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The University of Southern Mississippi

Moving to the Beat: The role of movement on the perception of musical expressivity

by

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A Thesis
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Abstract

The purpose of this study was to determine the effect body movement would have on listeners' (N = 7) perceptions of the musical expressivity of different conducting patterns. An audio/video recording of a conductor from the University of Southern Mississippi was used for the stimulus, and listeners were asked to rate each video recording on perceived expressiveness, congruency between movement and music, and participant's willingness to play under each conducting style. While the video portion of the stimulus changed to reflect two different conducting styles (beat centric – traditional movements that adhere to notated meter, non-beat centric – non-traditional movements that do not adhere to notated meter) and two different musical excerpts (a ballad excerpt from *Lincolnshire Posy* by Percy Grainger and an excerpt from the march *The Glory of the Yankee Navy* by John Philip Sousa), the audio portion of the stimulus remained the same. Results indicated that the different conducting patterns did affect listeners' ratings of perceived expressivity, enjoyment of the conducting style, and congruency between the movement and music. The different musical excerpts also affected listeners' perceptions of musical expressivity in favor of the ballad excerpt. The sample size for this study was small, so implications and suggestions for future research are discussed.

Keywords: body movement, beat centric, non-beat centric, expressivity

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Chapter 1: Introduction

In endeavoring to express with the body the emotion evoked by music, we feel this emotion penetrate our organism, and become more personal and vital, as it sets in the vibration the deepest fibers of our being. [. . .] In short, the student will have the music within him, and his instrumental interpretation will become more convincing, spontaneous, vivid, and individual (Dalcroze & Rubenstein, 1980, p. 166)

Music offers the unique opportunity to both express the emotions of performers and evoke emotions from audience members. It is certainly a goal of music performers to play or sing as expressively as possible, showcasing the meaning and emotions of a work. In order to accomplish this goal, musicians incorporate a variety of musical techniques into their playing or singing. However, musicians do not usually consider incorporating movement to make a piece sound more expressive. In certain cultures around the world, the word for music and dance is synonymous. Although movement does not inherently signify dance, the art of expressive movement coincides with music in these cultures. In essence, music is not performed without movement and movement is not performed without music. Traditional western music performance and pedagogy, however, does not normally consider these two arts to be equal. In order to show the emotion of a piece of music, gesture and expressive body movement can be incorporated into the performance. Without these movements, a performance may not serve its fullest potential when it comes to expressivity.

When picturing a traditional orchestra one often visualizes a variety of instruments playing in harmony, bows moving in the air, or a conductor guiding the sounds of the ensemble with his or her baton. Most people would assume that the orchestra's sole job is to play music with the utmost expressivity and sensitivity by applying different musical techniques. However, listening to a recording of an orchestra as opposed to a live concert would evoke different auditory responses. Aside from the change of environment and audio engineering, a live performance allows audience members to see the movements of the orchestra. Most people would safely conclude that the orchestra would sound exactly the same, whether or not they were heard live. Although, without the visual component of movement, there is a possibility that the audience would perceive the music differently.

Musicians may not normally consider movement a necessary component to the study and performance of music, but it could have positive effects for the audience and musicians themselves. In order to make a basic musical sound, movement is required. Whether that movement is the vibrations of a singer's vocal folds or the vibrations of a bow against a violin's strings, movement is necessary to make music. The movement that this research project will focus on is specifically expressive movement. Expressive movement is movement that is congruent, or in other words, movement that matches the music being played. For example, if the music is becoming louder, then the movements can become larger and vice versa. The more expressive the movement that is involved in music-making, the more expressive a piece might sound. Musicians focus heavily on making the expressivity of music occur through multiple playing techniques such as dynamics and tempo. Such components are the basics of a captivating performance, and

if expressive movement contributes to more expressive music, then movement should be explored as a necessary part of the process.

Along with music performance, there could also be implications for using movement in music pedagogy. In the traditional ensemble setting, students sit in chairs to play their instruments. Students learn how to play rhythms, how to sing melodies, and how to internalize pulse while sitting and listening to verbal instruction. Instead of listening to verbal instruction which only caters to auditory learners, movement can help students internalize those musical concepts. Simply explaining the theory of a rhythm is not as effective as letting a student hear it and then replicate it with movement. A rhythm written down can give visual clarity but when paired with clapping from the student, the rhythm can be internalized into the body for better understanding. While movement is important to music performance for its expressive purposes, incorporating movement into music education is essential for students to make connections between the verbal instruction they receive and the music they play.

One of the pioneers who combined movement and music for pedagogy was Emile Jacques-Dalcroze, founder of the Dalcroze Method. Jacques-Dalcroze was an advocate for incorporating movement into the pedagogy of music in order to improve aural and rhythmic acuity. The Dalcroze Method focuses on three components of music: rhythm, solfege, and improvisation. Jacques-Dalcroze taught all three of these components by incorporating movement into normal music theory exercises. Dalcroze found that teaching these concepts through movement made the aural and rhythmic capabilities of musicians surpass the aural and rhythmic capabilities of the students who began musical training on an instrument. Dalcroze was inspired to create this method of music education

because of an experiment that a friend of his conducted. The experiment included twelve students of the same age, divided into two groups. The first group studied only solfege, the study of pitch using syllables, using movement techniques, and the other group studied piano. After one year, an exam was administered to assess the skills obtained by each group. The second group, who began by studying the piano, lost a good amount of their sound distinguishing capabilities. The first group who studied solfege first continued with piano lessons for the second year, and by the end, were more advanced technically and aurally than the group that only studied piano for two years (Dalcroze & Rubenstein, 1980, pg. 12). This study shows the importance of studying ear training with movement exercises as a precursor to learning an instrument.

While content knowledge of music is important to research and understand, there are other ways to incorporate expressiveness into a performance. Adding movement to a performance can potentially make the listener perceive the music as more expressive. By studying the effect movement has on music, I will investigate the amount of importance that movement should have in the fields of music education and performance.

Chapter 2: Review of Literature

One of the most important aspects of playing music is to potentially express emotion and meaning. Musicians strive to interpret the meaning and musicality of a work so the audience can understand as well, and they are able to communicate these messages through expressive playing. However, a musician might think that he or she communicated expressivity with their playing, but the only determining factor is if the audience perceived that expressivity. A musician might seek to communicate expressivity through the use of dynamics, tempo, or style, but there are other ways to communicate expressivity. Incorporating expressive movement into a performance could also enhance the audience's perception of expressivity because body movement is a significant part of live music performances. For instance, seeing a concert pianist play a dramatic Rachmaninoff concerto with little to no expressive movement would seem unnatural granted the vivid nature of the music. The deadpan movement would not be congruent, or match the passionate music. Aside from the necessary movement required to play music such as moving the hands and fingers for piano, there is an artistic side of movement that can help convey musicality to the audience. Without such movement, the piece could still sound technically proficient, but musicians strive for expressive performances in order to convey meaning. Platz and Kopiez (2012, pg. 75) concluded that "the visual component is not a marginal phenomenon in music perception, but an important factor in the communication of meaning." Adding expressive movement can even allow the audience to become more engaged in the performance. Broughton and Stevens (2009, pg. 17) found that interest ratings were higher when marimba performances were executed with

expressive movement as opposed to being deadpan, meaning only the minimum amount of movement required to play a marimba was incorporated. Adding expressive movement into musical performances can allow for deeper appreciation of a piece because it provides another outlet of expressivity for musicians to convey meaning.

When attending the performance of a live band, hearing the music is generally the most important part of that event. Although a live performance contains a variety of visual elements, there are multiple ways to experience music in this contemporary era that do not require seeing visual stimuli. The internet, radio, CD's, or Spotify allow people to hear music without the combination of visual components that are normally encountered when attending live performances. However, the addition of visual elements has the potential to change the audience's perception of the music. Boltz, Ebendorf, and Field (2009, pg. 10) found that adding a variety of videos paired with different musical excerpts changed the audience's perception of music's dynamics, tempo, and rhythm. Simply adding visual stimuli could change the audience's perceptions of fixed musical concepts. Kumar and Morrison (2016, pg. 3) argue that, "Music is a multimodal phenomenon and the observation of movement or gesture is a critical component of the way it is perceived." Including movement in a musical performance would make it a multimodal experience that could potentially communicate more expressivity. Silveira (2013) investigated the influence of movement on the perception of musical expressiveness by having a trombone quartet record an excerpt from an interpretive piece of music. He recorded the ensemble playing in three different ways: deadpan, head and facial movement, and full body movement that was exaggerated. The participants who evaluated the performances used a semantic differential scale to rate the expressiveness

(1 = not expressive to 7 = highly expressive) and stylistic interpretation (1 = not appropriate to 7 = very appropriate) during the viewing of each video. The findings concluded that the viewers found the full body movement video to sound the most expressive even though the audio recording never changed (Silveira, 2013, p. 8). Therefore, results from this study illustrate the potential effect that visual information, in this case movement, can have on the perception of musical expressiveness and style.

Movement is not only important to music performance, but it also plays a significant role in music education. Methods such as Dalcroze Eurhythmics, Labanotation, Suzuki Method, and Kodaly Method have all used movement as a means to teach music. These methods have all been studied to assess the effectiveness of incorporating movement into music pedagogy. Mead (1986, pg. 2) suggests that Dalcroze Eurhythmics helps to create expressive musicians by developing the inner ear and creative expression through muscular sense with movement. Another viewpoint shows that music study is more effective when formally instructed, not through movement. DeQuattro (2013) examined a group of high school music students and high school dance students to compare their beat competency and rhythmic imitation patterns. The results showed that the high school music students significantly outperformed the dance students and he concluded that rhythmic movement cannot replace direct instruction of rhythm in a musical context (DeQuattro, 2013, p. 91).

Using movement in the pedagogy of music can significantly help students better understand the artistic side of performance through expressive gestures. In some traditional middle school or high school band settings, students learn theory and rhythms at the same time or right before they learn to play their assigned instrument. This system

can work for most students, but it could also be improved upon. “It seems strange to have a student start learning an instrument before they hear sounds or rhythms, before their feeling for sounds and rhythmic movement is developed, and before their whole being vibrates in response to artistic emotion” (Dalcroze & Rubenstein, 1980, p. 63). Dalcroze (1980) also stated that “The aim of eurhythmics is to enable pupils, at the end of their course, to say, not “I know,” but “I have experienced,” and so to create in them the desire to express themselves; for the deep impression of an emotion inspires a longing to communicate it, to the extent of one’s powers, to others” (p. 63). Dalcroze Method is not the only method that can be used for the study of music performance and education. Laban Movement has been shown to benefit musicians with expressivity, especially in the field of conducting. In one study by Charles Gambetta (2005), he studied four conductors after having received Laban Movement training. The panel concluded that the conductors showed significant change in their movement possibilities and choices after their training. The training they received did not directly teach conducting gestures because the focal point was only about Laban Movement. This study shows how the incorporation of movement studies into music education can further enhance the performance of conductor’s gestures which can, in turn, have listeners perceive more expressivity in music (Gambetta, 2005, p. 2).

Another factor in traditional music pedagogy is the use of conductors. For the traditional wind band or orchestra, the conductor is the main visual component of the performance. The conductor has to embody the music and relay the music’s meaning and interpretation to the audience through expressive gestures that are congruent with the music. These gestures provided by the conductor could potentially determine whether or

not the audience perceives the music as expressive or not. Kumar and Morrison (2016, pg. 4) suggest that, “The conductor’s role is viewed, in part, as that of guiding an ensemble through a performance and delineating and drawing attention to particular musical moments.” This information provided by the conductor can make the audience perceive different musical meanings that may have been missed if a visual representation was not provided. Madsen, Geringer, and Wagner (2007, pg. 446) found in their study that participants who listened to recordings of bands led by varying conductors could not distinguish expressive differences from the auditory information alone. Rather, the participants heard differences in the music when they watched videos of the bands being conducted. This study illustrates the important role that the conductor plays in representing the expressivity of a musical performance. Without the expressive movements and gestures of a well-trained conductor, the audience may not perceive the full expressivity of the music. Researchers have also found that high levels of expressivity in conducting gesture had a positive effect on performance evaluation and perception (Morrison et al., 2009). The role of the conductor can even be more important to the audience than the performers themselves in a large ensemble setting. Pedell (2008, pg. 53) researched the factors that affect listener’s perception of the music. He found that the ratings for the musical experience and conductor behaviors were higher than they were for performer behaviors, which exemplifies the significant part a conductor plays in the perceived expressivity of a large musical ensemble.

While previous research has explored the effect of movement or gesture in music performance, pedagogy, and perception, another component of this study will be to examine how the perceptions of musical expressivity can be affected by physical factors.

These physical factors can include a person's race, gender, hair color, height, etc. Aristotle once said that "beauty is a greater recommendation than any letter of introduction". There are numerous studies that explain the significance of physical attractiveness. Since the conductor in this study will be visible to participants, it is important to discuss the limitations of the results due to the possibility of an attractiveness bias. An attractiveness bias is defined as "A tendency to see attractive people as more intelligent, competent, moral, and sociable than unattractive people" (Dion et al., 1972, pg. 2). While exploring how race affects the perception of conducting gestures with white and black conductors, Vanweelden and McGee (2007, pg. 12) identified a significant interaction between race and musical style, body expression, facial expression, and body posture. The researchers found that more eye contact, facial expressions, and posture ratings were given to the white conductor group when conducting the western music excerpt, and the black conductor group had higher ratings on the three body expressions when conducting a spiritual excerpt. In a study by Wapnick, Mazza, and Darrow, they found that the dress and stage behavior of male and female violinists affected their musical evaluations. They found that violinists who incorporated higher stage behavior and dress benefitted significantly from participants' evaluations (1998, pg. 10). Wapnick, Darrow, Kovacs, and Dalrymple found similar results in another study about the effect of attractiveness of vocal performers on the evaluation of their musical performance. For male singers, the more attractive singers had higher ratings of their musical performance than the less attractive singers. These results show how non-musical attributes can still affect a musical performance.

To summarize, research literature has shown that the perception of music performance can be greatly affected by expressive movement or physical factors. Because music is a multimodal experience, auditory and visual information both play significant parts in the perception of musical expressivity. The purpose of this study is to then answer the following research questions:

1. How does the use of expressive body movement in conducting music change people's perceptions of musical expressiveness?
2. How does congruency between movement and music affect the listener's perceptions of expressivity?

Chapter 3: Methodology

Participants

Participants for this study (N = 7) were undergraduate music students enrolled at the University of South Carolina and recruited through convenience sampling. The categorical breakdown of participants included: 3 males, 3 females, and 1 gender non-conforming; all music majors with musical training. The participants range from freshman to seniors, and they all have different amounts of training in conducting or various music ensembles. The reason I chose music majors to participate in this project is because they have knowledge of conducting styles, even if they have never formally taken a conducting class. Every music ensemble has a conductor present, so music majors have experienced a variety of conducting patterns and motions. Having participants with this knowledge means that they will be more analytical of the conducting patterns presented, so their response will be reflect those thoughts. The musical excerpts were also purposefully chosen because they are common in wind band literature, so participants have likely heard them before and understand conducting patterns that would match or not match the music.

Materials

The researcher assembled a conductor with a terminal degree in conducting to conduct two contrasting excerpts of music: a ballad and a march. The conductor was asked to employ two types of conducting styles with each video: (1) beat centric; (2) non-beat centric. The conductor was videotaped conducting one excerpt (mm. 34-37) from the

second movement of Percy Grainger's *Lincolnshire Posy* called "Horkstow Grange" in the two different conducting styles. The conductor was then videotaped conducting the second excerpt (mm.87- 119) from a march by John Philip Sousa called *The Glory of the Yankee Navy* in the two different conducting styles. These pieces were chosen for the conductor to give him a range of motions to explore due to the two contrasting musical styles, and they offered opportunities for stylistic interpretation. These two pieces are also common in wind band repertoire so the pieces will likely be familiar to participants with experience in wind bands. For the purposes of this study, the musical elements of expressiveness, enjoyment of the conducting style, and congruency between the conducting movements and the music were chosen for evaluation. The conductor was videotaped so that his head, arms, and torso were in view of the camera. The taping session took place in a rehearsal space in a university music building. The conductor was video recorded conducting the excerpts using a Sony HandyCam.

Procedures

The survey for this project was created on Qualtrics and it began with a consent form to explain to participants what the study was about and how it would be conducted. Once students consented, there was one demographic question which asked for the participants to write in their gender. This demographic question was added to examine the relationship, if any, between gender and perceived expressivity of the two contrasting musical excerpts. Using a ten-point semantic differential scale, the participants answered three questions related to the how expressive the music sounded (1 = not at all expressive to 10 = very expressive), enjoyment in playing under the conducting style (1 = not at all

to 10 = very much), and congruency between the music and movement (1 = does not match at all to 10 = matches very well). These three questions were identical for each of the four videos, and each question and video was randomized. There was a practice video at the beginning of the survey to model what the procedure would look like, so the results from the practice question were not analyzed. The following introduction was stated before the practice video:

The following video is an example of the videos you will see in this survey. The 3 questions that follow the video will be the same 3 questions that you will answer for the other videos after this example. Data from this practice excerpt will not be analyzed.

No specific definitions were given to the participants in this study (i.e., “expressivity”). Rather, the listeners brought their own experiences and perceptions to personalize these terms.

Data analysis

This study produced participants’ responses in the form of ratings from a ten-point semantic differential scale. The dependent variables in this study (expressivity, enjoyment of conducting style, and congruency) were examined to check for differences between the two contrasting conducting styles and musical excerpts.

Table 1. Mean composite ratings (i.e., A = expressivity, B = enjoyment of conducting style, and C = congruency) and standard deviations for march style and gender.

Participants	March (beat centric)						March (non-beat centric)					
	A <u>M</u>	<u>SD</u>	B <u>M</u>	<u>SD</u>	C <u>M</u>	<u>SD</u>	A <u>M</u>	<u>SD</u>	B <u>M</u>	<u>SD</u>	C <u>M</u>	<u>SD</u>
All	6.29	1.25	5.14	1.57	6.29	1.70	5.57	1.81	5.71	3.49	5.57	2.69
Male	6.25	1.71	5.50	1.73	6.25	1.71	5.75	0.96	6.00	3.27	6.25	2.63
Female	6.80	0.84	5.40	1.52	6.40	1.52	5.80	2.17	6.40	3.78	5.8	3.19
Gender non-conforming	6.00	--	3.00	--	4.00	--	7.00	--	10.00	--	8.00	--

Table 2. Mean composite ratings (i.e., A = expressivity, B = enjoyment of conducting style, and C = congruency) and standard deviations for ballad style and gender.

Participants	Ballad (beat centric)						Ballad (non-beat centric)					
	A <u>M</u>	<u>SD</u>	B <u>M</u>	<u>SD</u>	C <u>M</u>	<u>SD</u>	A <u>M</u>	<u>SD</u>	B <u>M</u>	<u>SD</u>	C <u>M</u>	<u>SD</u>
All	8.00	1.15	6.71	1.97	7.14	2.11	8.00	1.15	6.57	2.23	8.14	1.57
Male	8.50	1.29	7.00	2.45	7.75	2.06	8.00	0.82	6.00	2.16	8.50	1.29
Female	8.00	1.22	7.20	1.92	7.40	2.30	8.00	1.41	6.40	2.61	8.00	1.87
Gender non-conforming	8.00	--	6.00	--	5.00	--	10.00	--	10.00	--	10.00	--

Chapter 4: Results and Discussion

Results

Raw data consisted of participants' scores of perceived appropriateness of expressivity based on the stimuli. Participants' scores for expressivity, enjoyment of conducting style, and congruency were averaged to create one composite score for each condition (beat centric and non-beat centric in both the ballad and march), with a possible range of 1 to 10. Listed in Table 1 are the mean composite ratings (i.e., expressivity, enjoyment of conducting style, and congruency) for only the march excerpt in the following sub-groups: all, males, females, and gender non-conforming. Listed in Table 2 are the mean composite ratings (i.e., expressivity, enjoyment of conducting style, and congruency) for only the ballad excerpt in the following sub-groups: all, males, females, and gender non-conforming.

An analysis of Table 1 reveals that, on average, the participants found the beat centric conducting style to be more expressive ($M = 6.29$, $SD = 1.25$) and congruent with the music ($M = 6.29$, $SD = 1.70$) than the non-beat centric pattern. However, participants on average said they prefer the non-beat centric conducting pattern for a march ($M = 5.71$, $SD = 3.49$), but there was a greater variance among answers between the beat centric and non-beat centric. For congruency between music and movement, the participants preferred the beat centric conducting style for the march ($M = 6.29$, $SD = 1.70$). As shown in Table 2, ratings for the ballad excerpt were found to be equally expressive between beat centric and non-beat centric conducting ($M = 8.00$, $SD = 1.15$). Additionally, participants favored the beat centric conducting style ($M = 6.71$, $SD = 1.97$) but thought that the non-beat centric conducting style was more congruent

between the movement and the music ($M = 8.14$, $SD = 1.57$). Due to the small sample size, it is difficult to determine any statistical significance outside of mean and standard deviation.

Discussion

The purpose of this research was to determine the effect visual stimuli would have on listeners' perceptions of musical expressivity while listening and watching audio/video recordings. While previous studies have examined the effect of body movement on listeners' perceptions of soloists, this study sought to expand upon that research by using a conductor and by examining expressivity as a musical element. Results indicated that the performers' conducting movements did have an effect on listeners' ratings of expressivity, enjoyment, and congruency. For all participants, and for each sub-group (all, male, female, gender non-conforming), the ballad excerpt had higher ratings for each variable and both conducting conditions (beat centric and non-beat centric) than the march excerpt. This finding could be due to the expressive nature of ballads. Ballads tend to be freer when it comes to tempo and style as opposed to a march, which remains strict in tempo and form. In the march excerpt, participants thought that the beat centric pattern was more expressive and congruent, but they preferred the conducting of the non-beat centric pattern. Marches are typically conducted in more beat centric patterns because of their rigid tempo. The average music major has probably played several marches in their musical career, and it is very rare to see a march conducted in a non-beat centric pattern. The participants may have preferred the conducting of the non-beat centric style for the march because it is something that is

rarely seen. As far as the expressivity and congruency, the participants are probably more accustomed to seeing beat centric patterns for marches which may explain why the results showed that it was more expressive and congruent with the music.

For the ballad excerpt, participants found that the two conducting styles were equally expressive, they enjoyed the beat centric style of conducting more, and they thought the non-beat centric pattern was more congruent with the music. With the identical scores for expressivity in the ballad excerpt, participants may have felt that both the beat centric and non-beat centric conducting patterns were equal because of the expressive nature of a ballad. For the enjoyment of the conducting pattern, participants may have chosen the beat centric style because the music already sounded expressive. However, it is interesting that participants said the non-beat centric pattern was more congruent with the music because they also found the beat centric pattern and non-beat centric pattern to be equally expressive. With ballads being more expressive in their nature, it would have been assumed that if participants think that the movement and music match with a non-beat centric pattern, then that style would also be more expressive. This result may be because a non-beat centric conducting style can more easily capture the musical elements of a ballad excerpt, so participants felt that the movement and the music were more congruent.

On average, females found more expressivity in the march excerpt and congruency between the music and movement. Males found more expressivity and congruency for the ballad excerpt in both conducting styles. The greatest variance in answers came from the question asking participants how much they would enjoy playing under the conducting style depicted in the stimulus. This variance is perhaps due to the

opinionated nature of the question and each students' own personal experiences with conductors. Some students may have been exposed to more non-traditional conducting patterns while others were not. Having that exposure would make students understand and appreciate a certain style more than another. The results of this research project are somewhat significant since the audio portion remained the same for all of the videos, however, the sample size for this project was still very small.

Music is constantly being judged through formal and informal means. Casual listeners and professional music judges evaluate performances regularly, and although these listeners use different judgments to evaluate music, the results in this study and others like it show that movement may influence the perception of musical expressivity. While visual information is important in the music industry, with music videos and elaborate stage designs being part of an artist's image, music performers and educators may find results such as these important in their own work due to its effect on the audience. If certain movements can make listeners perceive music as more expressive, than maybe educators would find merit in teaching expressive movement to students of all ages. More research would be necessary to test how movement would affect the perception of musical expressivity within a large ensemble to get a clearer idea of how this research would apply to typical music education settings. Also, all of the participants in this project had musical training, so it is possible that casual listeners may perceive movement as more expressive or less expressive than people with musical training. Again, further research would be necessary to test for more significant differences amongst a wider variety of participants to better understand the relationship between listeners' perceptions of musical expressivity and movement.

Chapter 5: Conclusion

Limitations and Directions for Future Research

One of the biggest limitations for this project was the attractiveness bias regarding the conductor. Every participant was able to see the conductor's gender, skin color, and physical attractiveness for each of the videos in the survey. Having the conductor visible can allow for an attractiveness bias or other implicit biases to affect the results. For further research, it would be best if the conductor were not able to be seen by possibly using motion capture technology to only record movement. This stimuli for this project was originally going to be filmed in a motion capture lab, but scheduling conflicts made that an impossibility. However, using motion capture technology would eliminate any attractiveness bias or implicit bias because the cameras would only record the movements of the sensory lights attached to the conductor, so the survey participants would not be able to see the his gender, ethnicity, or perceived attractiveness. Having the study completed in a motion capture lab would also eliminate extraneous movements, such as facial expressions, from the perceived expressivity. The conductor was told to keep his face as motionless as possible, although, a direction like this can be challenging. It is very common and natural to move the eyes, eyebrows, and other facial muscles to further showcase expressive conducting. However, this project only sought to study expressive conducting patterns, so seeing the conductor's facial expressions could have influenced the participants' answers.

Another limitation in this study is the amount of participants that completed the survey. Initially, the goal was for around 20 students to participate in this project, but only 7 completed the survey. Due to this limitation, the population size is not as large,

which may not accurately depict the views of the population. In addition to the amount of participants in this project, there was also one genre of music used in the stimuli, wind band music. While using a conductor has its limitations since they are normally employed in orchestras or wind bands, the genre of music still remained the same. Adding multiple genres of music could lead to the possibility of listeners' perceptions varying with each category.

Lastly, all of the participants in this study were music majors. While some music training may be necessary to interpret a performer's style, a more simple idea like "expressivity" might not need the expertise that a music major would have. Researching people who are not musically trained would be a beneficial tool to study how non-musicians view musical expressivity. Non-musicians' results may or may not be similar to musicians' results, but having that comparison would provide a more general idea of perceived expressivity amongst anyone.

This project aimed to focus on the concept of body movement as a form of expression in typical music education settings, and was designed to research the effect that different, stylistic conducting patterns had on listeners' ratings of perceived expressivity through the means of a music conductor. Based on the research about expressive music affecting performance, movement seems to be evident in music performance whether it is a soloist, group, or conductor. If, as previous research suggests, expressive movement can affect listeners' perceptions, then maybe expressive movement should be taught to musicians at any level of study. Listeners in this project also rated how much they enjoyed the conducting patterns and how congruent the music and movement were to each other. The direction for future research with this project might

include participants of different musical levels, a variety of performers, and differing stimuli (audio, video, audio + video). It may also include incorporating different genres of music to test how participants respond to different styles of music. Additional research is needed to address these limitations and ideas to determine what effect expressive movement can have on listeners.

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Appendix A: Human Subjects Approval

THE UNIVERSITY OF SOUTHERN MISSISSIPPI AUTHORIZATION TO PARTICIPATE IN RESEARCH PROJECT

Consent is hereby given to participate in the study titled:

Moving to the Beat: The Role of Movement on the Perception of Musical Expressivity

Hello! My name is Molly Evans, and I am a music education major at the University of Southern Mississippi. I am conducting a research project focused on the effects of movement on the perception of musical expressivity, and I would like to invite you to participate. This form will give you the information you will need to understand why this study is being done and why you are being invited to participate. It will also describe what you will need to do to participate as well as any known risks, inconveniences, or discomforts that you may have while participating. If you decide to participate, you will be asked if you wish to continue with the study, and that will be a record of your agreement to participate.

1. **Purpose of Study:** The purpose of this study is to answer these questions: How do different types of body movements affect listener's perceptions of musical expressivity? How does congruency between expressive movement and music affect listener's perceptions of musical expressivity? I want to examine the participant's thoughts on conducting and its effects on their musical perceptions.

2. **Study Procedures:** Participants will watch the same conductor through multiple videos conducting in two contrasting musical styles (ballad and march) and will respond to questions following the performance. Participants will respond to the questions in a practice exercise that will not be analyzed. The ballad excerpt is from the second movement of *Lincolnshire Posy* by Percy Grainger, and the march excerpt is from *The Glory of the Yankee Navy* by John Phillip Sousa. The conductor will use a beat centric and non-beat centric pattern for each musical style (ballad and march). Participants will be guided through the 10-minute process and will answer three questions per video. Once all of the questions have been answered, the study will be complete.

3. **Benefits:** There will be no immediate benefits to participants. Potentially, study results will be applicable and useful to instrumental and vocal music teachers and their students as they both strive to make music as expressive as possible in the environment of music performance and education. There are no monetary or academic incentives being awarded by the University of Southern Mississippi.

4. **Risks/Discomforts:** There are no known risks involved in this project, and the process poses no known physical or mental discomfort.

5. **Right to Refuse:** Participation in this study is voluntary. At any time, the participant may withdraw from the study without penalty or loss of any benefit to which the participant may otherwise be entitled. Refusal to participate will not impact participant grades, class standing, or relationship to USM faculty members.

6. **Confidentiality:** Participants will be coded by number and all demographic and identifiable information obtained in connection with this study will remain confidential and will be disclosed only with your permission or as required by law. Names will not be used in any written reports or publications that result from this research, unless you have given explicit permission for us to do this. Data will be kept for three years (per federal regulations) after the study is complete and then destroyed. Data collected via paper and pencil will be inserted into a spreadsheet.

7. **Participant's Assurance:** Whereas no assurance can be made concerning results that may be obtained (since results from investigational studies cannot be predicted) the researcher will take every precaution consistent with the best scientific practice. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to Dr. Colin McKenzie at (601) 266-4990. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5116, Hattiesburg, MS 39406-0001, (601) 266-5997.

Yes, I choose to continue

No, I want to stop

INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.5997 | Fax: 601.266.4377 |

www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.
- If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 17120502

PROJECT TITLE: Moving to the Beat: The Role of Movement on the Perception of Musical Expressivity

PROJECT TYPE: Honor's Thesis Project

RESEARCHER(S): Molly Evans

COLLEGE/DIVISION: College of Arts and Letters

DEPARTMENT: Music

FUNDING AGENCY/SPONSOR: Eagle SPUR Grant

IRB COMMITTEE ACTION: Exempt Review Approval PERIOD OF APPROVAL:
03/26/2018 to 03/25/2019

Lawrence A. Hosman, Ph.D.

Institutional Review Board

Appendix B: Survey Guide

After consenting to participate in the project, participants were asked to write in their gender. Then they answered practice questions before the main survey. The answers for the practice questions were not analyzed. After the practice questions are answered, then participants were notified that their answers will be analyzed. The same three questions were asked for each video.

The following video is an example of the videos you will see in this survey. The 3 questions that follow the video will be the same 3 questions that you will answer for the other videos after this example. Data from this practice excerpt will not be analyzed.

How expressive was the music that you heard?

Not at all expressive.....Very expressive

How much would you enjoy playing under this conducting style?

Not at all.....Very much

How well did the movement you saw match the music you heard?

Does not match at all.....Matches very well

The answers for these next four videos will be analyzed. Take your time and answer all of the questions.