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# The Effect of Conductor Expressivity on Ensemble Performance Evaluation

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In this study, the authors examined whether a conductor's use of high-expressivity or low-expressivity techniques affected evaluations of ensemble performances that were identical across conducting conditions. Two conductors each conducted two 1-minute parallel excerpts from Percy Grainger's *Walking Tune*. Each directed one excerpt using high- and one using low-expressivity techniques. After watching a video of the four conducting segments set to a single audio performance of the selection by a university wind ensemble, participants ( $N = 118$ ) evaluated ensemble expressivity using a 10-point Likert-type scale. Half of the participants also rated the expressivity of the conductor using a second identical scale. Ensemble expressivity was rated significantly higher for the high-expressivity conductors; effect size was strong (partial  $\eta^2 = .57$ ). Among participants evaluating both conductor and ensemble, there was a significant moderate correlation between ratings ( $r = .56$ ).

**Keywords:** *conducting; gesture; visual information; ensemble evaluation*

Ensemble performances are the result of the interaction between performers and conductors. When adding the perspective of the listener or audience member to this mix, the experience—and ultimately the evaluation—of a music performance becomes still more complex, a combination of actions, sounds, and the larger context in which all this takes place (Small, 1998). Ultimately, one's judgment of a live ensemble performance may be only partly attributable to what one hears (the ensemble members' singing or playing) after factoring in such variables as what one sees

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(e.g., the conductors' actions). Specifically, one may judge a performance as more or less expressive depending on the perceived expressivity of the conductor. Referring to solo and chamber performances, Davidson stated, "There is a paucity of literature to indicate what the visual information contained in a music performance conveys" (1993, p. 104); this dearth of empirical evidence largely remains, and also applies to large ensembles, whose members by necessity attend to the wealth of nonverbal communication provided by a conductor.

In part, we react to sounds as we associate them in concrete and abstract ways with other sounds (Clarke, 2005). Such associations also may be made between musical sounds and motion, with *motion* referring to that of both performers and listeners. Cross-modal sensory interactions have received little attention in music, whereas they have been examined in psychophysics. The most apparent associations between music and motion are those embodied in the constructs of tempo and rhythm, although motion also is ascribed often to melody and harmony (Shove & Repp, 1995). The association of musical tension (closely associated with emotion) and phrasing judgments with performers' movements has been examined recently (Vines, Krumhansl, Wanderley, & Levitin, 2006). There appears to be a relationship between visual movement cues and aural perceptions of phrasing; however, visual aspects of tension appeared to be "largely *independent* from sound" (p. 102).

Evaluations of expressivity in solo performances appear to be influenced by, among other things, performers' manners of movement. In one study, undergraduate and graduate music majors gave higher ratings for phrasing, dynamics, and rubato as well as more positive overall ratings to solo piano performances featuring full-body movement on the part of the performer as compared with identical performances that featured less or no movement, which were rated correspondingly lower in every category (Juchniewicz, 2008). Performers transmit expressivity information kinesthetically and facially without being directed to do so, thus potentially enhancing the audience members' music experiences (Davidson, 1993; Thompson, Graham, & Russo, 2005).

When major and minor intervals are sung with facial expressions intended to convey positive or negative emotional messages, participants rate the intervals happier or sadder depending on the corresponding facial expression (Thompson et al., 2005). One would expect that the quantity of information might be greater in conductors leading ensembles because the expressed intention of conducting is to convey musical aspects of compositions visually. Indeed, Geringer, Cassidy, and Byo (1997) reported higher cognitive listening test scores among college nonmusic majors who watched a performance video of Leonard Bernstein and the Vienna Philharmonic than those who watched an animated video set to the same composition.

There are motions in conducting that appear to function as visual metaphors, some even having corollaries in sign language (Bräm & Braem, 2001). It also has been suggested that there are differences between conductors' musical and instructional (rehearsal) gestures (Garnett, 2005). The relationships of conductors' gestures and actions to resultant performances, however, are not well established. Some studies

have found that certain gestures, or emblems, are capable of transmitting specific musical ideas (Byo, 1990; Mayne, 1992; Sousa, 1988). Others report that highly experienced conductors use idiosyncratic expressive gestures (Byo & Austin, 1994).

Whether or not there is a demonstrable relationship between the expressivity of conducting and performing is not clear. Individual high school instrumentalists' performance accuracy, but not expressivity, was found to be better when performing to videotaped expressive conducting versus nonexpressive time-beating (Sidoti, 1990). However, individual trumpet performances by advanced players in response to a videotaped expressive conductor were rated more expressive than performances in response to a nonexpressive conductor (House, 2000). These performers and others (e.g., Sheldon, 2000) have voiced more positive opinions toward the expressive conducting. However, even though students in an eighth-grade band reported similarly positive opinions toward expressive conducting, there was no measurable performance difference in response to a conductor using expressive or strict gestures (Price & Winter, 1991). It is possible that experienced performers are more responsive than secondary school students to the expressive nuances of conducting. Performance evaluations in all these studies were carried out by individuals who listened to audio recordings and did not see the conductors. In a case where the conductor was seen, Van Weelden (2002) found moderate relationships between perceptions of conductor effectiveness and several variables, including facial expressions, and ensemble performances.

Suggesting a possible association between expressive conducting and ensemble response, Grechesky (1985) found that among bands considered to be more musical, their conductors tended to use more expressive gestures. What cannot be said is whether these performances were related to conducting gestures, rehearsal focus, or other factors. However, in a study where audiotapes of 10 bands (8 high school and 2 college) directed by a conductor using expressive and nonexpressive gestures were evaluated by a panel of six independent university band directors, the performances from the expressive conductors' ensembles were preferred. Students in these ensembles also voiced more positive opinions about the music, conductor, and conducting in the expressive condition (Laib, 1993).

A series of studies exploring conducting, band performances, and festival ratings has found little indication of a relationship between conducting and evaluations of corresponding band performances or festival ratings. These studies included examinations of *expressivity* of ensembles and conductors in district and state festival performances (Price & Chang, 2001, 2005, respectively) and *quality* of ensemble performances and conductors at a state festival (Price, 2006). In these studies, music majors were asked to provide a single rating on a scale of 1 to 10 to evaluate conductors and ensemble performances; responses were found to be both reliable and discriminating. Where quality was assessed, raters were asked to write comments about the conductors and bands. Even though the focus was on quality, expressivity was among the three most common factors identified by the evaluators for both ensembles and conductors.

Although there is some literature, albeit limited, examining the relationship of conducting to the resultant performances, there appears to be no research directly assessing the effect of the conducting on perceptions of related performances. However, there are data demonstrating that such visual aspects as attractiveness and sex (e.g., Elliott, 1995/1996; Ryan & Costa-Giomi, 2004; Wapnick, Darrow, Kovacs, & Dalrymple, 1997), stage behavior and attire (Wapnick, Mazza, & Darrow, 1998, 2000), and race (Elliott, 1995/1996) can all have effects on evaluations of individual performances.

Most would posit that an expressive performance is a goal of conductors and performers alike (Gabrielsson, 1999). It is regularly stated that fine conductors present themselves and move in ways that reflect their interpretation of a piece. What is not considered with great regularity is whether the ensemble performance actually reflects the way the conductor appears. Judging from the time and attention given to the development of expressive conducting skills as part of advanced music study, there appears to be the assumption of a clear relationship between conductors' gestures and ensemble performances. A different, possibly even iconoclastic, question is whether the way a conductor looks might have a direct effect on listeners' perceptions of the performance they hear. Not only are conductors communicating with ensembles, they are also communicating with audiences. A conductor who moves with great energy and flair might enhance the perception of excitement; a conductor whose movements are fluid and impassioned could intensify the affective qualities such movements are intended to evoke. The purpose of this study was to test whether listeners' evaluations of identical ensemble performances would differ between high- and low-expressivity conducting conditions.

## Method

To isolate the effect of conducting expressivity, we developed stimuli in which individuals demonstrating low and high levels of expressivity were shown conducting identical performances; in other words, although the conducting varied between excerpts, the ensemble performance did not. Two area high school band directors—White male graduate wind conducting students of approximately 30 years of age—agreed to assist with the study. We gave both conductors scores and recordings of two excerpts from *Walking Tune* by Percy Grainger (mm. 11-33 and mm. 85-109). This piece is a slow ballad featuring moderate contrasts in color and intensity and opportunities for use of rubato. We intentionally selected a piece in this style to offer the greatest potential visual contrast between high- and low-expressive conducting conditions. Each approximately 1-minute excerpt started and ended at appropriate phrase points and included similar melodic and harmonic material with slight differences in orchestration. Each consisted of a quiet melodic phrase that built to a full ensemble statement of the main melody before receding to a quiet woodwind interlude. Excerpt duration is consistent with previous research in this area (Price, 2006; Price & Chang, 2005).

We also provided each conductor with a rubric operationally defining low- and high-expressive conducting, based on earlier work by Byo and Austin (1994), as related to (a) right arm and hand, (b) left arm and hand, (c) facial expression, and (d) body movement. To maintain the independence of the conductors, expressivity conditions, and excerpts, we assigned each conductor to direct one of the two excerpts using low- and the other excerpt using high-expressivity techniques. This resulted in four separate conducting segments, the minimum number of items that allowed us to isolate the variable of expressivity independent of both conductor and excerpt. Conductors met twice with two of the researchers to demonstrate their contrasting interpretations and confirm successful depiction of and distinction between low- and high-expressivity conditions.

Video footage was recorded during an introductory instrumental conducting class at the same institution the conductors attended. Class members were arranged in a traditional wind band seating configuration, given parts to *Walking Tune*, and asked to play along with a digitally recorded concert performance of the piece by the university's top auditioned wind ensemble. Each conductor conducted each excerpt (in different and comparable attire) using the appropriate expressivity conditions. Between conducting episodes, class members changed seats to give the impression that the recordings were made during different rehearsals. The video was recorded from behind the second row of the ensemble to provide the vantage point of an ensemble member.

The video and prerecorded audio recordings were downloaded onto a computer. We removed the audio recorded during the conducting session and replaced and synchronized it with a high-quality wind ensemble performance. To allow time for participants to respond, the four video/audio conducting segments were interspersed with a screen displaying "Please respond" for 30 seconds. We constructed DVDs with four presentation orders in a Latin square design such that each conducting segment appeared in each presentation position with the stipulation that identical audio excerpts should not be heard successively.

Although the primary dependent variable was evaluation of the ensemble's performances (aural stimulus), we also wanted to ensure that participants attended to the conductors shown on the video (visual stimulus). To facilitate this, we asked participants to evaluate both the ensemble and the conductor. We requested all participants to rate the expressivity of each ensemble performance using a 10-point Likert-type scale anchored by *low* (1) and *high* (10). We used the same scale to rate conductor expressivity; however, we were concerned that by using a second visually identical, adjacent, and aligned scale to assess the conductor, the purpose of the study as well as our intended deception might have become transparent. To control for this possibility, we constructed an alternate response form in which approximately half of the participants were prompted to offer one free response comment for the conductor in place of the numeric scale.

Participants ( $N = 118$ ) were students enrolled in core music theory and analysis courses at a large university school of music in the Pacific Northwest. To ensure that participants were unfamiliar with the conductors and ensemble members shown in the video, data were collected at a different institution in a different state from that where the stimulus materials were prepared. Participants were predominantly undergraduates (freshmen,  $n = 28$ ; sophomores,  $n = 28$ ; juniors,  $n = 27$ ; seniors,  $n = 30$ ; graduates,  $n = 5$ ) with a major in music (majors,  $n = 111$ ; nonmajors,  $n = 3$ ; no major reported,  $n = 4$ ). All but eight of the participants reported past or current participation in a conducted ensemble for a minimum of 1 year and a maximum of 20 years (mean years participation = 7.74,  $SD = 3.99$ ); two participants did not respond to the question.

The procedure was carried out in intact lab classes of 7 to 20 students. The entire procedure, including instructions, opportunity for questions, data collection, and return of forms, took approximately 10 minutes. Following completion of all data collection, participants were directed to a Web site that provided additional information about the study, including our use of deception in the stimulus material. All procedures were approved by and carried out according to guidelines of each university's Institutional Review Board.

## Results

Data consisted of each participant's summed ensemble evaluation scores for the two high-expressivity and two low-expressivity conducting segments. Internal consistency for the ensemble evaluations was acceptable,  $\alpha = .72$ . We tested the effect of conducting expressivity on ensemble performance evaluation using analysis of variance procedures with two between-subject variables (response form, presentation order) and expressivity (high, low) as a repeated measure. Level of conducting expressivity had a significant effect on performance evaluation,  $F(1, 110) = 145.72$ ,  $p < .001$ , with high-expressive conducting segments ( $M = 12.85$ ,  $SD = 3.04$ ) rated more positive than low-expressive conducting segments ( $M = 9.14$ ,  $SD = 3.41$ ). The effect size was large (partial  $\eta^2 = .57$ ) (Cohen, 1988).

The expressivity by response form interaction was also significant,  $F(1, 110) = 6.47$ ,  $p < .05$ , although the effect size was extremely small (partial  $\eta^2 = .06$ ). Participants who completed the ensemble rating scale/conductor free response form ( $n = 60$ ) rated performances with high-expressivity conducting higher ( $M = 13.33$ ,  $SD = 3.11$ ) and performances with low-expressivity conducting lower ( $M = 8.83$ ,  $SD = 3.62$ ) than participants who completed the ensemble/conductor rating scale form ( $n = 58$ ) (high  $M = 12.36$ ,  $SD = 2.91$ ; low  $M = 9.47$ ,  $SD = 3.18$ ). To confirm that the latter group's evaluations of performances still varied significantly by conducting condition, we performed a repeated-measures  $t$  test on this group's responses alone after adjusting the alpha level using a Bonferroni-Holm correction for multiple comparisons. The difference in performance evaluations between conditions was, indeed, significant,  $t(57) = 7.67$ ,  $p < .001$ .

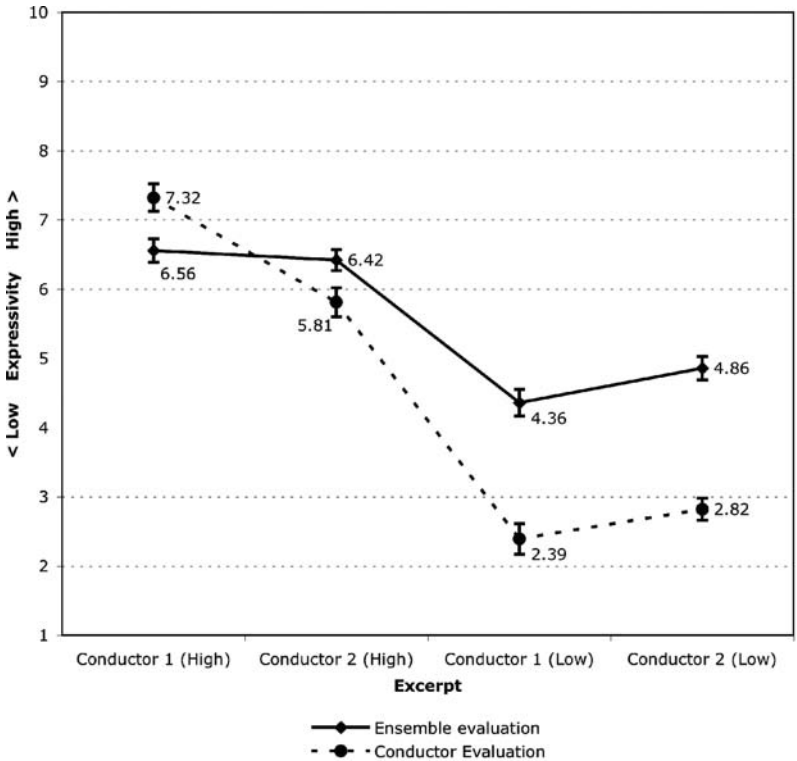
We also observed a significant order effect,  $F(3, 110) = 2.93, p < .05$ , although again the magnitude of the effect was negligible (partial  $\eta^2 = .001$ ). Using Least Significant Difference (LSD) procedures, we determined that Order 4 was significantly different from each of the other three presentation orders. Differences between all other pairings were not significant. The mean summed evaluation score for participants completing Order 4 was 12.40 ( $SD = 3.16$ ), higher than each of the other three orders. However, the relationship between responses to high- and low-expressivity segments was consistent across all four orders with the assessments of the former being on average 3.69 points higher than those for the latter. We noted that Order 4 was the only order that began with two low-expressivity conducting segments followed by two high-expressivity conducting segments. Examination of the data revealed that this group's evaluations of the high-expressivity segments ( $M = 14.20, SD = 3.43$ ) were in fact more positive than those of participants viewing each of the other three orders (Order 1  $M = 12.59, SD = 2.33$ ; Order 2  $M = 12.70, SD = 3.00$ ; Order 3  $M = 12.20, SD = 3.20$ ).

We examined responses to each conducting segment to determine whether participants made a consistent distinction between expressivity conditions or whether an extreme score attributable to one of the two conductors exerted an undue influence on the summed scores. Mean scores by individual conducting segment demonstrated consistency within conditions with evaluations of both high-expressivity segments higher than evaluations of either low-expressivity segment (see Figure 1).

The response forms requesting numerical Likert-type evaluations for both the ensemble and the conductor allowed us to examine the relationship between these participants' ensemble and conductor evaluations. Internal consistency for the conductor evaluations ( $\alpha = .68$ ) was less strong than that of the ensemble responses. Although just below the conventional acceptable threshold (Cohen, 1988), the result was not surprising in light of the small number of items (4). Given this interpretation and the fact that this scale was not included as part of the principal analysis, we felt it was acceptable to proceed. Using each participant's pair of responses for each of the four conducting segments, we found a significant moderate positive correlation between evaluations of the ensemble's expressivity and that of the conductor, Pearson's  $r(228) = .56, p < .01$ . Again, evaluations for both of the high-expressivity segments were higher than for either of the low-expressivity segments (Figure 1), which substantiates that the two conducting styles were clearly distinguishable.

The other set of response forms requested comments directed toward the conductor of each example. We evaluated comments as either positive or negative and categorized them according to specific characteristics that emerged (see Table 1). Two researchers independently evaluated the responses. Computing the ratio of agreements to agreements plus disagreements, we achieved reliability of .98 for determining comment valence (positive/negative) and .89 for category assignment. Comments directed

**Figure 1**  
**Means and Estimated Standard Errors**  
**for Ensemble and Conductor Evaluations by Excerpt**



toward low-expressivity conductors ( $n = 120$ ) were overwhelmingly negative (83.3%), whereas those for high-expressivity conductors ( $n = 120$ ) were modestly more positive than negative (52.5% and 43.3%, respectively). For both conditions, comments relating to use of gesture (e.g., “Very smooth fluid motions”) constituted the largest percentage of responses. Comments pertaining to lack of involvement in the ensemble’s performance (“No emotional response to music at all”) were the second most prominent response for low-expressivity conductors; all such comments were negative. General comments concerning the conductor’s expressivity (“Very expressive”) ranked second in frequency for the high-expressivity conductors; most, but not all, were positive.

**Table 1**  
**Categorization of Positive (+), Negative (–),**  
**and Neutral (N) Comments for High- and Low-Expressivity Conductors**

Category	High Expressivity ( <i>n</i> = 120)				Low Expressivity ( <i>n</i> = 120)			
	+	–	N	Σ %	+	–	N	Σ %
Conductor								
Gesture	17	21	0	31.7	7	34	0	34.2
Musical expression	20	5	0	20.8	1	13	0	11.7
Involvement	2	1	0	2.5	0	25	0	20.8
Facial expression	1	3	0	3.3	0	3	0	2.5
Body position	2	6	0	6.7	0	8	0	6.7
Leadership	7	3	0	8.3	1	4	0	4.2
Musical elements	4	5	0	7.5	1	4	0	4.2
Nonmusical	9	7	1	14.2	2	6	0	6.7
No comment	0	0	4	3.3	0	0	4	3.3
Ensemble								
Musical expression	1	1	0	0.8	3	0	2	4.2
Musical elements	0	1	0	0.8	0	2	0	1.7
Σ	63	52	5		15	99	6	
Σ %	52.5	43.3	4.2	100.0	12.5	83.3	4.2	100.0

## Discussion

Conducting instruction features prominently in most music teacher education programs and is indeed required for institutional accreditation (National Association of Schools of Music, 2007). The presence of such a requirement reflects an assumption that conducting skill is an essential competency for a music teacher, presumably contributing toward one's effectiveness as an educator. An individual who conducts with clarity and musicality, according to the parameters of accepted practice, should have an advantage when it comes to his or her own teaching efficacy and the ensemble's opportunity for high-quality music making. Although data supporting such assumptions are inconclusive, it is reasonable to propose that an activity that has such a potentially critical influence on music performance may have an effect on music listening as well.

The central research question of this study was whether differences in conductor expressivity would result in differences in evaluations of ensemble expressivity, even in cases where ensemble performances were identical. Our results indicate that the expressivity of the conductor had a significant and powerful bearing on how listeners judged the expressivity of a music performance. In fact, more than half the variance of the performance evaluations was attributable to the difference in conductor expressiveness. Although high-expressive conducting resulted in more positive

evaluations of the ensemble performance, it is not possible to state definitively that the expressive conducting elevated listeners' evaluations. It is equally possible that the low-expressive conducting damaged an otherwise positive assessment. Mean evaluations of the low-expressive conducting segments fell below the midway point of the scale whereas those of the high-expressive segments were above, which suggests decidedly different evaluations of the ensemble's performance—not simply a matter of “high” and “less high” expressivity, but of “high” and “low” expressivity.

Half of the participants provided numerical evaluations of the expressivity demonstrated by both the ensemble and the conductor. Although it was not surprising that we found a significant correlation between the two scores, the moderate degree of correlation suggested that there was still considerable independence between the two judgments. We did not examine other factors that may have contributed to participants' evaluations. For instance, it is conceivable that students with experience in choral music may have been quite confident when evaluating the conductor but less so when evaluating the performance of a type of literature of which they had limited knowledge. Additional research employing other types of conducted ensembles would help clarify such variables.

Specialization notwithstanding, virtually all the participants in this study had an extensive music background and were engaged in advanced college-level music study. Further research would be needed to determine whether the evaluation differences observed here would be demonstrated by a less experienced or less formally trained group of listeners. Given that more experienced performers have been observed to be more responsive to the nuances of conducting (House, 2000; Sidoti, 1990) and the fact that the largest proportion of comments specifically addressed conductor gestures, it could be that the participants in this study were particularly sensitive to the differences between the conducting styles. Conversely, it would be reasonable to suspect that a musically inexperienced group of listeners might be less likely to identify subtle differences (real or imagined) among the performances and depend more on visual information to guide their assessments.

It is somewhat surprising that such a musically sophisticated group of listeners as those who took part in this study perceived a high degree of dissimilarity among the four recordings, two pairs of identical excerpts taken from a single performance. However, these results are congruous with other research demonstrating similar sensitivity among music majors to visual information in the absence of musical differences (Juchniewicz, 2008). Among these advanced participants, awareness of the value placed on expressive conducting may have predisposed them positively toward performances featuring conducting recognized as “good” (Radocy, 1976). Alternatively, as experienced ensemble members, they may have looked more favorably on the more expressive conducting examples (House, 2000;

Price & Winter, 1991; Sheldon, 2000) and, in the absence of any actual difference in performance, ascribed a more positive assessment to those items. These results also could reflect the superiority of visual information in a multimodal context or, perhaps more interesting, the interaction of visual and aural information to produce a perceptive experience unlike either individually (McGurk & MacDonald, 1976).

The stimuli in this study were presented from the perspective of an ensemble member; audiences who typically do not view live concerts from such a vantage point may be less influenced by conductor behavior. Nevertheless, when viewing a video-recorded performance such as those employed in this study, viewers may be presented with a considerable portion of the performance from the ensemble's perspective. Even a number of major symphonic performance venues now feature video screens that offer audiences live head-on views of the conductor. Without such tools, facial expression in particular likely would have little effect on an audience member's experience of a performance, whereas for a performer, a conductor's countenance may be a powerful communication tool.

Although the conducting examples used here varied between a high and low level of expressivity, each maintained an appropriate level of precision. All four video segments featured an accurate metric pattern and maintained appropriate tempi. It would be difficult to conceive of a successful performance in the absence of at least these minimal requirements. Nevertheless, prior research has reported that it is possible for an ensemble to present a music performance regardless of a conductor's expressiveness or quality (Price, 2006; Price & Chang, 2001, 2005). But that is not to say that strong performances—or weak performances, for that matter—are not judged as better when supported by expressive conducting. Previous research has isolated conducting from performing in the assessments, and further research may examine how performance and conductor qualities may interact.

Based on the results of this study, one may speculate that the value of expressive conducting could reach beyond the podium or the rehearsal room. It might in fact enhance (or detract from) the experience of the audience member. Considering that the participants in this study evaluated identical music performances differently due to conductor expressivity, one may conjecture that the actions of the conductor might have an effect on the experience of adjudicators as well, although the difference between viewing perspectives is a factor that requires further examination. It seems advisable that, when preparing for festivals or contests, conductors should consider appropriate nonverbal representation of the music as an explicit part of their responsibilities for the preparation and execution of a sensitive and accurate performance. Music performances are integrated events, at times encompassing visual as well as aural components. Continued study in this area will contribute to an understanding of the relationship between the two.

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