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The Effects of a Teacher-Directed Preperformance Routine on Expressive Performance Mindset

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ABSTRACT

This study was a partial replication of past studies in which a preperformance routine was found to have significant effects on the expressive performance of individual singers. In these studies, a psychologist taught participants how to identify in themselves a self-protective mindset and then taught them a preperformance routine that fostered a mindset more conducive to optimal expressive performance. In the present study, classroom teachers provided a similar intervention and follow-up lessons to members of 3 junior high choirs (N = 132). A research design comparing 4 testing occasions identified differences attributed to the intervention. Results indicated a positive effect on Overall Expressiveness ($p < .001$) and on the subcategories Dynamics ($p = .006$), Tone ($p < .001$), Articulation ($p = .005$), and Performance Factors ($p < .001$). Retention was significant regarding Overall Expressiveness as well ($p = .004$). Implications are that (a) mindset-oriented instruction may help singers put into play expressive skills and understandings that were previously fettered by a self-protective mindset, (b) mindset instruction may be effectively provided by classroom teachers, and (c) follow-up lessons are helpful for retaining an optimal performance mindset.

One of the most commonly heard phrases music educators use in rehearsal is “music is more than the notes on the page,” or some variation on that theme. Learning correct notes and rhythms is only part of the creative process; exploring the piece’s artistic potential and striving to make the piece expressive is also an essential part of making music. Careful attention to both technical and expressive elements in the music lifts

it off the page and allows it to more deeply affect performers and audience alike. It is not surprising then that researchers have been keenly interested in learning more about the factors involved in creating an expressive musical performance and how to improve expressive performance (EP) instruction.

Researchers have explored EP from a wide variety of perspectives, including the ways it is created, communicated, experienced, taught, and learned. Extensive reviews of literature by De Poli (2004); Fabian, Timmers, and Schubert (2014); Gabrielsson (2003); Goebel et al. (2008); Juslin and Laukka (2003, 2004); Juslin and Sloboda (2001); Juslin and Vastfjall (2008); and Sundberg (2000) illuminate the wide variety of distinct directions researchers have taken in exploring EP. Topics of EP research include the communication of emotion through specific music cues such as tempo, dynamics, timing, and articulation (Chaffin, Lisboa, Logan, & Begosh, 2010; Juslin, 2000; Juslin & Laukka, 2003; Laukka, Juslin, & Bresin, 2005); emotional perception and emotional induction (Gabrielsson, 2002; Nakra & BuSha, 2014); emotional responses to hearing music (Gabrielsson & Juslin, 1996; Gabrielsson & Lindström, 2001; Juslin & Sloboda, 2001; Krahe, Hahn, & Whitney, 2015); factors that influence perception of expression (Geringer & Sansafar, 2013; Morrison, Price, Geiger & Cornacchio, 2009; Morrison & Selvey, 2014; Silvey, 2013); and overarching pedagogical approaches to teaching EP (Juslin, 2003; Laukka & Juslin, 2000; Woody, 2000). Three less-developed but growing lines of EP research include (a) specific instructional strategies for teaching EP, (b) the cognitive processing involved in creating an EP, and (c) factors that inhibit EP (particularly mindset and performance anxiety) and strategies for addressing those factors. The present study contributes primarily to these three developing and closely related lines of research.

Research on instructional strategies for teaching EP is a relatively new line of research. It examines EP teaching methods in both choral and instrumental music teaching (Brenner & Strand, 2013; Broomhead, 2006, 2009; Broomhead, Skidmore, Eggett, & Mills, 2010, 2012; Karlsson & Juslin, 2008; Keown, 2015; Zilj, Toiviainen, Lartillot, & Luck, 2014). Broomhead (2006) investigated three choral teachers' instructional techniques and found that they taught EP in many ways: student-initiated input, teacher inquiry, extra musical reference, demonstration, teacher feedback, detailing, and conducting. Keown (2015) looked at the effects of projected film visuals on university-level singers' perception of self-expressivity while singing. Participants sang two different choral études while viewing (a) "congruent" film, (b) "incongruent" film, or (c) no film and reported a higher level of self-expressivity while viewing the congruent film. Ratings of participants' performances revealed significantly higher expressivity for performances done while viewing the congruent film (Keown, 2015, p. 138).

In instrumental teaching, Zilj et al. (2014) asked instrumentalists to play a musical phrase while focusing on (a) technique, (b) expression, and (c) their own felt emotions. Results indicated that expression-focused performances were "more extroverted and externally projected" and emotion-focused performances were "more introverted and personal," while technique-focused performances were "technically appropriate" (Zilj et

al., 2014, p. 33). Karlsson and Juslin's (2008) study found a "lack of clear goals, specific tasks, and systematic teaching patterns" (p. 309) in the EP instruction they observed. To summarize, research on instructional strategies has just scratched the surface of discovering the ways teachers teach EP, with results pointing to a general absence of structured EP instruction. Teachers address expressive elements spontaneously, using a variety of instructional techniques.

Research on the cognitive processing of EP focuses on musicians' thought processes during rehearsal (Rosenthal, Durairaj, & Magann, 2009; Sheldon, 2004; Zilj & Sloboda, 2011). Zilj and Sloboda (2011, p. 196) found that during the rehearsal process, musicians' "practice-related" emotions ("e.g., frustration at not being able to master technical difficulties") became less prevalent than their "music-related" emotions ("e.g., aesthetic delight"). Findings also indicated that performers moved from "feeling" musical emotions to "knowing" musical emotions, resulting in less expressive interpretations until the actual performance, when felt emotion sometimes returned. Rosenthal et al. (2009) analyzed musicians' descriptions of their practice, identifying a wide range of approaches to EP and revealing that advanced musicians made more goal-oriented, less-evaluative comments than less-experienced musicians. These studies on the cognitive processing of EP provide insights into individual instrumental performers' thought processes during rehearsal. Music educators may be interested in sharing these findings with their students to help them identify their current stage in the EP creative process or to help them strive for more goal-oriented self-reflection.

Despite a performer's best effort to perform musically, extramusical factors may affect EP. These factors include the performer's mindset (Dweck, 2006; Seligman, 1991), physiological state (Landers, 2003), and performance anxiety (Brandfonbrener, 1999; Lehrer, 1987; Robinson, 2004; Simoens, Puttonen, & Tervaniemi, 2015; Tomas & Nettelbeck, 2014). Sports psychology research often addresses these topics in terms of "peak performance." Numerous researchers have established the importance of psychological factors in peak performance related to sports (Harmison, 2006; Krane & Williams, 2006; Weinberg & Williams, 2006). Wilson, Peper, and Schmid (2006) suggest using preperformance routines or rituals to free cognitive resources and focus on sports performance tasks.

Other researchers have applied peak performance research more generally outside of sports and have found that consistent use of various preperformance routines—systematic breathing, repeating affirmations, specific planned interactions with others, unusual or superstitious rituals, and so forth—improve performers' likelihood of achieving peak performance mental status (Hays & Brown, 2004; Lloyd & Foster, 2006). Scholars have also explicitly applied sports psychology to business. In one scholarly work, Hallett and Hoffman (2014) outline six psychological skills necessary to cultivate a "peak performance mindset" in the global marketplace (p. 222).

The authors of the present study have similarly drawn their framework from studies on sports-related performance-state interventions. The notion of mental preparation to

establish peak performance mindset is potentially more natural for music than for business in that performance in both sports and music are notably physical, supported by well-established mental aspects. Although athletic competitions result in winning and losing, both music and sports scholars seem to be interested in studying what is involved in doing one's best, or achieving peak performance. The authors posit that athletes and musicians face similar mindset challenges (i.e., anxiety, fear, physiological effects of nervousness) during performance and that mindset interventions may help musicians nurture peak performance.

Very little research investigates the use of mindset instruction with musicians, but this line of research is expanding (Broomhead et al., 2010, 2012). In 2010, the authors developed and evaluated an instructional approach for enhancing EP with nonexpert college-age singers using positive mindset trigger words in a preperformance routine. They hypothesized that instruction and practice in achieving a "bold," "confident," and "free" mindset would facilitate the release of EP skills and understandings that otherwise would remain unexpressed. Results revealed a significant treatment effect for Overall Expressive Performance ($p = .015$) and identified specific subcategories that were positively affected by the treatment: Timing (e.g., rhythmic feel, rubato, accelerando, rallentando, etc.; $p = .0007$), Dynamics (e.g., phrase shaping and climax, dynamic shading and contrast, crescendo/decrescendo, etc.; $p = .0017$), and Performance Factors (e.g., facial and bodily expression; $p < .0001$).

In a follow-up study, Broomhead et al. (2012) investigated the effects of a positive mindset preperformance routine on the EP of singers in junior high. Researchers taught the experimental group a 40-minute intervention lesson on a preperformance routine consisting of breathing and silently repeating the mental trigger words bold, confident, and free. Testing occurred immediately before and after the intervention and 2 weeks later. Judges rated individual performances using the Expressive Performance Achievement Measure (EPAM; Broomhead, 1999). Results showed a significant positive effect on Overall Expressive Performance ($p < .001$) and on the subcategories Dynamics ($p < .001$), Performance Factors ($p < .001$), and Timing ($p < .001$). These results suggested (a) that using a preperformance routine with mental trigger words can bring about immediate improvement in junior high-age singers' EP, (b) that singers may be more capable of EP than they or their teachers initially recognize, and (c) that junior high-age singers may need follow-up lessons to retain intervention benefits.

These studies leave several questions in need of answers or confirmations. For example, what is the nature of skill retention and what might this reveal regarding the difficulties in EP ability retention in the students tested? In addition, even though past studies have shown significant EP improvement after mindset interventions, these interventions were administered by a professional performance psychologist. Typical classroom music teachers can't be expected to achieve certain nuances in the mindset training delivered thus far by this psychologist. Can mindset instruction be effectively provided by classroom music teachers?

The purposes of the present study were to replicate the most recent study by Broomhead et al. (2012) in terms of overall effect of the positive mindset trigger word preperformance routine, with two important changes: (a) having the intervention taught by classroom music teachers rather than researchers and (b) including follow-up intervention lessons to improve retention.

METHOD

Sample

Participants were choir students from three suburban junior high schools in the Alpine School District in Utah County, Utah. We randomly selected five schools, sending letters of invitation to the principals, choral teachers, and members of each school's most select ensemble. Four schools agreed to participate, but one did not complete the study. The number of participants engaged in the study's full duration was 132; approximately 30% were eighth graders and 70% were ninth graders.

Procedures

Participants participated in four tests, spaced approximately 3 weeks apart. To establish a control period and to observe the extent to which test effect was present, there was no intervention between Test 1 and Test 2. At the beginning of the period between Test 2 and Test 3, a clinical psychologist (who was also part of the research team) provided participating teachers with 60 minutes of group instruction on teaching a 50-minute intervention lesson and two 10-minute follow-up lessons. Teachers taught the intervention lesson within the next week, followed a week later by a follow-up lesson and another week later by a second follow-up lesson. All four events (teacher training, intervention lesson, and two follow-up lessons) took place within the 3-week period between Test 2 and Test 3. Finally, we created a postintervention period between Test 3 and Test 4 wherein teachers gave no additional intervention-related instruction. The purpose of this period was to observe the extent to which participants retained the intervention.

Intervention

The purpose of the intervention was to help students achieve a mindset conducive to EP. We developed the intervention based on the supposition that when students begin rehearsing or performing, they have mindsets that put into play all of their expressive skills and understandings, but when a threat is introduced (such as singing for an audience, singing a solo, or even just being by heard by others in the group), the brain sometimes shifts into a "default mindset," which the authors have defined as a "habitual state of mind that protects [the performer] from perceived threats" (Broomhead & Skidmore, 2014, p. 34). Instead of freely sharing their expressive musical ideas, this self-protecting

mindset shift causes students to hold back, resulting in a less-expressive performance. Teachers began the intervention lesson as follows:

Today we are going to be learning a performance tool that will help you manage your mindset. You will learn how and why your mindset may shift from optimal to default. You will learn how to shift out of a default performance mindset and into an optimal performance mindset.

The teachers then led students through a series of activities designed to (a) provide instruction on the brain's role in adopting a mindset, (b) improve individual awareness of shifts between default and optimal performance mindset, (c) teach students a preperformance routine consisting of breathing and mentally repeating positive mental trigger words, and (d) provide opportunities to practice the preperformance routine in situations with graduated levels of threat. The following is a brief description of the activities.

Exercise 1. Participants sang "For He's a Jolly Good Fellow" as a group. Teachers prompted participants to sing again while thinking the word "sad" and then sing again while thinking the words bold, confident, and free. Teachers questioned the students regarding their performance mindsets during the latter two performances and explained that mindset is a matter of choice. They explained the terms "default mindset" and "optimal performance mindset," detailing the roles of the brain's frontal cortex and limbic system in the quest for an optimal performance mindset (Broomhead & Skidmore, 2014).

Exercise 2. Participants sang brief solos, followed by self-analysis of their feelings while contemplating singing the solo. The purpose of this experience was to identify any shifting of the mindset from optimal to default. Teachers explained the default mindset's negative effect on confidence and enjoyment in performing and shared the following key statement: "Performers need to learn how to manage their mindsets. If they don't, their mindsets will manage them."

Teachers then distributed nametags on which the words bold, confident, and free were printed. Participants placed the tags on their clothing, below the collarbone, and teachers discussed how being bold, confident, and free might impact the next performance.

Exercise 3. Teachers asked for seven volunteers without explaining what the volunteers would do. They talked to the volunteers in front of the class, named them "The Stars" and asked them to perform "Twinkle, Twinkle Little Star" after 2 minutes of preparation. The teacher directed them to one side of the room to prepare quietly as a group. Teachers then returned to the classroom and asked the remaining students to analyze their individual responses to the request for volunteers and led a discussion on the contrast between the default mindset and being bold, confident, and free. The Stars returned and performed, after which teachers asked The Stars, "Were you performing with boldness, confidence and freedom?" After student responses, teachers instructed The Stars to sing again while taking a bigger step toward being bold, confident, and free. The teachers then asked them to sing a third time, using a "timid, scared mindset."

Finally, The Stars performed a fourth time, with a “*super* bold, confident, and free” mindset. Afterward, students discussed differences between the “timid” and “bold” performances and the mindset-related experiences that accompanied those performances.

Exercise 4. Teachers taught and allowed students to practice a preperformance routine in which students (a) gently brought their hands into fists, (b) thought the words “let it go” while breathing gently, (c) released their fists while mentally repeating the mental trigger words bold, confident, and free, and (d) declared that they were ready to perform.

Exercise 5. Teachers again asked for volunteers for an undisclosed activity, instructing students to be aware of any shifting to the default mindset as they contemplated volunteering. After six or seven students volunteered, teachers invited the volunteers to gather off to the side and asked the remaining students for more volunteers. The teachers continued this pattern until all students volunteered to be in a group, and then teachers assigned each group a song to perform. Songs included “Row, Row, Row Your Boat,” “Mary Had a Little Lamb,” “The Alphabet Song,” and “Jingle Bells.” A clapping and stomping percussion group was available for those who did not want to sing. After approximately 2 minutes of preparation, the teacher coached each group through the preperformance routine just before the group’s performance. Afterward, the teacher challenged the group to repeat the performance, taking bigger steps toward a bold, confident, and free mindset.

Exercise 6. Students repeated Exercise 1, using the preperformance routine for the first performance and a similar preperformance routine for the second performance, using the words “timid” and “scared” as mental trigger words. Next, teachers invited students to take the biggest step ever toward a bold, confident, and free performance mindset on a final performance of “For He’s a Jolly Good Fellow.”

One week later and another week after that, teachers taught a 10-minute follow-up lesson in which students applied the preperformance routine to a piece the choir was rehearsing. Teachers asked students to analyze their mindsets for shifting to the default mindset and asked them to sing certain passages again, taking bigger steps toward a bold, confident, and free mindset.

Testing

The song “Happy Birthday” served as testing material for several reasons. First, we presumed that all participants knew the song, allowing them to concentrate on expression if they were so inclined. Second, we felt that the song was not universally associated with any musical style or tempi, so students’ expression would be free from previously established expressive decisions.

The four tests were spaced 3 weeks apart and took place in a room near the choir room. The testing space contained a camcorder, a music stand with the words to “Happy Birthday,” two strips of tape (one black and one red) on the floor, and a collegiate music

education student serving as examiner. As participants entered the room, the examiner read the following script:

Thank you for coming today.
What's your name? (Examiner records the name.)
Thank you. Please stand there on the red tape.
In a moment you'll perform "Happy Birthday" one time through. You may start on any pitch you wish. Sing it as musically as you can.
Here are the words to the song. (Pointing to words on the music stand.) As soon as you're ready, step to the black tape, wait for my signal, and then begin.

Examiners were instructed not to make eye contact with students during the singing. After each performance, the examiner thanked the student and asked him/her to send the next person in.

Adjudication

There were three adjudicators for this study. All had master's degrees in music education with choral emphases and were current secondary-level choir teachers with at least 4 years of full-time teaching experience. The 132 study participants and four testing occasions created 528 tests for scoring. To prevent bias toward the intervention, the research team entered all 528 tests into one computer folder and then fully randomized the order of presentation, making adjudicators blind to both school and testing occasion. Adjudicators provided scores for each test, for a total of 1,584 scores.

The EPAM (Broomhead, 1999) was used to measure participants' EP. This Likert-style instrument contains 17 item statements organized by subcategories: Dynamics, Timing, Tone Quality, Articulation, and Performance Factors (see Appendix A here: <http://bcrme.press.illinois.edu/media/215/>). The measure was constructed from several perspectives identifying traits of expressive performance including empirical researchers and established performance measurements (Broomhead, 1999). In past uses of this instrument, reliability quotients have been .84, .90, .83, and .75 (Broomhead, 2001, 2009; Broomhead et al., 2010, 2012). In the present study, interrater reliability was .75.

RESULTS

Preexisting Differences in Groups

The four schools showed significant preexisting differences in terms of EP achievement (EPAM scores, $p < .001$). However, these differences did not cause significantly different patterns of change in EP from test to test; the Test by Group interaction was not significant ($p = .23$; see Table 1). In addition, our design for the study provided built-in controls for the differences in groups, in that the period between Test 1 and Test 2 afforded each group its own control. The period between Test 2 and Test 3 was the intervention period. The period between Test 3 and Test 4 formed a postintervention period.

Statistical Analysis

In order to determine the intervention effect, we used a repeated measures mixed model analysis of variance (ANOVA) blocked on judge and participant. This type of ANOVA was appropriate because we had multiple scores for each participant and multiple observations from each judge for each participant. Blocking on judge and participant controlled for any correlated ongoing differences between judges and participants, allowing focus on patterns in participants' improvement on the tests. The primary dependent variable for the study was the overall score from the EPAM, or Overall Expressiveness. Other dependent variables included the subcategories of the EPAM. Independent variables were EPAM scores over the four tests and groups. The main effects, Test and Group, were significantly related to each of the variables, but the Test by Group interaction was not significantly related to any of the groups or variables with the exception of Performance Factors (see Table 1). This significant interaction is explained by the fact that scores for participants in one of the four groups (schools) moved in the opposite direction from Test 2 to Test 3 in this subcategory compared to the other three schools. Because this difference worked against showing significant improvement during that period rather than enhancing it, we chose to include the results in our discussion despite the interaction. Having established that there were no other significant Test by Group interactions, we were then able to focus on changes in scores to discover any significant differences in EPAM scores due to the intervention.

Since our primary focus was Overall Expressiveness, changes in total EPAM scores were tested for differences using the ANOVA. We set the alpha level at $\alpha = .05$. We performed identical analyses for each of the subcategories but set alpha levels at $\alpha = .01$ to compensate for the testing of five different variables. We analyzed data using SAS (version 9.4) software.

Table 1
Summary of Overall Expressive Performance and Subcategories by Test, Group, and Test by Group Interaction

	Test		Group		Test by group	
	$F_{3,1167}$	p	$F_{3,389}$	p	$F_{9,1167}$	p
Total*	7.458	<.001	11.481	<.001	1.301	.231
Subcategories						
Articulation**	3.571	.014	4.346	.005	.722	.689
Dynamics**	4.830	.002	5.668	<.001	1.881	.051
Performance Factors**	15.060	<.001	5.673	<.001	5.799	<.001
Timing**	1.793	.147	10.259	<.001	1.554	.127
Tone**	7.604	<.001	18.425	<.001	2.279	.016

* $\alpha = .05$.

** $\alpha = .01$.

Overall Expressiveness Results

There were no significant differences in EPAM scores for Overall Expressiveness after the control period (between Test 1 and Test 2; $p = .98$). However, scores were significantly higher after the intervention period (between Test 2 and Test 3; $p < .001$). During the postintervention period (between Test 3 and Test 4), changes in EPAM scores were slightly but not significantly lower ($p = .46$). Despite the slightly lower scores on Test 4, the intervention effect was retained through the postintervention period as shown by the fact that the Test 4 scores were still significantly higher than Test 2 scores (originating from just before the intervention; $p = .004$). See Table 2 for comparisons of the three periods plus a comparison of Tests 2 and 4. Table 3 provides mean scores (and standards of error) for Overall Expressiveness over the four tests, and Figure 1 offers a visual representation of these means.

Subcategory Results

There were no significant differences found in any of the subcategories (Dynamics, Timing, Tone Quality, Articulation, and Performance Factors) between Test 1 and Test 2 (see Table 2). However, during the intervention period (between Test 2 and Test 3), four of the five subcategories showed significantly higher EPAM scores: Dynamics ($p = .006$), Tone Quality ($p < .001$), Articulation ($p = .005$), and Performance Factors ($p < .001$). Only Timing failed to yield a significant difference ($p = .10$). See Figures 2 through 6 for visual representations of the subcategory mean scores.

DISCUSSION

One of this study's purposes was to replicate previous findings, specifically that singers' awareness of a shift to the default mindset and use of positive mental trigger words in a preperformance routine brings about improved expressiveness during performance. In

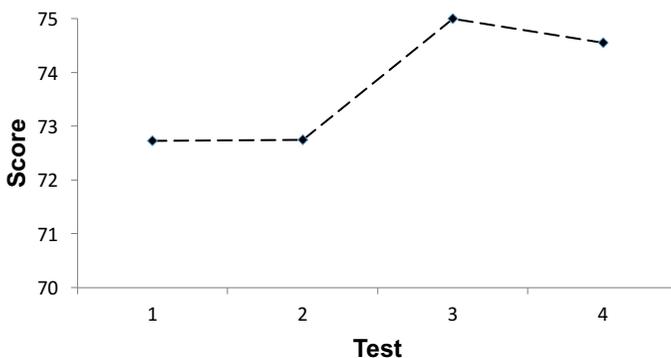


Figure 1. Mean overall expressiveness per test occasion.

Table 2
Comparisons of Test Scores for Four Analysis Periods

	Test 1 vs Test 2			Test 2 vs Test 3			Test 3 vs Test 4			Test 2 vs Test 4		
	Diff.	T1167	p	Diff.	T1167	p	Diff.	T1167	p	Diff.	T1167	p
Total*	.019	.03	.975	2.255	3.66	<.001	-453	-0.73	.463	1.802	2.92	.004
Subcategories												
Articulation**	-.131	-.63	.528	.587	2.83	.005	-.117	-.56	.574	.471	2.27	.023
Dynamics**	.024	.09	.927	.716	2.76	.006	-.061	-.24	.813	.655	2.52	.012
Performance Factors**	.172	2.12	.035	.299	3.69	<.001	-.041	-.50	.614	.259	3.19	.002
Timing**	-.024	-.16	.875	.248	1.63	.103	.023	.15	.877	.272	1.79	.074
Tone**	-.014	-.16	.876	.387	4.20	<.001	-.2265	-2.46	.014	.1604	1.74	.083

* $\alpha = .05$.

** $\alpha = .01$.

Table 3
Means and Standard Errors for All Tests

	Test 1	Test 2	Test 3	Test 4
Total	72.73(.704)	72.75(.704)	75.00(.704)	74.55(.704)
Subcategories				
Articulation	23.29(.248)	23.16(.248)	23.75(.248)	23.63(.248)
Dynamics	20.38(.304)	20.41(.304)	21.12(.304)	21.06(.304)
Performance Factors	5.63(.141)	5.80(.141)	6.10(.141)	6.06(.141)
Timing	13.67(.150)	13.65(.150)	13.89(.150)	13.92(.150)
Tone	9.77(0.87)	9.75(0.87)	10.14(0.87)	9.91(0.87)

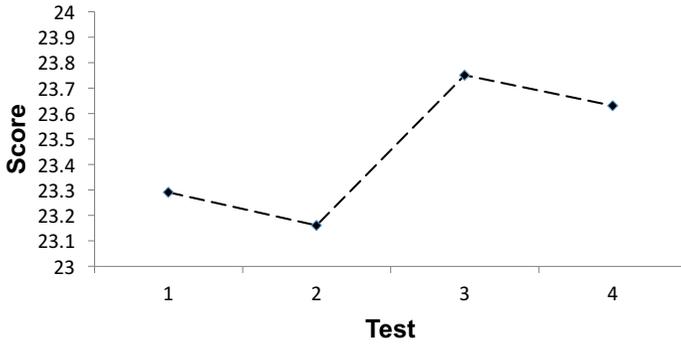


Figure 2. Mean articulation score per test occasion.

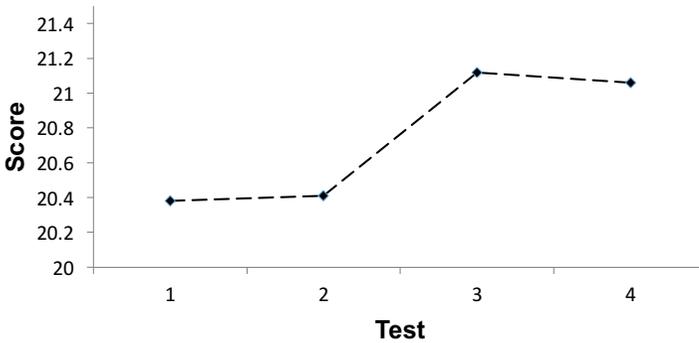


Figure 3. Mean dynamics score per test occasion.

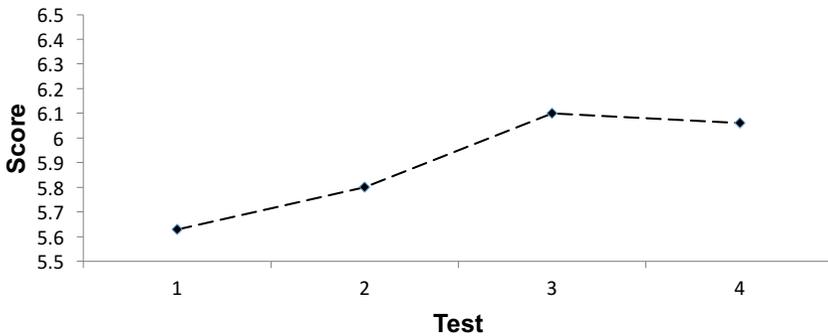


Figure 4. Mean performance score per test occasion.

previous studies, we provided a single intervention lesson from a clinical psychologist with expertise in performance psychology. Past findings revealed that the intervention had a significant effect on participants' EP but also revealed mixed results regarding retention by participants 2 weeks after the intervention. In one case (Broomhead et al., 2010), college-age participants showed evidence of retention 2 weeks after a 50-minute

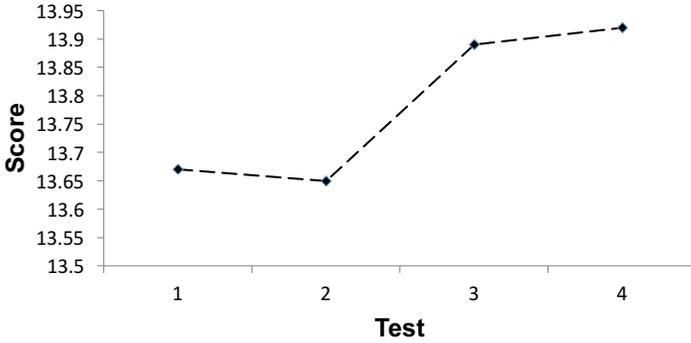


Figure 5. Mean timing score per test occasion.

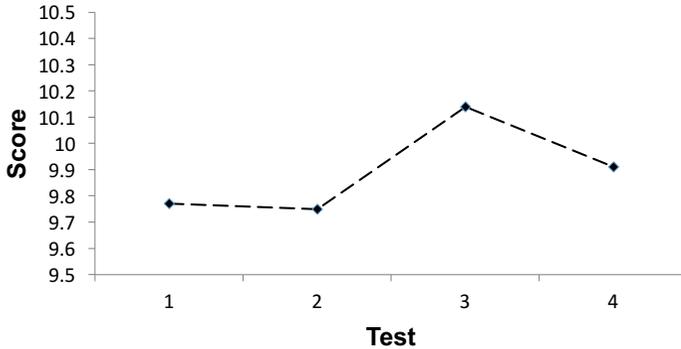


Figure 6. Mean tone score per test occasion.

intervention lesson. In another case (Broomhead et al., 2012), junior high participants failed to show evidence of retention 2 weeks after a 40-minute intervention lesson.

We incorporated two additional factors into the present study. First, the positive mental trigger word preperformance routine was taught by participants’ classroom music teachers. Second, teachers provided an initial 50-minute lesson *and* two follow-up lessons in an attempt to nurture retention.

Overall Expressiveness

The finding that there was no improvement on EPAM scores after the control period (Test 1 to Test 2, $p = .98$) when contrasted with significant improvement after the intervention period (Test 2 to Test 3, $p < .001$) provides strong evidence that the mental trigger word intervention resulted in improved EP. It is noteworthy that the intervention did not involve direct musical instruction—only mindset instruction. The musical devices measured by the EPAM included dynamic shading and contrasts, crescendo/decrescendo, melodic direction, rhythmic feel, rubato, accelerando/rallentando, tone intensity and warmth, word/syllable emphasis, sustain, treatment of consonants, phras-

ing, facial expression, and musical embodiment. The intervention addressed none of these, yet performance of these elements improved.

The ability to perform with improved expressiveness is valuable without reference to retention. Nevertheless, retention allows singers to benefit from increased expressiveness over a longer period of time. Results of this study showed that the intervention significantly improved retention; participants performed significantly better on Test 4 (3 weeks after mindset instruction) than on Test 2 (just prior to the intervention). This suggests that, with just one full lesson and two brief follow-up lessons, students can achieve and retain improved EP abilities, even after a period of 3 weeks without reminders or instruction.

Subcategories

Illuminating the specific areas of the EPAM that contributed to the significant differences in Overall Expressiveness involved looking at the effects of each of the subcategories separately. These results revealed what appeared to be a fair degree of balance across the subcategories, an observation we made based primarily on the fact that four of the five subcategories were significant at $p < .01$ (Dynamics, Tone, Articulation, and Performance Factors). Timing alone ($p = .10$) failed to achieve significance as a separate variable. Each subcategory is comprised of multiple item statements. See Appendix A (at <http://bcrme.press.illinois.edu/media/215/>) for the complete list of the item statements on the EPAM.

CONCLUSION

The fact that teachers provided the instruction in this study represents a noteworthy leap in terms of creating a model that can be applied to choral classrooms. In previous studies, instruction was provided by a psychologist with many years of experience teaching performance psychology to university students. In this study, after only 1 hour of training, the participating choir teachers were able to provide comparable instruction to their students—instruction that significantly improved participants' overall EP. This is particularly noteworthy in helping us understand the extent to which improvement in EP previously was due to the teaching personality and nuances used by the researcher versus the actual exercises in the intervention. We can now claim with greater confidence that the activities themselves were likely responsible for the improvement.

Another potentially important finding was that teachers' follow-up lessons improved retention of EP understandings and skills. This suggests that once students have (a) learned to recognize a shift to the default mindset and (b) engaged in the preperformance routine to counteract that shift, they may need only minimal ongoing instruction to maintain those skills and understandings.

This study confirms that students possessed preexisting EP abilities that were not initially expressed in performance. Our findings suggest that this was due to mindset rather than an inherent lack of expressive skills and understandings. Nurturing a bold, confident, and free performance mindset seemed to unfetter these expressive abilities.

The fact that this somewhat simple mindset approach enhances EP does not reduce the real-world complexity of the skills and understandings involved. We trust that such abilities are gained through innumerable, immensely diverse experiences. Still, our evidence is that simple changes to mindset can open the door a little wider and enable students greater access to the skills that they possess.

To the extent that this is true in a given group of choral students, teachers may assume that students are capable of more expressive singing than their “normal” performance suggests. Such an assumption opens up many possibilities for addressing mindset that go far beyond the specific approaches we have tested in this study. The principles guiding our intervention were fairly straightforward. They were (a) to teach students about the brain’s role in adopting a mindset, (b) to nurture individual awareness of performance mindset, (c) to take positive action on the mindset (we used mental trigger words), and (d) to practice this in threatening situations. There is an immense variety of ways that teachers may apply these principles in day-to-day instruction.

We were careful to exclude music instruction from our intervention in order to isolate our mindset-oriented principles and demonstrate their role in improving EP. However, the blending of these principles with music instruction may be even more powerful and create even more possibilities for application of these principles. For example, while leading students through increasingly threatening situations, teachers may give feedback related to students’ boldness, confidence, and freedom *and* make specific musical suggestions as ways to demonstrate these traits.

In considering these implications, it is important to remember that participants were from suburban schools in Utah County, Utah. These results may not be generalizable to other contexts such as urban areas, rural areas, or even suburban areas in different counties and states. Replication studies in these other areas are needed. In addition, further study is needed to strengthen retention and to investigate ways of nurturing positive performance mindset outside of the specific exercises described here. There may be more overarching instructional approaches or instructional environment factors that can be enhanced to nurture this performance mindset. Finally, the impact on the study’s validity in replacing the researcher by a teacher is unknown and warrants further research.

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SUPPLEMENTAL MATERIAL

Appendix A is available online at <https://bcrme.press.illinois.edu/media/215/>.

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