IJRCS *International Journal of Research in Choral Singing 5* (1), 15-25

The Effect of Baton Use in Fast and Slow Tempi on Perceptions of Choral Conductor and Ensemble Performance

Jessica Nápoles,[1] **Sandra Babb,**[2] **Karen Willie**[1]

Abstract

The purpose of this study was to examine whether baton use in slow and fast tempi affected participants' perceptions of choral conducting and ensemble performance. University choral students (N = 177) viewed video clips of two Caucasian choral directors conducting selections of slow and fast tempi, with and without a baton. Participants rated the expressiveness and clarity of the conductor and the musicality of the ensemble on 7-point Likert-type scales. Results revealed a significant main effect for tempo, and significant interactions between tempo and order and between baton and order. Responses for tempo and baton use varied according to the order in which the excerpts were presented. Overall, participants rated each musical element higher in the fast tempo pieces than in the slow tempo pieces. Clarity and expressiveness were rated slightly higher in excerpts with a baton (M clarity = 10.17, SD = 2.24, M expressiveness = 9.11, SD = 2.19) compared to excerpts without a baton (M clarity = 10.03, SD = 2.30, M expressiveness = 8.85, SD = 2.17). However, these differences were not statistically significant. Mean ratings for musicality of the choir were exactly the same for excerpts conducted with and without a baton (M = 10.58).

Keywords

conductor baton use, choral conducting, perceptions of conductor expressivity

[1] The University of Utah

[2] Queens College, City University of New York

Corresponding Author: Jessica Nápoles. Email: jessica.napoles@utah.edu

Choral conducting instructors endeavor to teach their students a variety of gestures that may increase effectiveness in communicating with an ensemble. One goal is to encourage an ensemble to sing expressively. To that end, pedagogues employ a vocabulary that includes many dynamic, tempo, and articulation gestures. There is some consistency in labels for these common gestures, and Mayne (1992) and Sousa (1988) have established that there are "conducting emblems" used and broadly recognized by musicians. Execution of these gestures varies, however, because some choral conductors use a baton and others do not. In his conducting textbook, Rudolf (1994) indicates that conducting without a baton "has the obvious advantage that there are two expressive hands instead of one" (p. xvi), suggesting that the baton limits expressivity. However, empirical studies have not investigated this claim nor offered insight as to how baton use affects perceptions of expressivity.

In their efforts to define expressive conducting, researchers have isolated specific behaviors and elements including left and right arm movement, body movement, eye contact (Byo & Austin, 1994), facial expression (Wollner, 2008), and gestures characterized by increased amplitude, greater variance, and higher speed of movement (Luck, Toiviainen, & Thompson, 2010). Goolsby (1999) noted that these expressive behaviors distinguished novice conductors from experts. Price and Winter (1991) defined expressive conducting as including frequent body movement, expressive gestures, approving and disapproving facial expressions, and group eye contact.

It is clear that students prefer expressive conductors to unexpressive conductors (Laib, 1993; Price & Winter, 1991, and Yarbrough, 1975), but it is not clear whether expressive conducting yields better or more expressive ensemble performance. House's (1998) advanced trumpet students played better with expressive conductors, and Sidoti's (1990) high school instrumentalists performed expressive markings better with expressive conductors. However, Price and Winter (1991) did not find participants' performances to be different when responding to expressive and unexpressive conductors.

In a series of studies exploring relationships between expressivity assessments of conductors and their ensembles' performances, Price and Chang (2001, 2005), and Price (2006) found that the ratings given to the conductors were not related to festival ratings or the ensembles' evaluations. In Morrison, Price, Geiger, and Cornacchio's (2009) study, high expressive conducting segments were rated more positively than low expressive conducting. Although the ensemble performances were identical, and only conductor expressivity varied, participants still believed the expressively conducted segments were performed better than the others. Nápoles (2013) found that expressively conducted performances were rated higher (more expressive) than strictly conducted performances, as did Morrison and Selvey (2012). Interestingly, the converse relationship also appeared to be operative (Silvey, 2011): whether the ensembles' performances were excellent or poor affected viewers' expressivity ratings of the conductor.

Outside of conducting, other music researchers have indicated that there are a variety of elements that affect perceptions of expressive performance. Russo, Livingstone, and Thompson (2009) found that facial expression affected perceptions of emotional singing. Silvey's (2012) participants rated approving facial expressions as most expressive, with an absence of facial expression most negatively impacting ratings of expressive performance. Rubato, articulation, grace note duration and synchronicity (Timmers, 2003) and dynamic variation (Burnsed, 2001; Crist, 2000) affected perceptions of expressiveness, as did deviations in tempo and timbre (Gabrielsson

& Juslin, 1996). When evaluating pianists' performances, Davidson (1993, 2012), Juchniewicz (1998), and Thompson and Luck (2012) found that physical movement played a large role in whether a pianist was perceived as an expressive performer. Sasanfar's (2012) participants were also swayed by pianists' physical movements when judging expressivity of collaborative performances.

Modes of presentation (whether performances were experienced visually, aurally, or both) also affected perceptions of expressiveness (Davidson, 1993; Hamann, 2003; Hamann, Hamann, & Teachout, 1996; Lucas & Teachout, 1998; Lucas, Hamann, & Teachout, 1996; Nápoles, 2013; Pedell, 2008). Similarly, whether the performance was viewed from the front or the back affected listeners' perceptions of performance and expressivity (Napoles, 2013; Peddell, 2008; Price & Mann, 2011). Clearly, there are many variables that contribute to participants' overall assessments of an expressive performance or expressive conducting. Is it possible that baton use might be another variable to consider?

There is no consensus as to whether choral conductors should or should not use a baton. Some conducting textbooks do not address the baton issue explicitly but simply show illustrations of choral conductors without a baton (Fenton, 2008; Hylton, 1995; Staheli & Hall, 2008). One text distinguished between a "choral type hand position" and "baton type hand position" (Hunsberger & Ernst, 1992), suggesting that choral conductors do not use batons. Demaree and Moses (1995) believed the baton assisted with clarity, claiming that beat patterns shown with a baton tip are clearer and more precise than those formed without a stick, and that subtleties in shading can best be delivered with a baton. McElheran (1966) questioned the myth that a baton gives point to the beat, arguing that a clear point can be given without a baton. Grau (2009) addressed the expressivity issue directly by stating that a conductor can be more expressive when gesturing with hands alone. Others reference the baton only in the context of keeping the ensemble (purportedly instrumentalists) together (Green, 1997; Rudolf, 1994). When addressing tempo, Kaplan (1985) claimed that the baton could assist attainment of a crisp and fast beat. More research is needed to determine the functions of a baton in choral conducting settings, and whether using a baton in fast and slow tempi impacts participants' perceptions of expressivity and clarity.

The purpose of this study was to examine whether baton use in fast and slow tempi affected participants' perceptions of conducting and choral performance. Four research questions guided this study:

1. Is there a significant difference in ratings of conductor expressiveness in video excerpts featuring choral conductors with and without a baton?
2. Is there a significant difference in ratings of clarity in video excerpts featuring choral conductors with and without a baton?
3. Is there a significant difference in ratings of ensemble musicality in video excerpts featuring choral conductors with and without a baton?
4. Does tempo (fast/slow) affect participants' perceptions of conductor and ensemble performance with and without a baton?

Method

Participants

Members (N = 176) of collegiate choirs in two large universities in the states of Utah and New York constituted the participants for this study. There were 42 freshmen, 32 sophomores, 50 juniors, 44 seniors, and 8 graduate students. Participants included 100 females and 76 males, majoring in vocal performance (n = 49), music

education (n = 59), other music (n = 26), nonmusic disciplines (n = 31), and minoring in music (n = 12). One student did not specify year in school or sex. Mean number of years' experience singing in choirs was 7.73 (SD = 4.58). Among the participants, 63 (35.59%) had taken at least one conducting class.

Preparing the Stimulus Recording

We secured a professional video and sound engineer to video record two choral conductors (Caucasian male doctoral students in choral conducting from the state of Florida, unfamiliar to the participants) and sync these videos with pre-existing audio recordings. We asked the conductors to conduct the first musical idea (9-12 opening measures) of two pieces each, one fast and one slow, with and without a baton. The first conductor prepared Barber's "Sure on this Shining Night" and Schumann's "Zigeunerleben," while the second conductor prepared Mozart's "Ave Verum Corpus" and Handel's "Let Their Celestial Concerts Unite." We chose these pieces because they were of similar difficulty [all Level 3 pieces in the *Teaching Music Through Performance in Choir* series, Buchanan & Mehaffey (2005)] and considered standard pieces of choral repertoire. Further, there was sufficient contrast between the slow pieces (ranging from 35-45 beats per minute) and the fast pieces (ranging from 110-130 beats per minute), which allowed for isolation of the tempo variable.

We used audio recordings available from the series. These recordings featured high caliber university choral ensembles (Westminster Choir College and University of North Texas). All recordings included piano accompaniment.

We asked conductors to come to the recording session dressed all in black. The video engineer positioned two cameras approximately 12 feet away from the conductors, in such a way that one provided a view of the conductor's entire body and the other provided a view of just the conductor's hands and torso, so that the face was not visible. We later combined these two views for a "picture within a picture" effect. See Figure 1 for an illustration. We employed the "picture within a picture" mode of presentation to control for possible variations in facial expression, because previous research (Silvey, 2011) indicated that this variable could affect perceptions of conducting.

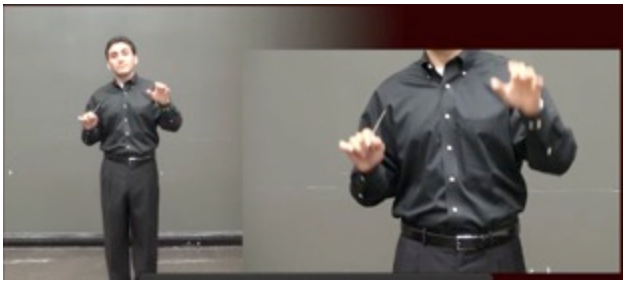

Figure 1. Example of the "picture within a picture" presentation mode employed for the stimulus videos.

Choir member participants did not view an ensemble, because this study involved deception. In order to accurately and specifically implement the baton use variable, we instructed conductors to incorporate the same cues, gestures, beat pattern size, and arm-hands general expressive elements regardless of whether the baton was used. The conductors heard the audio through a bluetooth speaker, with a full measure metronomic lead-in, providing conductors with aural cues for each of the selections as they conducted. However, the video cameras did not capture this sound. We later superimposed the sound from the series' recordings for the choir member participants. The engineer recorded each condition multiple times to provide sufficient video stimuli subsequent review.

Reliability and Validity

Four to six takes for each condition were offered for review. First, the researchers discarded any anomalous recordings (strange facial affects, inconsistent cues/releases, etc.). Thereafter, two experienced collegiate choral conductors viewed every dyad/combination of baton and no baton excerpts side by side on a large screen. We asked them to pick the combination that was most similar for each of the excerpts, focusing on the conductors' gesture size and expressive gestural vocabulary below the neck. Because conductors were given prior instructions to keep the conducting pattern and style the same in all conditions, most were in fact almost identical. These experienced observers consulted with each other and, after multiple reviews, agreed on four superior dyads, where the only discernable difference in conductors' arm and hand movements within excerpts was the addition or subtraction of a baton.

In a separate session, three different experienced music teachers viewed all eight excerpts and were asked to complete the proposed survey and provide feedback regarding the videos and the survey instrument. All agreed that the baton-conducted and non baton-conducted pairs were comparable. The teachers thought some survey wording was unclear; thus, we revised this wording accordingly.

The final stimulus video included eight tracks total, four with baton and four without baton. We created four purposeful orders alternating conductors and fast/slow tempo excerpts: the first order included the four excerpts conducted with a baton followed by the same four excerpts conducted without a baton. In the second order, the four excerpts conducted without a baton appeared first. To control for order effect, the third order was an exact reverse order of the first, and the fourth order was a reverse order of the second. Twenty-second transitions separated each excerpt. Each video was seven minutes and 38 seconds in duration.

Design and Procedure

After participants answered demographic questions, they were given the following instructions: "Please rate the following elements by circling one number below." The four elements were tone quality of the choir, musicality of the choir, clarity of the conductor's gestures, and expressiveness of the conductor. Having two items related to the conductor and two related to the choir was purposeful, so that both were considered when making evaluations. However, tone quality was a distractor and not considered in the analyses. Responses were based on a 7-point Likert-type scale, with the anchors *poor* and *excellent*. Participants also answered an open-ended question asking them to describe what elements influenced their ratings. Participants from both universities viewed and heard the video recordings in similar conditions: on a large screen projected to the front of the room in a music classroom space and with the same volume control settings in both venues.

Results

We combined (added) ratings across conductors and selections to create four categories per musical element: combined fast tempi with baton, combined slow tempi with baton, combined fast tempi with no baton, and combined slow tempi with no baton. The range of ratings was 2-14. Table 1 presents mean ratings by order and then by the grand means of all orders combined.

Table 1. *Means and Standard Deviations of Ratings by Order and Combined*

Order:	Mean Ratings of Ensemble Musicality	Mean Ratings of Conductor Clarity	Mean Ratings of Conductor Expressiveness
1	with baton 5.36 (1.21)	with baton 4.95 (1.36)	with baton 4.65 (1.44)
	no baton 5.68 (1.03)	no baton 5.21 (1.45)	no baton 4.85 (1.33)
	fast excerpts 5.58 (1.11)	fast excerpts 5.27 (1.34)	fast 4.85 (1.32)
	slow excerpts 5.46 (1.16)	slow excerpts 4.89 (1.46)	slow 4.64 (1.44)
2	with baton 5.43 (1.04)	with baton 5.37 (1.33)	with baton 4.92 (1.46)
	no baton 5.17 (1.02)	no baton 4.99 (1.36)	no baton 4.33 (1.51)
	fast excerpts 5.36 (.97)	fast excerpts 5.50 (1.13)	fast 4.89 (1.37)
	slow excerpts 5.23 (1.10)	slow excerpts 4.86 (1.50)	slow 4.36 (1.60)
3	with baton 5.10 (1.20)	with baton 5.08 (1.42)	with baton 4.26 (1.39)
	no baton 5.21 (1.21)	no baton 5.14 (1.23)	no baton 4.52 (1.43)
	fast excerpts 5.52 (1.09)	fast excerpts 5.50 (1.24)	fast 4.78 (1.36)
	slow excerpts 4.79 (1.21)	slow excerpts 4.72 (1.30)	slow 4.00 (1.36)
4	with baton 5.30 (1.13)	with baton 4.95 (1.39)	with baton 4.44 (1.50)
	no baton 5.13 (1.15)	no baton 4.73 (1.52)	no baton 4.04 (1.61)
	fast excerpts 5.48 (1.06)	fast excerpts 5.28 (1.28)	fast 4.59 (1.51)
	slow excerpts 4.95 (1.16)	slow excerpts 4.40 (1.49)	slow 3.89 (1.55)
Combined:			
	with baton 10.58 (1.89)	with baton 10.17 (2.24)	with baton 9.11 (2.19)
	no baton 10.58 (1.89)	no baton 10.03 (2.30)	no baton 8.85 (2.17)
	fast excerpts 10.98 (1.75)	fast excerpts 10.79 (1.98)	fast 9.55 (2.05)
	slow excerpts 10.18 (1.95)	slow excerpts 9.42 (2.34)	slow 8.41 (2.16)
	with baton fast 10.98 (1.84)	with baton fast 10.83 (2.02)	baton fast 9.67 (1.98)
	no baton fast 10.97 (1.67)	no baton fast 10.74 (1.95)	no baton fast 9.44 (2.12)
	with baton slow 10.18 (1.87)	with baton slow 9.51 (2.27)	baton slow 8.55 (2.24)
	no baton slow 10.18 (2.02)	no baton slow 9.37 (2.41)	no baton slow 8.27 (2.06)
	Conductor 1 5.17 (1.12)	Conductor 1 4.87 (1.43)	Conductor 1 3.96 (1.44)
	Conductor 2 5.40 (1.15)	Conductor 2 5.23 (1.33)	Conductor 2 5.01 (1.33)

We conducted a MANOVA with one between subjects variable (order) and two within subjects variables (tempo and baton use). Musicality, clarity, and expressiveness served as the three variates. There were significant interactions between baton and order, Wilk's $\Lambda = .76$, F (12, 450) = 3.92, $p < .001$, and between tempo and order, Wilk's $\Lambda = .77$, F (12, 450) = 3.88, $p < .001$. These interactions indicate that participants differed in their responses to baton use and tempo based on the order in which excerpts were presented. However, the effect sizes for these interactions were very small (partial $\eta^2 = .08$ for both). Subsequent univariate analyses (using an alpha level of .003 to adjust for multiple comparisons) showed significant differences in the tempo and order interaction only for the musicality element, F (3, 173) = 8.15, $p < .003$, and significant differences in the baton and order interaction for both musicality, F (3, 173) = 8.54, $p < .003$, and expressiveness, F (3, 173) = 12.21, $p < .003$. See Table 1 for complete results.

There was a significant main effect for tempo, Wilk's $\Lambda = .56$, F (4, 170) = 32.29, $p <$ 001, partial $\eta^2 = .43$. Follow up analyses revealed that each musical element was rated higher in the fast tempo pieces (musicality M = 10.98, SD = 1.75, clarity M = 10.79, SD = 1.98, and expressiveness M = 9.55, SD = 2.05) than in the slow tempo pieces (musicality M = 10.18, SD = 1.95, clarity M = 9.42, SD = 2.34, and expressiveness M = 8.41, SD = 2.16), $p < .001$, and these differences were significant [F (1, 173) = 49.73, $p < .003$, partial $\eta^2 = .22$ for musicality, F (1, 173) = 102.07, $p < .003$, partial $\eta^2 = .37$ for clarity, and F (1, 173) = 87.04, $p < .003$, partial $\eta^2 = .33$ for expressiveness]. There were no other significant main effects or interactions. Neither were there significant differences between responses of participants in the two universities.

When combining orders and tempo, it can be seen that clarity and expressiveness were rated slightly higher in excerpts with a baton (M clarity = 10.17, SD = 2.24, M expressiveness = 9.11, SD = 2.19) compared to excerpts without a baton (M clarity = 10.03, SD = 2.30, M expressiveness = 8.85, SD = 2.17). However, these differences were not statistically significant. Mean ratings for musicality of the choir were exactly the same for excerpts conducted with and without a baton (M = 10.58, SD = 1.89).

We disaggregated the data to examine the baton variable more specifically in the two tempo conditions, comparing use of baton and no baton in the slow tempo and in the fast tempo conditions. Means and standard deviations are shown in Table 1. Paired t-tests revealed no significant differences between baton/no baton conditions in participants' ratings of musicality in the slow tempo [t (176) < .001, $p > .05$] and fast tempo [t (176) = .04, $p > .05$]; clarity in the slow tempo [t (176) = 1.04, $p > .05$] and fast tempo [t (176) = .58, $p > .05$], and expressiveness in the slow tempo [t (176) = 1.73, $p > .05$] and fast tempo [t (176) = 1.48, $p > .05$]. Thus, although ratings for each category (ensemble musicality, conductor clarity, conductor expressiveness) exhibited large, significant variation between the fast and slow tempo conditions, the within tempo baton conditions exhibited very small, non-significant variations.

Discussion

The primary finding of this study is that baton use in fast and slow tempi does not appear to affect participants' perceptions of choral conducting and ensemble performances. Participants rate clarity and expressiveness slightly higher when conductors used a baton, and they rate the musicality of the choir exactly the same in both conditions. The factor that does appear to influence ratings is tempo. Participants rate each musical element higher in the fast tempo pieces.

Results from this study appear inconsistent with most claims by conducting pedagogues regarding use of a baton (Demaree & Moses, 1995; Grau, 2009; Green, 1997; Rudolf, 1994). Caution is warranted, however, when interpreting this study's findings. For example, in an endeavor to establish experimental control, we specifically asked the conductors to conduct in the same way, employing similar cues, releases, and expressive elements, when conducting with and without a baton. It is possible that their conducting patterns would have changed (been more expressive or clear) in one condition or the other had they not been given this limitation. Similarly, we likely sacrificed some control by not asking conductors to maintain similar facial behaviors between conducted excerpts.

On the other hand, however, the similar ratings in both conditions indicate that, in this setting and context, the addition or subtraction of the baton itself did not consequentially affect perceptions of conductor expressivity or clarity or of the ensemble's musicality. Data disaggregation points to the same conclusion. Comparison of baton and no baton means within the two tempo conditions reveals that ratings are not significantly different. In the context of the present study, the use of a baton does not make the gesture more clear, as advocated by Demaree and Moses (1995). Nor does the baton appear to limit expressivity, as Grau (2009) suggested. Something would perhaps need to change about the gestures themselves in order for participants to discern a noticeable difference.

Responses to the open-ended question at the end of the survey reveal some interesting opinions. Many participants mentioned the conductors' facial expressions as a factor influencing their ratings. It appears that facial expression was also tied to the tempo variable in that one of the conductors in the video showed a more serious face during the slow pieces and a more joyful/engaged face during the fast pieces. These choices were also governed somewhat by the text of the pieces, as the slow pieces tended to be more somber and the fast pieces tended to be spritely and more joyful. Understanding the importance of facial expression, as noted by Silvey (2012), we attempted to divert attention from the face by incorporating the "picture in a picture" effect with a larger view of just the hands and torso. Some bias towards more engaged faces is still evidenced by participant comments, and, although this factor does not appear to affect the primary finding of this investigation, it may constitute a limitation in the design of the study.

In particular, participants clearly preferred Conductor 2, rating him higher than Conductor 1 in each category. This conductor was more facially engaged than Conductor 1. This factor suggests that the "picture within a picture" presentation mode may not have functioned as well as intended. Reliability measures for future studies should take into account all nonverbal behaviors exhibited by conductors, and more objective analyses (grid analysis, frame by frame comparisons, etc.) both within and across conducted excerpts would be helpful.

Other comments directly related to the baton variable suggest that participants still believed the baton affected their perceptions, even though quantitative results do not support these statements. Among participant comments in this respect: "I also think holding something affected how I viewed the conducting. They gave more feeling to the piece when both hands were free." "The choir would respond very differently to the excerpts when they used a baton. Conducting with one is more clear but without is much more personal/expressive." "The baton helped with clarity."

Several comments suggest personal preferences for baton use, based on background or instrumental/choral focus: "I hate it when directors use batons. I think they're distracting and obnoxious and they bar the director from giving clear instructions." "I am originally an

instrumentalist so the conducting was clearest w/the baton." "I thought the conducting without a baton was much clearer but I am probably biased since I don't like the baton." "I believe no baton is much easier to follow as a choir student."

Many follow-up questions arise at the completion of this study. The first of these queries has to do with the purpose of the baton. If indeed clarity can be achieved either way, perhaps the decision to use or not use a baton stems purely from conventional reasons or the comfort of the individual conductor. Comfort level with a baton could possibly differ for choral conductors and instrumental conductors, and this difference could potentially affect conducting pedagogy. Perhaps the goal is to teach both ways/either way and ensure clarity.

It is unwise to generalize results of this study beyond this particular context with these two conductors and these four selections. Other participants may be sensitive to different elements, and had conductors actually conducted live ensembles, rather than pre-recorded audio recordings, conducting styles and subsequent perceptions could also be very different.

Future studies may include video recording multiple conductors in a variety of natural settings and exploring what specific factors affect preferences for the baton. Using both choral and instrumental ensembles, it may be interesting to tease out the variable of expectation and cultural norms. It is important to continue to examine perceptions of expressiveness, musicality and clarity, given the climate of assessment in music festivals nationwide. When we evaluate music teachers based on adjudicator perceptions, and when these evaluations have consequences with job and program retention, it is to our advantage to continue empirical research of pedagogical claims regarding performance biases and opinions. ✪ IJRCS

Institutional Review Board Approval and Compliance
The authors obtained approval from an appropriate Institutional Review Board to conduct this research in a manner that assured the ethical treatment of participants and the confidentiality of participant information.

Declaration of Conflicting Interests
The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The authors received no financial support for the research, authorship, and/or publication of this article.

Images
The *IJRCS* obtained permissions to publish the images of persons pictured in this article. These images may not be copied, transmitted, or otherwise used except as they are embedded in the entirety of the article.

References

Buchanan, H. J., & Mehaffey, M. W. (Eds.). (2005). *Teaching music through performance in choir*. Chicago, IL: GIA.

Burnsed, V. (2001). Differences in preferences for subtle dynamic nuance between conductors, middle school music students, and elementary school students. *Journal of Research in Music Education, 49*, 49-56. Retrieved from http://www.jstor.org/stable/3345809

Byo, J., & Austin, K. (1994). Comparison of expert and novice conductors: An approach to the analysis of nonverbal behaviors. *Journal of Band Research, 30*, 11-34.

Crist, M. R. (2000). The effect of tempo and dynamic changes on listeners' ability to identify expressive performance. *Contributions to Music Education, 27*, 63-77.

Davidson, J. W. (1993). Visual perception of performance manner in the movements of solo musicians. *Psychology of Music, 21*, 103-113.

Davidson, J. W. (2012). Bodily movement and facial actions in expressive musical performance by solo and duo instrumentalists: Two distinctive case studies. *Psychology of Music, 40*, 595-633. doi: 10.1177/0305735612449896

Demaree, R. W. & Moses, D. V. (1995). *The complete conductor*. Englewood Cliffs, NJ: Prentice Hall.

Fenton, K. (2008). *Foundations of Choral Conducting*. Tallahassee: USingers Publishers.

Gabrielsson, A., & Juslin, P. (1996). Emotional expression in music performance between the performer's intention and the listener's experience. *Psychology of Music, 24*, 68-91.

Goolsby, R. W. (1999). A comparison of expert and novice music teachers' preparing identical band compositions: An operational replication. *Journal of Research in Music Education, 47*, 174-187. Retrieved from http://www.jstor.org/stable/3345722

Grau, A. (2009). *Choral conducting: The forging of the conductor.* (J. Habermann, Trans.). Venezuela: GGM Editores/Earthsongs. (2005).

Green, E. A. H. (1997). *The modern conductor*. Upper Saddle River, NJ: Prentice-Hall.

Hamann, K. L. (2003). Identification of expressiveness in small ensemble performances by middle school students. *Bulletin of the Council for Research in Music Education, 155*, 24-32. Retrieved from http://www.jstor.org/stable/40319421

Hamann, K., Hamann, D., & Teachout, D. (1996). Effect of perceptual mode on the identification of expressive conducting. *Southern Journal of Music Education, 3*, 97-108.

Hunsberger, D., & Ernst, R. E. (1992). *The art of conducting*. 2nd edition. New York: McGraw-Hill.

Hylton, J. (1995). *Comprehensive Choral Music Education*. Englewood Cliffs: Prentice

Juchniewicz, J. (2008). The influence of physical movement on the perception of musical performance. *Psychology of Music, 36*, 417-427. doi: 10.1177/0305735607086046

Kaplan, A. (1985). *Choral conducting.* New York, NY: W. W. Norton & Company, Inc.

Laib, J. R. (1993). *The effect of expressive conducting on band performance.* (Doctoral dissertation). Retrieved from ProQuest Dissertations database. (UMI No.9404667).

Luck, G., & Toiviainen, P., & Thompson, M. R. (2010). Perception of expression in conductors' gestures: A continuous response study. *Music Perception: An Interdisciplinary Journal, 28*, 47-57. doi:10.1525/mp.2010.28.1.47

Mayne, R. G. (1992). *An investigation of the use of facial expression in conjunction with musical conducting gestures and their interpretation by instrumental performers*. (Doctoral dissertation). Retrieved from ProQuest Dissertations database. (UMI No. 9238229).

McElheran, B. (1966). *Conducting technique for beginners and professionals.* New York, NY: Oxford University Press.

Morrison, S. J., & Selvey, J. D. (2012). The effect of conductor expressivity on choral ensemble evaluation. *Proceedings of the 12th International Conference on Perception and Cognition*, Thessaloniki, Greece.

Morrison, S. J., Price, H. E., Geiger, C. G., & Cornacchio, R. A. (2009). The effect of conductor expressivity on ensemble performance evaluation. *Journal of Research in Music Education, 57*, 37-49. doi:10.1177/002242909332679

Nápoles, J. (2013). The influences of presentation modes and conducting gestures on the perceptions of expressive choral performance of high school musicians attending a summer choral camp. *International Journal of Research in Music Education*, *31*, 321-330. doi: 10.1177/0255761411434823

Peddell, L. T. (2008). Factors influencing listeners' perception of expressiveness for a conducted performance. *Bulletin of the Council for Research in Music Education, 178*, 47-61. Retrieved from http://www.jstor.org/stable/40319338

Price, H. E. (2006). Relationships among conducting quality, ensemble performance quality, and state festival ratings. *Journal of Research in Music Education, 54*, 203-214. Retrieved from http://www.jstor.org/stable/4151342 .

Price, H. E., & Chang, E. C. (2001). Conductor expressivity and ensemble performance: An exploratory investigation. *Contributions to Music Education, 28*, 9-20.

Price, H. E., & Chang, E. C. (2005). Conductor and ensemble performance expressivity, and state festival ratings. *Journal of Research in Music Education, 53*, 66-77. Retrieved from http://www.jstor.org/stable/3345607

Price, H. E., & Mann, A. (2011). The effect of conductors on ensemble evaluations. *Bulletin of the Council for Research in Music Education, 189*, 57-72. Retrieved from http://www.jstor.org/stable/10.5406/bulcouresmusedu.189.0057

Price, H. E., & Winter, S. (1991). Effect of strict and expressive conducting on performances and opinions of eighth-grade band students. *Journal of Band Research, 27*, 30-43.

Rudolf, M. (1994). *The grammar of conducting: A comprehensive guide to baton technique and interpretation*. New York: Schirmer.

Russo, F. A., Livingstone, S. R., Thompson, W. F. (2009). Facial expressions and emotional singing: A study of perception and production with motion capture and electromyography. *Psychology Publications and Research. Paper 15*. Retrieved from http://digitalcommons.ryerson.ca/psych/15

Sasanfar, J. (2012). *Influence of aural and visual*

expressivity of the accompanist on audience perception of expressivity in collaborative performances of a soloist and pianist. (Doctoral dissertation). Retrieved from ProQuest Dissertations database. (UMI No. 3539619).

Sidoti, V. J. (1990). *The effects of expressive and nonexpressive conducting on the performance accuracy of selected expression markings by individual high school instrumentalists*. (Doctoral dissertation). Retrieved from ProQuest Dissertations database. (UMI No. 9105212).

Silvey, B. A. (2011). The effect of ensemble performance quality on the evaluation of conducting expressivity. *Journal of Research in Music Education, 59*(2), 162-173. doi: 10.1177/0022429411406173

Silvey, B. A. (2012). The role of conductor facial expression in students' evaluation of ensemble expressivity. *Journal of Research in Music Education, 60*, 419-429. doi:10.1177/0022429412462580

Sousa, G. (1988). Musical conducting emblems: An investigation of the use of specific conducting gestures and their interpretation by instrumental performers (Doctoral dissertation). Retrieved from ProQuest Dissertations database (UMI No. 8820356).

Staheli, R., & Hall, R. (2008). *Masterful choral conducting*. Provo, UT: Brigham Young University.

Thompson, M. R., & Luck, G. (2012). Exploring relationships between pianists' body movement, their expressive intentions, and structural elements of the music. *Musicae Scientiae, 16*, 19-40. doi: 10.1177/1029864911423457

Timmers, R. (2003). On the contextual audience perspectivepropriateness of expression. *Music Perception, 20*, 225-240.

Wollner, C. (2008). Which part of the conductor's body conveys most expressive information? A spatial occlusion approach. *Musicae Scientiae, 12*, 249-272. Retrieved from http://hdl.handle.net/123456789/19454

Yarbrough, C. (1975). Effects of magnitude of conductor behavior on students in selected mixed choruses. *Journal of Research in Music Education, 23*, 134-146. Retrieved from http://www.jstor.org/stable/3345286

Jessica Nápoles is Associate Professor of Choral Music Education at the University of Utah in Salt Lake City, UT (USA). Her research interests include teacher talk in the choral rehearsal, teacher delivery, and perceptions of expressivity.

Sandy Babb is Assistant Professor of Choral Music Education at Queens College, CUNY in Queens, New York (USA). Her research interests include choral tone development, English Language Learners in music classrooms, and critical thinking in the choral rehearsal.

Karen Willie is a doctoral student at the University of Utah (USA). Her research interests include sightsinging, the development of music literacy in choral ensembles, knowledge elicitation techniques, and the nature of expertise.