condition. Specifically, the study sought to answer how musicians would rate their level of attentiveness (arousal) as well as the quality of their emotional responses (valence) after listening to excerpts of stylistically diverse Western classical music. In addition to rating the magnitude of their affective responses, musicians were also asked to identify if they had experienced a strong emotional reaction to what they listened to and, if so, to identify what they believe may have caused the reaction. The research questions were as follows:

**Research Question 1:** Among trained musicians, how do attention (arousal) and emotional responsiveness (valence) vary in respect to music of varying stylistic characteristics and as perceived through the lens of differing attentional strategies?

**Research Question 2:** During moments of heightened emotional response, what musical features do musicians identify as being the cause of these responses? How do these responses relate to musical styles and listening strategies?

**Method**

**Participants**

Participants (N = 45) for the current study were recruited from several intact music classes that included a mix of graduate and advanced undergraduate students who were either music majors or involved in musical ensembles at a comprehensive university music program in the Pacific Northwest. Participants were randomly assigned to one...
of three groups: (a) listening while using a distraction index \((n = 13)\), (b) listening while marking attention to musical elements \((n = 16)\), or (c) no specific listening instructions \((n = 16)\).

**Procedures**

The study was conducted in two settings: (a) intact classrooms at the university’s music school and (b) a small library/lab at the same facility. All locations included audio playback equipment and are relatively soundproof.

**Measures**

A questionnaire was designed to gather information on perceptions of attentiveness and the quality of emotional response of each respondent. At the conclusion of each of the four musical excerpts, participants were asked to answer questions using Likert-type responses to the following questions:

1. Overall, how would you rate your attentiveness throughout the excerpt \((1 = \text{very low} \text{ to} 10 = \text{very high})\)
2. Describe the overall quality of your emotional response to the excerpt \((-5 = \text{negative} \text{ through} +5 = \text{positive}, \text{with} 0 = \text{neutral})\)

Additionally, respondents were asked to indicate if they had experienced a strong emotional response to the excerpt and, if so, what they believed may have caused this reaction.

Listening conditions were manipulated through instructions attached to the questionnaire. For all respondents, the instructions read,

This study concerns patterns of attention during music listening. During the course of the study, you will hear four short musical excerpts. Prior to the beginning of each excerpt, you might be asked to perform a particular task while listening to the music. At the conclusion of each excerpt, you will be provided time to answer a few questions about your listening experience. Please do not turn the page until you are asked to do so. Thank you for participating in this study.

Participants assigned to the first condition were provided with directions to mark a dash or similar marking indicating the musical element they were attending to each time their attention shifted throughout four musical excerpts. The musical elements were provided in a box type diagram and included melody, harmony, rhythm, timbre, and everything. In the second group, participants were asked to mark a small dash in a specified area each time their attention wandered from the music. The third group was asked to listen to each excerpt and await further instructions.

**Musical Excerpts**

Since previous research suggests that affective responses vary greatly based on style, focus of attention to musical elements, and familiarity, excerpts used in the present study were selected based on two predetermined criteria. First, in consultation with two expert level university music faculty, a list representing music that varied in respect to melodic, harmonic, and rhythmic complexity, as well as orchestration, was created. Experts were also asked to list pieces that were considered “exemplars” of varying stylistic periods, such as those that would be presented in survey type classes or would be well known due to popularity through performances. Additionally, previous literature was surveyed to determine what musical examples had been used in other investigations. This procedure yielded the following examples: (a) Act 1 of *La Bohème*, Puccini (tonal harmonies, traditional melodic lines, vocal and orchestra); (2) *Rite of Spring*, Stravinsky (chromatic and dissonant harmonies, extended orchestral instrumentation, angular melodies); (c) *Pierrot Lunaire*, Schoenberg (serialized or atonal melodic material, a chamber ensemble); and (d) *Short Ride on a Fast Machine*, Adams (minimalism).

After the initial list was created, further steps were taken to minimize the possibility that participants would have been exposed to these particular pieces at an earlier time. Using the online music program Pandora, the selected excerpts were entered such that the software would provide stylistic matches that were extremely similar to but less likely to be known as the original list. According to Pandora, a professional staff of musicologists matches every piece in their database using 400 distinct musical characteristics. The methodology is described as employing “precisely defined terminology, redundant analysis, and ongoing quality control to ensure that data integrity remains reliably high” (Pandora Internet Radio, retrieved from http://www.pandora.com/about/mgp 2012). The site yielded the following matches for each piece.

1. *Romeo et Juliette*, by Gounod, for Puccini’s *La Bohème*
2. *Symphony No. 4*, by Zapata, for Stravinsky’s *Rite of Spring*
3. *Le marteau sans maitre*, by Boulez, for Schoenberg’s *Pierrot Lunaire*
4. *Music for 18*, by Reich, for Adams’s *Short Ride on a Fast Machine*

Approximately 3 minutes of music from each piece was extracted to create the stimulus recordings. The 3-minute
segments contained intact musical units, such that the listening conditions would be as close as possible to an authentic yet abbreviated listening experience. Two orders of the stimulus tape were created. One order began with the Gounod, followed by Zapata, Boulez, and Reich, while the second order started with Reich, followed by Gounod, Zapata, and Boulez. The orders reflected conditions in which participants would start their listening experience with a piece typical of “traditional” romantic stylistic characteristics (Gounod), balanced with an order that began with music whose characteristics were more in line with modern-day minimalist style (Reich).

Analyses and Results
To examine both research questions, several statistical and descriptive analyses were conducted on all variables. First, the relationship between perceptions of emotion and attention was examined for each attentional strategy (distraction index, marking elements, and nondirected) by excerpt (Gounod, Zapata, Boulez, and Reich) and for each presentation order. All Spearman’s rho correlations between attention and emotion were significant, indicating that regardless of strategy, style, or order, participants in the study rated these responses similarly. A table of correlation coefficients is included in Table 1. Second, differences in both attention and emotion were examined across each excerpt based on strategy and presentation order. Results from several Friedman two-way analysis of variance tests indicated no differences in the magnitude of attention or emotion when considering these variables.

To examine peak emotional experiences, the frequency and percentage of “yes” and “no” responses was tabulated by strategy, style, and order, and verbal responses were coded for all “yes” responses based on these variables. A table of frequency and percentage tabulations is included in Table 2. In general, the highest percentage (83.3%) of “yes” responses occurred during the Gounod excerpt for participants using the distraction index strategy during the second order of presentation. For the verbal responses, the author along with an outside reviewer examined participants’ statements to determine what if any general themes emerged from the data. The other reviewer was a music education faculty member from a separate institution who was informed of the study’s purposes and procedures. This method has been used in other studies as a means of classifying verbal responses (Kelly, 2000; Madsen & Kelly, 2002). After independent analysis of the data, the observers reconvened to compare themes and to agree on a set of common classifications as provided by participants. The list of themes that emerged from the data is listed in Table 3. In general, the themes represented a broad spectrum of musical events, including classifications attributable to gross, structural, temporal, and expressive elements, along with a number of extra musical associations.

Themes were then classified by excerpt and by attribution to either negative or positive associations. A list of these classifications is included in Table 4. Since each participant could provide a range of associations for each high-magnitude emotional experience, only the appearances of any single classification, rather than the frequency of classifications, were listed for each category. The analysis suggests that the Gounod and Boulez excerpts elicited the greatest range of musical associations, whereas the Reich and Zapata elicited the least. Furthermore, the Zapata received no negative associations, whereas the Boulez received more negative associations than all other categories combined.

Discussion
Facilitating meaningful listening is an aspect of music education that transcends subject specialty, and remains important despite the level of student that a teacher might engage with. In this study, I examined a number of variables that might affect this process, looking specifically at factors that were deemed as consequential based on previous research literature. Although the small sample size and advanced training of the current study’s participants might limit the generalizability of the findings, a number of important insights may be beneficial for those examining their approach to teaching listening. Specifically, findings make
from the study suggest a strong relationship between attention and emotional response, while also suggesting that musical style, listening strategy, and order of presentation have no significant effect on these responses. Furthermore, the findings indicate that a broad range of musical events can elicit strong emotional responses, and that the valence and variability of these attributions seem to be dependent in some degree on the style of music presented.

In previous research, the notion that heightened attention affects the magnitude of affective experiences during music listening has received a great deal of support, with researchers suggesting that this relationship is facilitated when listeners are in some way guided through their listening experience. In this study, the first part of this premise was clearly supported, as regardless of strategy or style, perceptions of attention and emotion were highly correlated. Yet, unlike previous findings, there did not appear to be differences in either attention or emotion based on comparing guided with unguided listening. This was evident despite the fact that peak emotional experiences were reported throughout all conditions. In fact, during the first presentation order of the unguided listening condition, peak experiences were reported at least as frequently as in the distraction index condition, and often more frequently than for those registering elements. During the second presentation order, there were less peaks reported in the unguided condition than for the distraction index, but participants that registered elements were still less likely to report a peak than listeners in the unguided condition.

If listening strategy and musical style had no significant effect on engagement, then what could have accounted for the peak emotional responses in the unguided group? One possibility is that participants were more attentive than usual because they were expecting a response task at the end of each listening session. This would support previous research suggesting that meaningful listening might result from almost any method that helps to keep a listener “on task,” even if the method is ancillary to the listening process (Madsen & Coggiola, 2001). Additionally, it is interesting to note that unlike in previous studies, the process attributed to engagement in the unguided condition was decoupled from the temporal aspect of listening.

If engagement in this study did indeed result from a condition that was both ancillary and temporally decoupled from the listening process, then this would suggest a wider and perhaps more ecologically valid range of possibilities for encouraging meaningful listening. For instance, many strategies require listeners to engage in musically unrelated tasks, or aim to focus attention on pre prescribed musical elements. In some cases, such as when working with young children or when engaging with highly unfamiliar music, these strategies appear worthy in providing an intermediate step toward more natural listening conditions. At their worst though, they can serve as a crutch, or even as competition for attention to more personally meaningful or salient aspects of the listening process.

One method that might encourage a more natural yet engaged form of listening is to provide listeners with opportunities for individualized and less scripted types of goal-directed listening. In classrooms, studios, and even self-guided listening experiences, goal-directed listening might take a number of equally effective forms. For instance, students might be prompted to develop their

Table 3. List of Musical Events Attributed to Heightened Emotional Responses.

<table>
<thead>
<tr>
<th>Gross musical elements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Melody</td>
<td></td>
</tr>
<tr>
<td>b. Harmony</td>
<td></td>
</tr>
<tr>
<td>c. Rhythm</td>
<td></td>
</tr>
<tr>
<td>d. Dynamics</td>
<td></td>
</tr>
<tr>
<td>e. Timbre</td>
<td></td>
</tr>
<tr>
<td>f. Pitch height</td>
<td></td>
</tr>
<tr>
<td>Structural and temporal elements</td>
<td></td>
</tr>
<tr>
<td>g. Texture and orchestration</td>
<td></td>
</tr>
<tr>
<td>h. Compositional devices</td>
<td></td>
</tr>
<tr>
<td>i. Cadences and other structural characteristics</td>
<td></td>
</tr>
<tr>
<td>j. Climaxes and peaks</td>
<td></td>
</tr>
<tr>
<td>k. Violations of expectation</td>
<td></td>
</tr>
<tr>
<td>l. Novelty of material</td>
<td></td>
</tr>
<tr>
<td>m. Contrasts and interactions between musical elements</td>
<td></td>
</tr>
<tr>
<td>n. Tempo</td>
<td></td>
</tr>
<tr>
<td>o. Tonality</td>
<td></td>
</tr>
<tr>
<td>Expressive elements</td>
<td></td>
</tr>
<tr>
<td>p. Phrasing</td>
<td></td>
</tr>
<tr>
<td>q. Rubato</td>
<td></td>
</tr>
<tr>
<td>r. General expression perceived</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>s. Extra musical associations</td>
<td></td>
</tr>
<tr>
<td>t. Evoked memories</td>
<td></td>
</tr>
<tr>
<td>u. Nostalgia</td>
<td></td>
</tr>
<tr>
<td>v. Familiarity with material</td>
<td></td>
</tr>
<tr>
<td>w. Distracted or overfocused</td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Musical Characteristics Attributed to High-Magnitude Emotional Response by Excerpt.

<table>
<thead>
<tr>
<th>Positive</th>
<th>Gounod</th>
<th>Zapata</th>
<th>Boulez</th>
<th>Reich</th>
</tr>
</thead>
<tbody>
<tr>
<td>a, b, d, e, f, g, j, l, m, n, o, q, r, s, v</td>
<td>b, c, d, e, g, h, k, m</td>
<td>e, f, h, i, j, k, b, c, e, g, l, m, s, w</td>
<td>h, u, v</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>W, j, c, d, e, g, m, g, l</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Please see Table 3 for elements corresponding to the listed letters.
own goals for the session, encouraging some level of autonomy. Students might also be prompted to engage in listening that is aimed at sharing salient experiences, whether these are of an expressive, perceptual, or extramusical nature. In fact, the results of this study suggest that powerful musical experiences are associated with a wide range of musical phenomena, and that perhaps by being too prescriptive, educators might get in the way of more naturally engaging methods of listening.

With respect to heightened emotional experiences during listening, the descriptive data seem to indicate that peaks occurred during every excerpt, regardless of listening strategy, but that valence and attributions for the peak responses were somewhat differentiated. For example, when listening to the Gounod, participants seemed to have a wider range of attributions to account for their responses, especially as compared to the Reich and Zapata excerpts. One possible explanation for this is that music students might be more exposed to stylistic elements typical of Western romantic music, and thus have had more practice listening to, analyzing, and responding to this style. Based on analyses of the Likert-type responses, though, this did not seem to enhance how attentive or emotionally responsive they were to this excerpt as compared to the others. In light of this finding, it is also interesting to note the number of negatively valenced associations attributed to musical events in the Boulez, a style with which they were likely less familiar.

For music educators, the implications of this set of findings is that heightened emotional responses may occur during any type of music, and that as has been proposed previously, engaging attention through goal-directed activity is perhaps most consequential. Furthermore, it should be of little concern if the music selected is familiar, unfamiliar, likely to be enjoyed, or likely to cause a negative reaction for the student. Indeed, what appears to be most important for engagement is that a goal is introduced, regardless of how that goal might take shape for each particular student.

In future studies, it would be interesting to examine how different populations react to similar variables, or how additional variables might affect responses. Populations of trained versus untrained musicians can be compared, and it would be interesting to see the effects of having listeners select their own strategies. Ideally, a method should be developed in which ecologically valid listening experiences are compared to those that might occur during classroom or guided listening contexts, as it is likely that most listening occurs during informal rather than formal settings. Finally, music educators should consider the implications of what introducing any listening strategy says about the role of different types of listening experiences, particularly with respect to academic versus nonacademic settings. It is unlikely that students listen to music in the same way when singing along to their favorite music at home or at a party when compared to how they listen within academic contexts. This has further implications on what we imply about formal versus informal listening, particularly when deciding that certain types of music require any type of strategy in order to be appreciated, enjoyed, or understood. With increases in the availability and variety of musical styles currently available to students, the purposes and practices of teaching musical engagement in academic settings should be periodically readdressed.

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