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ISME
INTERNATIONAL SOCIETY FOR MUSIC EDUCATION

Proceedings of the 27th International Pre-Conference Seminar

# "Informing the Teaching and Learning of Life's Journey Through Music"

Edited by Evelyn K. Orman

## ISME Commission on Research in Music Education

Dubai - United Arab Emirates

July 8-13, 2018


INSPIRING MINDS
TRANSFORMING LIVES

# Proceedings of the 27th International Seminar

# of the International Society for Music Education

# Research Commission

## Canadian University Dubai

## Dubai, United Arab Emirates

## 8-13 July 2018

## Celebrating 50 Years of the ISME Research Commission

# Proceedings of the 27th International Seminar of the International Society for Music Education Research Commission, Dubai 8-13 July 2018

*Hosted by* ***Canadian University Dubai***

**EDITED BY**

**Evelyn K. Orman**

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## Table of Contents

## Foreword

It was in October 2016, when I first received an email from a very good friend and colleague, Patricia Gonzales, proposing me the possibility to organize the 57th International Society for Music Education (ISME) Research Commission (RC) Seminar in the Canadian University Dubai, United Arab Emirates. I must admit that I was quite hesitant to do so in the very beginning. Not because I did not have the experience of organizing similar events; rather I was feeling that music and music education were fairly both absent as conference - not to mention academic - fields in the UAE up to that moment. Moreover, as I was a newcomer in Dubai at that time, I was not quite sure how I could handle both the administration as well as the academic outreach of such an important, high caliber and surely demanding event in this new for me working and academic framework. Indeed, it was the RC Chair, Evelyn Orman a few days later, showcasing a lot of support in our very first email correspondence, who persuaded me to accept this project; a project which finally reached to be what could be seen later on as a very distinctive event for both ISME and the Canadian University Dubai.

A truly diversified content of research was exposed in the 57th ISME RC seminar in Dubai, bringing some remarkable knowledge under the international music education spotlight. In the aftermath of the proceedings it seems to me that the seminar successfully managed to analyze the general situation and existing problems of music education and its creative research initiatives across the globe; it introduced advanced experiences in the ever expanding multicultural contexts of our times; it undeniably helped for the exchange of ideas on cutting-edge theories and major practices of music making and music education, while it also proposed many constructive frameworks on improved, more efficient, more balanced and more sustainable practices in the music education context. Most importantly however, it should be noted that the RC seminar in Dubai, not only stretched international collaborations and networking as it was supposed to do in the first place, but it gloriously planted the seeds for music education research to officially start existing as a domain to this very welcoming for the field eastern part of the world, too. Such an achievement was confirmed in two ways: (a) the full acceptance and support the event enjoyed by the local authorities - The Canadian University Dubai, the Dubai Tourism and Dubai Business Events; and (b) by the fact that for the first time in ISME's existing history, three U.A.E. based members were officially registered under the ISME's membership; a great win for the Arab and the rest of the music education world.

As the lead organizer in hosting the event, I certainly believe that the fervent, multicultural and high-level music education related discussions that took place in July 2018 in Dubai, transformed the specific Research Seminar into a brilliant intellectual dialogue, a clash of wisdom and a feast of thoughts. Therefore, I firmly believe that the closing of this seminar could not be seen as an end for the region, rather a new, fresh starting point. Based on this, I invite all interested colleagues to build on the current status the specific event established, and look ahead into the future, creating a high-end and prudent platform for global communication and cooperation, where Dubai and the U.A.E. is actively included from now on. Let us all continue to expose and extend the effective themes beneficial to music education to all those people who enjoy, live and breathe through music, devising and implementing other similar, equally pervasive and high-class in content and people academic events.

*Efthymios Papatzikis,* February 2019

## *Preface*

The 27th International Society for Music Education (ISME) Research Commission Seminar held in Dubai, United Arab Emirates 8-13 July 2018, celebrated the 50th anniversary of the first meeting held in Reading, England in July 1968. The inaugural meeting evolved from a discussion in April 1967 amongst four professors who attended the 7th International Society for Music Education World Conference, 18-28 August 1966, held in the United States at Interlocken, Michigan. Arnold Bentley (University of Reading, UK), Allen Britton (University of Michigan, US), James Carlsen (University of Washington, US), and Bengt Franzén (Royal Academy of Sweden) informally discussed the formation of an international group to address research in music education. Bengt Franzén hosted a subsequent meeting in Stockholm, Germany in May 1967 attended by Bentley, Carlsen, and Franzén, where they began the task of organizing the first international research seminar. They decided the meeting should 1) be restricted to experimental research, 2) be in the nature of a working party, so rather than the reading of numerous papers, the papers would be distributed in advance and discussion of the papers would dominate the meeting; therefore, the number of participants would be limited to 25 papers, 3) the meeting would be conducted entirely in one language and English was selected as that language, and 4) the meeting would be fully residential with all participants present for all discussion or sessions throughout the week.

Subsequently, the ISME Board issued an invitation for the Seminar to call itself the International Society for Music Education Research Commission, to nominate a chair and a small executive committee to serve on a six-year rotating system. These positions (now known as commissioners and commission chair) have members retiring and replaced every biennial. Thus, the International Society for Music Education Research Commission was established and the first meeting held in Reading, England in 1968 because it was geographically close to Dijon, France (where the ISME World Conference was held the next week), so participants could attend the World Conference with little inconvenience. The university regarded the proposed seminar as important, offered to host, and voted a sum of money to cover expenses. Both the considerations of a geographic location accessible to the World Conference and support from a local host still exist today.

The first organizers agreed it would be unfortunate if no report of the papers followed. A negotiated agreement allowed all papers and the forward written by Arnold Bentley explaining the seminar to be published in the 1969 publication of the *Journal of Research in Music Education*, *17*(1). Arnold Bentley concluded this forward by saying the meeting was a pilot experiment. Little did he or the other founders realize their shared vision and experiment would lead to this meeting 50 years after the first ISME Research Commission along with the formation of six other healthy and active ISME Commissions as the years progressed.

The first meeting in Reading, England included individuals from nine countries. Interestingly, some challenges discussed are those we still face today including problems of exact communication due to different languages and differences in music education systems and school configurations throughout the world. Words that caused confusion at the first meeting included the word “concept” as well as the musical words “tone” and “note.” Today, the ISME Research Commission functions much as it did 50 years ago. After all, if it’s not broken why fix it? The most recent ISME Research Commission Seminar in Dubai, United Arab Emirates, 8-13 July 2018 was hosted by Canadian University Dubai who funded accommodations, meals,

opening reception, cultural excursion, and closing gala dinner. Exactly like the first meeting in 1968, the meeting 50 years later included 25 empirical research papers this time from 13 countries, with observers expanding the international representation to 16 countries. While the core mission is the same, the commission now includes research from all types of inquiry, not just experimental.

Today, submitted papers are peer-reviewed and the commission strives to have as broad a geographic representation of papers as possible. All topics of research inquiry including those that fit or do not fit in one of the other ISME commission topic areas are accepted. As with the first meeting, papers are distributed prior to the seminar and extensive discussions at the seminar center around the research questions, methodological approaches, data analyses and how the researchers reached their final conclusions, with the goal of strengthening research in music education internationally. The commission works to ensure both less experienced, as well as some of the most accomplished and respected researchers in music education throughout the world, are present and the commission seminars are still fully residential with all participants required to be present for all discussions or sessions throughout the week. This is both a unique and necessary gathering that over the years has and will continue to strengthened the research approaches of all attendees, serve as a catalyst for the beginnings of empirical research in music education in countries where none existed and provide a forum for international music education researchers regardless of research topic or methodology.

Given the significance of this 50th anniversary, we were indeed fortunate to gather in Dubai, one of the most indulgent, glamourous, fastest growing and impressive cities in the world and have such gracious, caring and supportive hosts. We were thrilled to be able to share the importance of music education and music education research with those in the United Arab Emirates and, in return, learn about their culture, beliefs and values. It is this kind of shared synergy that truly advances music education and music education research throughout the world. Our conference and 50th anniversary celebration which looked back on all 27 meetings (for 2 years the research commission met annually) was a unique and momentous event. The scholarship and collegiality shared throughout the week by this group of individuals is something unique and enduring. We are forever appreciative for our gracious hosts who took it upon themselves to ensure this would be a very memorable experience for all, and it was.

As you read through the internationally refereed research in this publication, I hope you will find the variety of topics and research methodologies intriguing and inspiring. Each contribution is presented alphabetically by sole or first author's last name. New to this seminar was the acceptance, presentation and publication of two poster abstracts which conclude the proceedings. This new pilot study for our seminars will be examined over the next biennium as something we may or may not wish to continue. I am confident the successive commissioners will make the best and most appropriate decision on this matter as our commission gatherings continue. I am optimistic that many will find many of the results of the inquiries in these proceedings helpful in their daily music education activities. Finally, it is my desire that all who read through these studies realize how interconnected music education and music education research is throughout the world. The longstanding belief that this interconnectedness and the importance of music education research should be fostered, shared, improved and expanded was the catalyst and continues to be the cornerstone of this international biennial seminar.

It is both fascinating and inspiring to realize a small group of attendees at the 7th ISME World Conference had a shared vision that 50 years later is a vibrant and essential part of ISME. A vision that over the years expanded to six additional healthy commissions. Interestingly, traces

of the inception of the Research Commission still exist in all the ISME Commissions and together they all represent an integral part of the International Society for Music Education.

*Evelyn K. Orman,* February 2019

## Acknowledgements

As one would expect, a conference and subsequent conference proceedings of this magnitude is a considerable undertaking and would not be possible without the dedicated work of many constituencies. While it is my desire to ensure all are acknowledged and I hope I am successful in doing so, if perchance I have left out anyone, I hope they will accept my sincere apologies and understand it was an unintentional oversight. As you read through these, understand that the tireless efforts of all of these individuals was voluntarily given without compensation as a reflection of their commitment to our profession locally, regionally, nationally, and internationally. First, thank you to my fellow commissioners and secretary for this biennial:

**ISME Research Commissioners 2016-2018**

Evelyn K. Orman, Chair and USA Representative
Susan O'Neill, Australia, Canada and New Zealand Representative
Patricia Gonzáles, Latin America Representative
Rose Omolo-Ongati, United Kingdom and Africa Representative
Marcelo Giglio, European Representative
Chi Wai Chen (Jason), Asian Representative
Graça Boal-Palheiros, 2014-2016 Co-chair and 2016-2018 Secretary

These individuals spent countless hours making the many decisions necessary for a seminar like this to take place. Among many other things, these included helping locate the venue and our hosts, reviewing submissions, developing the itinerary, and coordinating special activities.

**Honorary Life Members of the ISME Research Commission**

James Carlsen
Clifford Madsen

The International Society for Music Education (ISME), the ISME Research Commission and the commissioners for this seminar all express our deepest appreciation and thanks to all those (students and professionals) who contributed to the organization and hosting of this event at Canadian University Dubai. We are especially grateful to Dr. Karim Chelli, President and Vice Chancellor, Canadian University Dubai who through his support acknowledged the importance of this seminar to both music education research and this region of the world. Our sincere thanks to Dr. Efthymios Papatzikis, Associate Professor of Education Neuroscience of Music and Sound who served as the executive organizer and local host. While we were aware of Dr. Papatzikis's own research contributions to music education, our respect for his preparation, patience, advanced planning, initiation of sound ideas and genuinely delightful rapport grew throughout the two years of work leading up to this seminar. He is someone who can juggle multiple projects without losing focus and he responds in a timely and appropriate manner. His level of commitment is second to none.

As for the past 50 years, we once again are deeply indebted to all of the international group of music education researchers whose work is represented in these proceedings. Their contributions and continued support of this seminar and all it represents is what keeps this unique and vitally important work viable. Without their contributions, presented here in alphabetical order by first or sole author's last name, these proceedings would not have been possible. Finally, my thanks to Gwendolyn McGraw and Jennifer A. Whitaker who voluntarily proofread and offered suggested changes as this work came to fruition.

*Evelyn K. Orman*, February 2019

## Vision and Mission of the ISME Research Commission

### Vision

The Research Commission holds as a central value that the theory and practice of music education be underpinned by a strong research evidential base. The Research Commission promotes the development of an inquiry-based approach to the theory and practice of music education that draws on a range of research methods and techniques.

### Mission

The mission of the ISME Research Commission is to:

- examine through research important issues facing music education worldwide;
- develop, refine and demonstrate a range of research approaches, methods and techniques for critically examining issues in music education;
- provide a forum for the communication, critical analysis, and dissemination of research innovations in music education; and
- deepen and develop the research knowledge base for practitioners, policy makers, and researchers in music education.

The Research Commission accomplishes its mission by providing workshops, lectures, seminars, and demonstrations in different locations in order to build research capacity and to promote research expertise in all regions of the ISME membership. Commission seminars bring together early career and experienced researchers from a broad geographic representation.

The Research Commission seminars bring together a broad range of participants from the various branches of music including music psychology, performance, theory, composition, sociology, and musicology. A common interest in the pursuit of inquiry and scholarship contributes to a learning environment for early career and experienced researchers alike that is characterized by hard work, strong scholarship, and collegiality.

# Perceptions and Practices of Music Teacher Graduates from the Porto School of Education

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Abstract

This study is part of a research project that aimed to investigate school music practices and music teacher education, and to understand how an innovative model of music teacher training implemented at the Porto School of Education (SE) in 1986 has contributed to the development of music teachers and transformed school music education. The method is a case study of the Porto SE as an example of the 1980s reforms in Portuguese music teacher education. The study consisted of 1) mapping the music teachers who graduated from the Porto SE, in order to know their profiles; and 2) carrying out a questionnaire to analyze their opinions about the course and their teaching practices in schools. Results indicated that most participants thought that the course prepared them 'very well' for teaching. They emphasized teaching practice and instrumental and vocal practice as the most relevant course contents. The predominance of music making in their teaching, according to the conceptual underpinnings of the course, suggests that the course influenced its graduates' professional practice. Participants identified insufficient resources, insufficient curricular time for music, and pupils' behaviour as the teachers' main difficulties. Knowing these may help rethink both initial and continuing training.

*Keywords:* school music education, music teacher education

Perceptions and Practices of Music Teacher Graduates from the Porto School of Education

In the 1980s Portugal underwent great political, social and educational changes, and reforms in higher, basic and specialist music education (Boal-Palheiros, 1993). Initial music teacher education was implemented for the first time in higher education in 1986 at the School of Education (SE) of Porto Polytechnic and later at other SE, by means of different courses. These had different aims, models and curricula: educating either generalist teachers specialized in music education ('Teachers for Basic Education – Branch Music Education') or specialist teachers in music education ('Music Teachers for Basic Education').

The four-year degree course at the Porto SE 'Teachers for Basic Education – Branch Music Education' followed an integrated model including Educational Sciences, Generalist Education (Languages, Mathematics, Sciences, and Arts), Music, and Teaching Practice. It emphasized teaching practice articulated with research and reflection as essential components of teacher education (Schön, 1987), and it disseminated innovative concepts and practices in music education based on listening, composing and performing activities (Swanwick, 1979; 1999). This course was replaced in 2007 by new Bachelor and Master's degrees (three plus two years) as a result of the Bologna Process, aimed at harmonizing European higher education systems.

Thirty years after this milestone in teacher education (Mota, 2015) it becomes pertinent to investigate to what extent that course has shaped the practices of music teachers who graduated from the SE. We have done so by focusing on music teachers who graduated from the Porto SE. This topic is particularly relevant regarding the continuing changes that are occurring in societies, young people and education, and the new challenges of music education in contemporary societies.

**New challenges and the relevance of music teachers.** Music education faces complex challenges in a rapidly changing world such as technological evolution, greater accessibility to music, globalization, and cultural diversity, but also cultural hegemony (Green, 2008; Jorgensen, 2003; Small, 1999) and music teachers must be prepared to respond to them (Teachout, 2012). Today's concept of music education extends beyond classroom music, and includes informal community activities in diverse contexts. In addition to its intrinsic value in children's lives, learning music also develops many other skills (Hallam, 2010, 2015; Rauscher, 2009; Schellenberg, 2003). Thus, rather than remaining a minor subject in the curriculum, music education can have a central role in schools and communities (Elliott, 2012). To prepare music teachers for the demanding mission of being innovative and creative, both initial and continuing teacher education needs to improve.

Theoretical perspectives and research on effective music teaching are relevant for analyzing music teachers' training, profiles and practices. Effective teaching requires knowledge about the content, mastery of educational techniques (models, strategies, procedures), and reflexive attitudes towards one's own practice, while regarding teaching as continuous learning and as a process of reflection and transformation (Arends, 2011; Shulman, 1987). Studies on novice versus experienced music teachers describe effective music teaching as the mastery of a complex set of competencies, which involve musical and pedagogical skills and personal characteristics such as leadership, communication, or adaptability (Brand, 2009; Colwell, 2011). Extraordinary teachers have a passion for teaching, learning, their fields, and their students (Day, 2004; Stephenson, 2001).

School music programmes guide music teachers and define what students should learn. However, these and other resources seem to have less impact upon students' learning than the teachers themselves (Boal-Palheiros, 2014). For decades, educational issues have focused upon

reforms of school curricula. Today's concerns turn to teachers as key elements in promoting learning (Nóvoa, 2007) and as active agents in analyzing their students' and their own progress (Organisation for Economic Co-operation and Development, 2005). The Organisation for Economic Co-operation and Development (OECD) Report *Teachers Matter* emphasizes teacher quality as a major influence on student learning and achievement. Aspects of teacher quality beyond academic qualifications and experience, such as personal characteristics (e.g., enthusiasm and creativity), deserve more attention in teacher education and employment (OECD, 2005). The success of reforms requires teachers' active involvement in sustaining quality and engaging in life-long professional learning (Marcelo, 2009). The quality of teachers is indeed a crucial issue of any educational system, and teacher education and professional training must therefore remain a permanent priority.

**Changes in music teacher education in Portugal**. In Portugal, school music and music teacher education has undergone significant progress during the last decades. Until the 1980s, music was a low status subject in the school curriculum, taught by teachers prepared at music conservatoires with musical but no pedagogical training. These institutions were not integrated into higher education and could not offer academic degrees (Boal-Palheiros, 1993). The creation and implementation of the Polytechnic Schools of Education since the mid-eighties brought important changes in teacher education (Luiz & Faria, 2002), towards training teachers for Pre-school, and for the First and Second Cycles of Basic Education (respectively, school years 1 to 4 and 5 to 6; Diário da República, 1986a, 1986b). The model adopted in 1986 by the Porto SE consisted of a four-year degree (3 + 1): the first three years offered general subjects and trained generalist teachers for the First Cycle, and the fourth year offered a specialized subject (e.g., music education) and trained specialist teachers for the Second Cycle (Diário da República, 1986c). Teaching practice was offered throughout the whole course in progressive stages of observation, cooperation and teaching. Pre-service students acted as generalist teachers in primary schools for three years, and as music specialists in middle schools during the fourth year. Revisiting this music teacher education model at Porto SE, Mota (2003, 2015) advocates a music teacher education based on three axes: 1) a curriculum centred in musical activity; 2) integration of action and its meaning, i.e., articulation between theory and practice; and 3) autonomy of the pre-service teachers to build their own projects.

The compromise between generalist and specialist training was perhaps a major constraint of the implementation of this 'mixed' model of teacher education, especially for the music students, who had already invested their time and effort studying a musical instrument, and had to access the course by means of a music exam. Both the music staff and some students were disappointed with the small proportion of music subjects throughout the course. Nevertheless, a strong emphasis was given to active music pedagogies and teaching practice oriented towards children's music making, articulated with research and reflection, towards innovation and transformation. These ideas were expected to improve music teacher education, when compared to the narrower curriculum of the former training at conservatoires, based solely on musical performance.

This study investigated to what extent the 1986 course implemented at the Porto SE, which was the first higher education music teaching course in Portugal, has shaped the teaching practice of its graduates. It also focused on the teachers' profiles and perceptions about their training, teaching practices and difficulties in teaching school music.

## Method

The research focuses on the Porto SE as a case study (Robson, 2011; Stake, 2008) of the 1980s reforms in the Portuguese music teacher education. We mapped the music teachers who graduated between 1990 and 2010 by collecting data from the Course Coordinator's records. Further data were collected from former students through the social network Facebook and 'snowball' sampling.

A questionnaire was devised, including closed, Likert-type and open-ended questions, about teachers' 1) qualifications and experiences; 2) opinions about the relevance of the course curriculum for professional training; 3) activities, repertoire, and resources used in their music lessons; and 4) difficulties in their teaching practice. After a pilot-study carried out with eight graduates, some questions were refined. An online final version of the questionnaire was sent to 138 graduates, of which 50 responded. The responses to the closed and Likert-type questions were analysed quantitatively and those to the open-ended questions were categorized and subjected to qualitative analysis. This paper focuses on a selection of those responses.

## Results and Discussion

**Music teachers' profiles: Qualifications and experiences.** Participants were 26 female and 24 male music teachers. Their musical training prior to higher education at Porto SE was mostly the General Course (74%) or the Higher Course (6%) of the Music Conservatoire, and the remaining (20%) had done other studies (e.g., local music school, jazz school). After their Degree in Music Teacher Education, many participants (52%) obtained further academic qualifications – Post-graduate and Master's, and four of these also earned a Doctorate. Most participants are music teachers in Basic Education (70%), mainly in the Second Cycle (56%), the only level of the Educational System in which music is a compulsory subject taught by music specialists; some teach applied instruments or ear training in specialist music schools (14%); others teach extra-curricular music in primary schools (12%), and the remaining have other jobs. Concerning their musical experiences, most respondents (82%) reported participating in music groups, many of them also carrying out extra-curricular music projects (76%), as well as music projects out of school (68%).

**Relevance of the course to professional training.** The majority of the participants (78%) reported being 'very satisfied' or 'extremely satisfied' with the course and considered that it prepared them either 'very well' (54%) or 'extremely well' (26%) for teaching. Ten were 'fairly satisfied' (20%) and eight thought that the course prepared them 'fairly well' (16%). The course subjects and contents teachers consider the most relevant to their professional training are important indicators of the influence of the course upon them and their teaching (Table 1).

Table 1.

*Relevant course contents to professional training*

| Subjects/Contents | Frequency |
|---|---|
| Teaching practice | 22 |
| Instrumental and vocal practice (choir; ensemble; practical harmony) | 18 |
| Educational science (pedagogy; psychology; social intervention) | 13 |
| Musical sciences (ear training; sight singing; composition; analysis) | 8 |
| Unspecified music subjects | 7 |
| Music pedagogy | 4 |
| Multidisciplinary projects | 3 |
| Other | 6 |

Unsurprisingly, participants valued teaching practice (22 responses) the most, and their reasons were:

> *"It teaches how to teach." It gives "professional experience."*
> *"In the practical subjects you apply all you have learned in the other subjects."*
> *"Practical subjects taught me the most how to work with children; . . . I 'forgot' the theoretical subjects . . . "*

Music pedagogy, as related to teaching practice, is mentioned in 4 responses: *"because teachers knew how to teach and the contents were very significant to my teaching practice"* and for showing *"other ways of teaching*."

Secondly, respondents pointed out the importance of instrumental and vocal musical practices (18 responses), clearly emphasizing music performance:

> *"Because I totally advocate musical practice. Practice comes first and only then theories provide a grounding to what we've experienced."*

Music ensembles are highlighted by some because they afford connections between theory and practice, and also because of the importance of *"motivating and leading an ensemble*."

Musical sciences (ear training; sight singing; composition; analysis) (8 responses) and unspecified music subjects (7) are also relevant. As one teacher argues, *"they help me most*." Educational sciences were relevant (13 responses) because *"they provided strategies for my teaching activity*," and *"it's more important learning how to teach than having much knowledge."* Multidisciplinary projects (3 responses) provide space for *"making group experiments*." In the category 'Other,' one response mentions the learning outcomes of *"making music with colleagues*

*during the breaks*," highlighting the importance of informal learning within formal education settings (Green, 2008).

**Music teaching practice.** In regards to pedagogical resources for music lessons, almost all respondents mention the use of audio equipment (98%), music instruments (96%), and ICT (92%), followed by video equipment (72%), and books, CDs and DVDs (68%). School textbooks are less often used (56%).

The activities carried out in music lessons are relevant indicators of teaching practice. One teacher points out that "I always try to connect theory and practice, privileging practice," reflecting an emphasis on practical activities, previously suggested by the overall use of instruments. Music performance is privileged (64 out of 119 responses), including instrumental and vocal practice (playing the recorder and Orff instruments, singing songs, choir), school concerts, and projects ('Rockschool,' 'Garageband'). Listening activities (18 responses) follow, four of which specify "active music listening." Next are composition (8), improvisation (6) and dance/movement (4), as well as music games and practical exercises (4). The two least reported activities relate to theory (e.g., "learning new concepts" and "reading notation"). All of these activities and their proportion are similar to those reported by music teachers in an earlier study (Boal-Palheiros, 1994). They also suggest an influence of the course on music performance and on music making with children during teaching practice.

**Perceived difficulties in teaching practice.** The difficulties that teachers perceive as affecting their teaching practice were organized into nine categories (Table 2). Insufficient resources (14 responses), pupils' negative behaviour (13) and insufficient curricular time for music (10) stand out as the teachers' main difficulties. Insufficient resources for teaching refer to the lack of music instruments and sound equipment, inadequate classroom spaces for movement and dance, excessive number of pupils per class, and insufficient music teachers at schools. Those are also common complaints of both professional and in-service music teachers (Boal-Palheiros, 1994), who rarely attribute the cause of their difficulties to their own responsibility, for example, their insufficient preparation of lessons or inadequate selection of repertoire. Whereas insufficient musical resources are a real problem in Portuguese primary schools related to an incipient musical practice (Boal-Palheiros & Encarnação, 2008), middle schools generally have sufficient musical and technological resources, which have even increased in the last decade (Melo, 2010). Further research would be useful to clarify this issue.

*Insufficient time for music* in the school curriculum to teach and develop musical projects, and the short time to respond to school demands, are also important difficulties (10 responses). Time is simply not enough *"to use the instruments in the classroom"* or to *"develop more ambitious musical projects."* That may reflect the little importance attributed to the subject of Music by educational policies (Bowman, 2007), and it deserves further reflection as not only the quantity but also the quality of Music Education is important. *The low status of music education* (5) amongst the educational community, pupils, parents, and the society, might be related to complaints about *Educational policies* leading to teacher demotivation (3). *Little articulation with other teachers and activities* (5 responses), reflects an insufficient collaboration among music teachers and between these and other teachers, perceived by the respondents. For example, those teaching in the First Cycle feel a lack of support from primary school teachers.

Table 2.

*Perceived difficulties in teaching practice*

| Difficulties |
|---|
| Insufficient resources (14) |
| Pupils' negative behavior (13) |
| Undisciplined (7) |
| Lack of interest (4) |
| Other aspects (2) |
| Insufficient curricular time for music (10) |
| Low perceived status of music education (5) |
| Little articulation with other teachers and activities (5) |
| Educational policies (3) |
| Outdated music program (2) |
| Insufficient continuing education (2) |
| Other (7) |

*Pupils' negative behavior* – indiscipline (7 responses) and lack of interest (4) – are also relevant complaints. The *"increasing indiscipline along the years*," according to one teacher, turns difficult to *"control some pupils" and "make them respect the classroom behavior rules*." *"Their indifference"* and the assumption that they "*like music but not music education*" are also relevant. One teacher expresses frustration: *"when pupils don't want to work, nothing is useful!"* The issue of indiscipline is complex. Teachers, pupils and families' perceptions of indiscipline have changed along the years and may be diverse. Some problems of indiscipline are real and must be approached wisely. Others might relate to the school's inability to adapt to young people. One challenge of contemporary music education is responding to young people with very different needs from those few who attended school a century ago. How can teachers 'work *with* rather than *against* adolescents' tendencies'? (McAnally, 2011, p. 5). More than sitting and listening to theoretical subjects, making music together may increase discipline but that process is ambivalent (Boia & Boal-Palheiros, 2017). Thus, effective strategies for supporting pupils' positive behavior could be used by teaching and reinforcing appropriate social skills (Caldarella, Williams, Jolstead, & Wills, 2017). However, it is necessary to know more about teacher-pupil interactions, how difficulties arise and how teachers respond to them.

The *outdated music program*, although relevant, was rarely mentioned (2 responses). This program, implemented in 1991 (Diário da República, 1991) was innovative at that time, particularly

when compared to the previous 1978 Program (Boal-Palheiros, 1993). A theoretical basis supported practice, namely the acquisition of 'musical concepts' and a 'spiral model' of musical learning (Brunner, 1960; Thomas, 1979). Furthermore, school children were regarded as musicians, and music education was based on listening, composing and performing activities (Swanwick, 1979). However, organizing learning topics around musical elements (timbre, dynamics, rhythm, pitch, and form) sometimes limits how teachers plan and teach. For example, teachers select repertoire to develop concepts of musical elements rather than for its own musical value. The 2001 Guidelines for Music, centred on developing musical and other skills, were a useful tool for teaching until they were abolished by the Ministry of Education (Diário da República, 2011), and only the former 1991 Program remained. This shows how educational policies affect teaching and learning in schools. *Insufficient continuing education* (2 responses) was a difficulty expressed by two participants only. Teachers need to increase their knowledge and skills (*"improve my musical and pedagogic knowledge"*), for example, updating repertoire (*"being up to date with music's contemporaneity"*). Continuing teacher education, which is crucial for teachers' development, has been regularly offered by music teachers' associations, but only scarcely by the Ministry of Education and Higher Education Institutions (Boal-Palheiros, 2014). The category '*Other'* (7 responses) included: teachers' unemployment (*"Every school year it becomes more difficult to get a job"*); almost no provision for music in the Third Cycle, which prevents pupils from continuing to study music in general schools; an outdated school system; and pupils' representations of 'music education' as different from 'music' (*"Pupils think that what counts in music education is knowledge of music notation and theoretical concepts"*).

## Conclusions

This paper presented a brief outline of the profiles of music teachers who graduated in music education from the Porto SE. It also explored their perceptions about the course and its relevance for professional training, their music teaching practice, and the difficulties they encounter. Most music teachers think that the course prepared them 'very well' for teaching. They emphasized teaching practice and musical practice as the most relevant course contents, which suggests a need to reflect upon the impact of practical versus theoretical subjects on both teacher education and students' learning.

The predominance of music making in their teaching, in accordance with the conceptual underpinnings of the course at Porto SE, suggests that the course has shaped its graduates' professional practices. The difficulties they point out, however, seem to reveal some disappointment about their profession. Understanding the difficulties teachers experience is crucial to plan continuing training and adjust initial education courses. Many factors contribute to shape music teaching practice, and these will be further addressed through qualitative interviews and observation of classes.

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# String Orchestra with a Twist:

# Responses to a Novel Rehearsal Structure

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Abstract

This paper documents a novel rehearsal structure for one high school and two middle schools' orchestras. The orchestra director distributed different rehearsal objectives across days of the week in a unique way, over eight weeks. Students ($n$ = 112) shared their perspectives on this approach at the end of the unit. Results showed a mix of opinions on the rehearsal structure itself, and towards the traditional folk music and improvisation featured on Fridays. Overall, students preferred the activities of the days most closely resembling conventional school orchestra activities ("Work-It Wednesday" and "Run-It Thursday"). Many students articulated their appreciation of studying a different genre of music and learning to play by ear and improvising, with some expressing unease. There were interesting differences in males' and females' responses to "Fiddle Tune Friday." Boys expressed having more knowledge of the genre before the unit than girls, and consistently had a higher preference for this music, though both groups significantly increased in mean preferences to the music with instruction. These patterns may prove interesting for future research.

*Keywords:* preference, orchestra, conducting, fiddle, improvisation, pedagogy

Large ensembles are an important part of music education. School programs use this model in the U.S.A., with many concentrating on Western art music in daily rehearsals. With prominence of large-ensemble models in U.S. schools for a century, there have been calls for half a century to include diverse musical traditions in students' music education (Anderson & Campbell, 2010).

Experiences with different practices of music-making are central to the new 'Common Core' National Core Arts Standards (2014). These emphasize creating music, with opportunities to improvise/arrange/compose in all music education settings, including large ensembles. It is important to give students musical experiences that build understandings and skills that translate into meaningful musical lives after they leave their school programs (Kelly & Lancaster, 2007).

How students can experience different musical approaches, while enrolled in large ensembles, has been proposed in various ways, such as use of chamber music at the high school level (Zorn, 1973; Larson, 2010). A number of educators have embraced *Comprehensive Musicianship*; Austin's (1998) summary of studies on this model notes that "understanding through performance" includes interdisciplinary study of music theory, history, and performance; involvement of students as performers, composers, conductors, listeners, and analysts; study and performance of quality literature from a variety of genres, cultures, and historical periods; and ensemble classes functioning as learning laboratories and rehearsals (p. 25). Sindberg (2007) used a collective case study to examine the model of *Comprehensive Musicianship through Performance*, finding that students described music beyond technical issues, made connections between pieces performed and outside contexts, and described multiple dimensions of understanding music, although they did not always understand teachers' intentions.

New technology has been used in the *Comprehensive Musicianship* model, such as laptop computer composition projects during 8th-grade band rehearsals (Dammers, 2007). Over 14 weeks, with prompts for connections between band literature being rehearsed and students' budding compositions, students evidenced positive attitudes towards composing. Students working on laptops took turns in the back of the room during rehearsals; this approach generally worked well, although there were some issues with logistics, such as hearing playback of equipment during rehearsals.

Thus, we see researchers exploring novel ways of engaging students in ensembles. Worldwide, community music making and informal music approaches have been prominent foci, with many citing Lucy Green's work on informal learning (2008). "Garage band principles" can yield ideas on more diverse learning practices (Jaffurs, 2004).

In string music education, researchers have examined the types of music students are interested in studying and the ways that music is learned. MacLeod and McCoy (2012) examined cultural background and music preferences with 4$^{th}$ and 5$^{th}$-grade students in a diverse elementary school. Over nine weeks, 27 children studied a song associated with African-American culture and another associated with Mexican American culture. Students were fairly evenly divided as to whether they preferred learning to play by ear or with notation.

Mick (2012) surveyed 241 middle and high school string players on their preferences for various genres, using audio excerpts from string method books. In a summer orchestra camp (southeastern U.S.A.), Celtic and jazz received significantly higher ratings than bluegrass, mariachi, and American folk styles. Familiarity with the genre had impact, but instrument played, sex, and grade level had no significant bearing on preferences. A significant interaction

with grade level and instrument may have been due to the technique/sophistication of a student combined with the technical level or complexity of excerpts in selected genres. This research indicates that string players may have a growing interest in a variety of genres. This may relate to patterns of musical omnivorism (Brittin, 2014), which is a liking for a larger number of styles of music.

Hopkins (2015) looked at collaborative composing in a high school orchestra's chamber music program, where half of the chamber ensembles self-selected an alternative string style (or facets of one) for their group composing project. Of the eight projects documented, one used "drones inspired by Celtic music," one used a jazz swing style, one a rock style, and one incorporated blues and jazz fiddling.

Fortune (2012) examined two middle schools' string programs regarding students' music performing interests and listening patterns. Students preferred a wide variety of styles and wanted to perform a range of styles in different settings. Fortune posed the question, "Do students in public school string programs have interest in these more vernacular ways of music making . . . [and] do they know how to get involved?" (p. 6). She advocates (p. 24) "greater involvement of the music-making community at large (from inside the school building, to the neighborhood, to the city, to the state, to the country, to the world) . . . a key component in guiding students to lifelong musicianship."

Boon (2014) focused on ways to make a string ensemble culturally responsive to African-American students. Violin students in north Florida ($n$ = 25) were interviewed; students listened to rap, hip-hop, and R&B most often; and listening to this music, dancing along, and learning their lyrics was important to the students. The instructors developed lessons encouraging students to incorporate preferred genres into their violin pieces, to improvise and explore rhythmically, which the students termed "stepping violins." Open dialogue and a democratic approach to the teaching-learning environment were important.

This relates to aspects seen in informal music-making settings. Waldron and Veblen (2009) used qualitative approaches to document six adults' attitudes and processes of learning and playing Celtic music in sessions at a local pub, to understand more about life-long learning and music education. Waldron (2011) also studied players' musical involvement in an online community. Other researchers have focused on gender roles in string music with fiddlers, noting that there is an observed male dominance in traditional fiddling with certain styles (Davis & Dean, 2016; Lawson, 2011).

Thus, we see interest in diverse music styles and authentic, culturally relevant approaches to those styles in string music education. How are alternative styles/practices being incorporated into the traditional large-ensemble model with school orchestras? This study documents the process of a string music educator weaving diverse musical practices into orchestra rehearsals, and the students' responses to this approach.

## Method

This research documents an eight-week unit of study with 112 string orchestra students in three U.S. schools (one grades k-8, one 7-8, and one 9-12, within the same district, with the same teacher). The teacher developed a unit including diverse styles and approaches. The teacher had extensive performing and teaching experience with traditional orchestra and with bluegrass/old time genres.

Rather than a conventional daily rehearsal procedure (e.g., warm-up, rehearsal of several pieces of music, sightreading, closure), the teacher distributed the activities across the week in a different way. Across the two months, the teacher largely stayed to this schedule: Warm-Up Monday (with shorter rehearsal because of shorter school day), Technique/Theory Tuesday, Work-It Wednesday, Run-It Thursday, Fiddle Tune Friday. For example, on Work-It Wednesday, there was intense rehearsal of orchestra repertoire, with extensive "cleaning" and "drilling," and Run-It Thursday was devoted to playing straight through the music that had been polished the previous day. Fiddle Tune Friday was devoted to learning traditional folk music by ear, with beginning lessons on improvisation.

At the end of the unit, students reported preferences for different aspects of the rehearsal structure. The teacher was interviewed, and comments from colleague teachers observing portions of the unit were included.

## Results

Participants ($n$ = 112) were orchestra students in one high school and the two middle school programs "feeding into" that high school. After an 8-week unit distributing rehearsal activities across the days of the week, participants responded to the structure of the unit and music/strategies included.

The majority of participants were female ($n$ = 63, male: $n$ = 39). There were 5 bass players, 15 cellists, 9 violists, and 83 violins; 33 were 6-8$^{th}$ grade students in one k-8 program (with one 4$^{th}$ and one 5$^{th}$ grader also in that orchestra); 36 were 7-8$^{th}$ grade students in a 7-8 middle school; and 40 were high school students (grades 9-12). The same orchestra teacher taught orchestra at all three schools and utilized the same rehearsal organization at sites across the eight weeks studied.

Students responded to how they enjoyed the rehearsals across the week, on Likert-type scales. There was a significant difference among the rehearsal days ($F$ = 24.7, $df$ = 14, $p$ <.0001). Tukey analysis showed there were no significant differences between days 1 and 2, days 3 and 4, and days 2 and 5, but all other comparisons were significantly different. Means for "how much did you enjoy this rehearsal?" (scale of 1-6, with 6 = high) were 3.0 (Warm-Up Monday), 3.5 (Technique/Theory Tuesday), 4.6 (Work-It Wednesday), 5.3 (Run-It Thursday), and 3.8 (Fiddle Tune Friday).

There was a significant correlation between knowing about the music included on Fiddle Tune Friday before the study and liking that genre of music beforehand, $n$ = 107, $r$ = .54, $df$ = 110, $p$ < .0001. Students surveyed felt like they knew the music at a mean of 2.5 before the study began, and 3.0 at the conclusion. A t-test of how much they preferred the type of music before and after the unit of study showed a significant increase in preference ($F$ = 2.4, $df$ = 1, $p$ < .0001). Means for this measure showed students preferred Fiddle Tune Friday music at 3.0 before study, and 3.6 after the unit.

Because previous literature has documented there may be gender-based patterns within traditional fiddling genres, responses to Fiddle Tune Friday were examined further. Males revealed a higher mean self-assessed prior knowledge of the music, $F$ = 1.7 ($df$ = 39, 62), $p$ = .03. A two-way ANOVA on preference shows both groups preferred the Fiddle Tune Friday's music significantly more following instruction, $F$ = 4.2, $df$ = 1, $p$ = .04. Males preferred Fiddle Tune Friday's music more than females, $F$ = 9.5, $df$ = 1, p < .002. There was no significant interaction, $F$ = .03, $df$ = 1, $p$ = .86.

Responses showed a variety of opinions regarding the music and rehearsal structure. The largest percentage (25%) mentioned that they liked playing straight through the pieces on Run-It Thursdays. Thirteen percent gave general positive responses to the unit approach (e.g., " I like it"), and 20% gave unclear responses. Others were spread across several other categories, such as liking the variety across the days of the week, or liking that there was a consistent pattern.

Some expressed that they appreciated the attention to learning improvisation skills on Fiddle Tune Fridays, and some specifically mentioned enjoying music theory on Tuesdays, or the "drill it" approach on Wednesdays. Nine percent were concerned they were not meeting the mission of playing classical music every day, or not rehearsing pieces enough for the upcoming concert; others (6%) felt uneasy with playing by ear or the demands of memorization when not looking at notation.

When asked specifically about Fiddle Tune Friday, 23% gave general positive responses, 19% expressed appreciation for playing by ear, memorization, and improvisation ("even if it is not very comfortable"), 15% expressed a negative reaction to these same processes, and 10% expressed general negative comments. A few reiterated that they liked the variety Fiddle Tune Friday brought to the week (9%), or mentioned specific musical elements (9%), such as it being fast.

Interviews with the teacher revealed that this type of organization allowed the teacher to approach lesson planning differently, distributing some of the rehearsal preparation for these disparate teaching settings in a more efficient way. Other colleagues who had observed the teaching process mentioned they were intrigued with the approach; one noted that "some students shine in a certain area (theory or improvisation), and this allows these students to be acknowledged as leaders in a more obvious way than a traditional rehearsal structure."

## Discussion

This paper documents middle and high school string students' reactions to a novel rehearsal organization approach. For eight weeks, students focused on a different aspect of music-making each day. From the responses, students most preferred being able to play straight through the music and to sightread on Thursdays (perhaps particularly refreshing given that Wednesday was devoted to intense "stop and go" drill on the music for the upcoming concert). There was not a significant difference in liking for the run-through rehearsals and the polishing on Wednesdays; these were the most-preferred days. This was likely due to the familiarity of these rehearsal approaches and the fact that these were the pieces being prepared for the concert. In other words, the work on Wednesday and Thursday most matched the perceived customary mission of the school orchestra.

High school students held the Wednesday "clean and drill" rehearsals in higher regard than the middle school students, who preferred the Run-It Thursdays. This likely shows the increased tenacity from maturity and more extended practice – and suggests that those who do not care for intense rehearsals discontinue with orchestra before reaching high school.

Preference responses to the traditional music rehearsals on Fridays (using a play-by-ear approach and with opportunities to begin some improvisation) were similar to the responses to technique and theory activities on Tuesdays. Responses were mixed. Some students remarked they preferred learning fiddle tunes to drilling orchestra music, with constant stopping. Some enjoyed the improvisation; for example, "I like that you don't have to stick to the notes on the page, you can improvise and change music as you wish; it is freeing and a little energizing as

well." Another mentioned, "I like being able to improvise and make my own version of the piece. It is helping me improve and gives me a choice of what I want to do with my music." One violinist stated, "I do not like fiddle tunes. I feel that if I wanted to play fiddle tunes I would've played the fiddle!!"

A number of students revealed some anxiety at playing-by-ear, particularly at the high school level. Others mentioned that playing-by-ear forced them to rely on memory, which brought unease (e.g., "it's difficult to remember the notes;" and "I have trouble memorizing and this stresses me out"). Middle school students seemed a bit more flexible on these points, showing the importance of exposure to alternative approaches earlier in a student's development. Interestingly, a number of students mentioned that, although they did not feel comfortable playing by ear or improvising, they valued the opportunity to try it out. As well, some said that they did not prefer fiddle music but appreciated the chance to learn about it. Prior research shows links between familiarity and preference, and thus this exposure over several weeks may have long-term effects.

The teacher included small-group playing on several Fiddle Tune Friday, where students chose their groups, led their own practices, experimented playing on different instruments, and improvised as they felt comfortable. This featured informal music-making processes, and some students applauded this approach. One wrote, "I enjoy the different style and learning how to improvise. Collaborating with other students in class allows for me to learn about playing back up as well as being able to work with other classmates." Interviews with the teacher and colleagues showed that this introduced students to elements of performance culture in other settings, such as jams. Skills introduced and practiced included knowing how to start and stop a tune, how to understand the form, the vocabulary and non-verbal communication cues, and how to "fit in" socially and musically.

There was a significant difference in responses of males and females to the music of Fiddle Tune Friday. Students were asked "Before starting Fiddle Tune Fridays, how much did you know about this kind of music?" . . . "How much did you like this kind of music?" . . . "Now how much do you like this music?" Both adolescent boys and girls grew to like the music more across eight weeks, but the boys' estimation of their prior knowledge and their liking of the music exceeded that of the girls. Why did boys feel they knew more, and why did they reveal a consistently higher preference? There is documentation that traditional music such as bluegrass has been male-dominated (Davis & Dean, 2016; Lawson, 2011). In some ways, the differing reactions of males and females might resemble gender patterns studied in jazz education over the last several decades. The extent to which gender patterns might relate to attitudes towards improvisation is unclear. Similarly, whether there is a lack of exposure to female role models in Bluegrass music is unclear. These are gender patterns that may deserve further study.

The teacher's approach was an experiment with rehearsal structure to move away from a prevalence of "cleaning" classical repertoire. A different focus each day yielded a more centralized lesson planning schemata across sites; with fewer distinct pieces of music across sites, the teacher concentrated on one lesson plan with room for flexibility across ability levels.

Certainly, many educators strive to find a balance of developing technique, practicing sightreading and aural skills, creating music, and scaffolding social skills within each daily rehearsal. Here, there was an over-arching transfer design in the teacher's planning; for example, the technique on Tuesday matched repertoire technique requirements in the literature rehearsed Wednesday and then played through on Thursday.

It was interesting that a number of students enjoyed that this unit's organization helped them "know what was coming each day." Perhaps they felt a greater awareness of the differing types of activities with a separate focus each day. The structure encouraged some students to take a leadership role on days with activities they particularly liked or for which they had "a knack." Spending an entire rehearsal concentrating on theory or improvising, for example, seemed to give enough time, space, and regularity for those students to step into those leadership roles, which might not happen if they spent only a few minutes on that activity during a conventional rehearsal. A few students became much more interested in practicing at home once traditional fiddle music was introduced.

This paper does not advocate the use of this approach at all times or in all circumstances. However, results of this study yield intriguing data on the quest for including diverse music and authentic practices in large ensembles. This novel rehearsal structure may inspire creative ways to approach the large ensemble environment in the future.

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# Using Photo Elicitation to Examine Students' Perceptions of a Sistema-Inspired Program

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Abstract

Sistema programs have been established around the globe and several studies have profiled the many positive attributes associated with these ensemble-based programs. What is often missing in these studies is the voice of the student. Therefore, this research study examined the extent to which a photo-elicitation methodology allowed students to actively engage in the research project and share their perceptions of the Sistema program. Photo-elicitation is a research methodology where students are asked to respond to or interpret a series of pictures. This methodology allows students to actively manipulate the data. Moreover, a research method that relies on photos rather than on written text allows students who may struggle with spoken language to participate. Participants in this study included 23 elementary children participating in a string-based Sistema-inspired program in Ontario, Canada. These students were asked to construct a poster entitled "My Sistema" using photos that featured the various music and non-music activities, candid shots, and photos of the adults and other children associated with the program. Participants were also given a package of markers to draw or decorate the poster. Findings from this research study illuminated a meaningful and engaging research activity where participants proudly constructed posters about this program and were interested in keeping these data for themselves. The posters profiled music and ensemble-based playing to varying degrees and many posters also included non-music activities and profiled peers, teachers and other adults associated with the program. Findings from this study contribute to the literature about photo elicitation by describing how students can actively participate in the research process. Further, these findings illuminate how, for many of these children, the Sistema program went beyond playing in a large ensemble. This component, as well as other musical and non-musical activities, resonated with the children as well as the opportunities to build relationships.

*Keywords:* El Sistema, photo-elicitation, elementary music

## Using Photo-Elicitation to Examine Students' Perceptions of a Sistema-Inspired Program

The purpose of this research project was to employ a photo-elicitation methodology to examine the activities and people that resonated with children participating in a Sistema-inspired program. El Sistema and Sistema-inspired programs are intensive and accessible music-based programs that often center on learning to play an instrument in ensemble. These large ensembles are often thought of as an ideal society where members essentially work together to solve problems:

> As members of an orchestra or a chorus, students must learn and contribute simultaneously; they receive immediate, practical support from peers while confronting challenges as a team, and must build and model the cooperative attributes of a healthy symbiotic community in order to achieve success (Govias, 2011, p. 22).

This model of music education has been adopted in several jurisdictions and these Sistema-inspired programs are bound by their commitment to providing opportunities to support social development through music (Govias, 2011). However, these intensive and accessible ensemble-based programs encompass a variety of musical traditions and learning activities (e.g., Lorenzino, 2015; Smith & Lorenzino, 2016).

Extant literature related to Sistema programs has illuminated students' perceptions largely through self-reported text-based data such as questionnaires, interviews, and focus groups (e.g., Morin, 2014; Steele, 2017). Retrospective data from El Sistema programs has also been collected by researchers. The most notable example is that of Baker (2014) who documented the perceptions of other members of the Venezuela program. His research recounted experiences where preparing for performance was privileged over the social experience, and the stronger performers received preferential treatment where "musical results take priority over social action" (Baker, 2014, p. 72). His book goes on to critique the primacy of large ensemble and performance-based music programs and the extent to which these types of programs promote social change, thus illuminating different perceptions that students may hold from their teachers or administrators.

Missing from this research literature are rich descriptions of current students' perceptions of their Sistema program. Research methods that rely on reading, writing or spoken language may not be developmentally appropriate for young children (Pyle, 2013). Thus, methodologies that provide opportunities for students to express their ideas in other ways may elucidate interesting insights about students' perceptions of their experiences. The following research study, therefore, explores the use of photo-elicitation as a means of collecting qualitative information about children's perceptions of the Sistema program in which they are a part.

**Photo-elicitation.** Photo-elicitation is a research methodology where students are asked to respond to or interpret a series of pictures. Participants may create or select the pictures (Elliot, Fairweather, Olsen, & Pampaka, 2016). This type of data collection allows students to express themselves without having to exclusively rely on language. This reliance on other modes of communication is particularly appropriate for individuals who may not have the language needed to express their full understanding or experience of a phenomenon (Cappello, 2005; Meo, 2010; Pyle 2013). Moreover, photo elicitation allows students to be active agents in data collection as they are asked to guide the manipulation of photos (Pyle, 2013).

This type of data collection has been used with a variety of populations including young children (e.g., Einarsdottir, 2005; Miller, 2016; Pyle, 2013); young adults (e.g., Newcomer,

Lindahl, & Harriman, 2016), and special populations (e.g., Danker, Strnadova, & Cumming, 2017). This methodology was used to elucidate perceptions of various educational or therapeutic experiences and findings from these studies have provided insights that would not be possible through a language-based approach (Mandleco, 2013; Pyle, 2013). For example, Danker, Strnadová and Cumming (2017) examined the perceptions of teens with Autism Spectrum Disorder participating in an education program using a photo-elicitation methodology where students took photos of their school experiences and later spoke to researchers about their choices. These researchers found that photo-elicitation was an empowering data collection process as participants were able to create the data, which contributed to a sense of ownership of the research study. Participation in the research study was also possible for these individuals as they were not required to read and/or write.

Given that many Sistema programs involve young people and often those who are at-risk in some way, photo-elicitation may allow students to provide details of their experience that would not be possible through text alone. The purpose of this research study, therefore, was to examine students' perceptions of a Sistema program through the use of photo-elicitation. The two-part research question that guided this study follows as: (a) What components of the Sistema program resonated with students? and, (b) In what ways were individuals featured within the photo-elicitation process?

## Method

**Photo-elicitation.** The photo-elicitation component was one type of data collection in a larger longitudinal mixed-methods study that examined the implementation of a Sistema-inspired string program in Eastern Ontario, Canada. Ethical clearance was received from the researchers' institution as well as the school board that hosted this after-school program. All staff consented to participate in the research study, which included having their images shown for research purposes. Similarly, parents consented to having images of their children used for research purposes included the publication of research findings.

**Overview of the Sistema program.** This Sistema-inspired program was located in an elementary school in eastern Ontario, Canada. The program was offered 4 days a week after school (2.45 – 5pm). The program centred on string playing where students were assigned to play the violin, viola, or cello. The program embraced the ensemble approach and almost all the string instruction happened in a large group with all the instruments or in sectionals. Students sang in a choir two days a week and also had sessions focused on rhythm and percussion where they made music using body percussion, bucket drums or boom whackers, among others. Students also received a nutritious snack and had pockets of free time, particularly at the beginning and end of the day, where they were often able to play in the school gymnasium. This Sistema-inspired program was one of the only intensive and free after-school programs in the neighborhood (music or otherwise).

The program was staffed with four instructors (two upper strings teachers, one cello teacher, a percussion/rhythm teacher, and a coordinator). In addition, the choir teacher attended two days a week and a fleet of other volunteers supported the program weekly helping with management, playing technique, or preparing the snack. The program director also attended regularly. In summary, students in grades 2 – 5 met four days a week to participate in this string-based Sistema program, which also included a vocal and percussion component.

**Student participants.** Twenty-three students participated in the photo-elicitation process. These students were in Grades 2 – 5 at school. Nine of the students had been in the program since its inception in 2015, while the others were part of the second cohort of students joining the program in the fall of 2016.

**Collecting the photos.** Pictures were taken of students and activities in the spring of 2017 by a research assistant. This person was asked to take pictures during one week of Sistema programming and to capture all of the activities and people who were engaged in the program during that time frame. Having a researcher take pictures is a departure from other studies where students take the pictures (e.g., Pyle, 2013; Danker, Strnadová, & Cumming, 2017). However, given the participatory nature of the program and the fact that almost all the students in the Sistema program were also participating in the research program, it was simply not feasible to have all the students take pictures during the program without disrupting participation in the activities themselves.

Several hundred photos were taken during this week of rehearsals. From this collection of photos, 57 photos that encapsulated all the activities and people were selected for use in this study. Each student received the same three sheets of pictures as well as one sheet of customized photos. The four sheets of pictures were organized as follows: One sheet contained 9 photos of group activities (6 pictures were music-related and three pictured featured other group activities); a second sheet contained 16 pictures of artifacts associated with the program (instruments, paper instruments, snacks, scores, posters); and a third sheet contained 16 pictures of the adults associated with the program (e.g., teachers and volunteers). The fourth sheet was composed of candid photos included individuals alone or with others were also taken throughout the week. These photos captured students doing a variety of music and/or non-music activities. On this fourth page, there were individual photos of two different people, and the two individuals featured on this page were often in each others' candid photos.

**Creating the posters.** Students were given an 11x17 sheet of paper, a set of photos, glue, scissors and markers. They were asked to create posters called "My Sistema." The students were invited to place whatever pictures best represented what Sistema meant to them. They were told that they could not be wrong, and they were also invited to draw or decorate their posters however they saw fit. Students were given 30 minutes to complete their posters.

The first author oversaw the activity and research assistants sat with the students to assist with cutting the photos, helping them remain on task, and to reinforce that the children were to choose whatever they thought best represented Sistema to them. The investigators also noted informal observations of students' engagement with the task, and would notate any information that the students provided to explain their decisions. At the request of the students, the posters were returned to them after they had been digitized for research purposes.

**Data Analysis.** Two researchers analyzed the posters independently. Posters were analyzed to gain a sense of the people and/or activities that the students included in their "My Sistema." In particular, each researcher counted the total number of images related to people (adults and children), musical activities, and other activities (e.g., gym time, free time, etc.). After reviewing the posters independently, the two researchers compared their findings and discussed discrepancies by re-examining the posters.

## Results

The purpose of this research study was to examine students' perceptions of their Sistema program through the use of photo-elicitation. The two-part research question that guided this study follows: (a) What components of the Sistema program resonated with students? and, (b) In what ways were individuals featured within the photo-elicitation process? Results relating to this two-part research question follow.

**Empowering research participation through photo-elicitation.** The poster-making process and the posters that were developed conveyed positive feelings towards this research method and the Sistema program. All the students willingly participated in the project and all students were easily able to select pictures that resonated with them. All of the students in the group enjoyed the process, as illuminated by one participant who said the following: "I know we're just cutting out pictures and gluing them on a paper, but it's kind of fun."

All of the students began their poster-making sessions by looking through all of the pictures and then selecting pictures for their posters. No student indicated that he or she could not find the appropriate pictures. There were also several requests to keep the posters during this activity. When asked what they would do with the poster one person responded: "Hang it up in my room." The positive tone that was expressed through the posters illuminates positive feelings the children held for the Sistema program.

Interestingly, students were reluctant to explain why they chose particular pictures or words and when asked why they chose something, they would often shrug their shoulders. Nevertheless, they easily chose pictures and were proud to share their posters with others. One reason for students' lack of verbal explanations could be that they lacked the language skills to explain their ideas, specifically their feelings associated with the various people and activities showcased on the posters.

**Poster components.** Each poster presented a unique perspective of the Sistema program. The students selected a variety of pictures and combined them in different ways. On average, students included 15 pictures on their posters (ranging from 6 to 27). All posters included some aspect of music-making and 45% of the pictures on each of the posters related to music (ranging from 20% to 71.4%). The rest of the posters were comprised of a variety of pictures including pictures of adults in the program, pictures taken during free time and/or candid pictures with or of their friends (see Figure 1). Many posters also contained the phrase "I love Sistema" and were often decorated with hearts and/or music notes.


*Figure 1.* Sample poster created by student participant

As a representation of music making, some students chose pictures of instruments while others chose pictures of themselves participating in music-related activities (e.g., playing bucket drums, singing, movement, and playing their instrument alone or in a group). The strong presence of music-making activities featured in these posters underscores the central role that music has in the Sistema program. The variance in the number of music-related pictures and the presence of multiple-types of music-making activities, however, illuminates how different aspects of the program seemed to resonate more deeply with some students than with others. Thus, this finding highlights the importance of having a breadth of activities for students to meet a wide variety of interests.

Non-music activities that included pictures during free time, snack/food and transitions also featured in posters, as 21 of the 23 posters contained at least one photo related to these non-informal components. The photos included students playing Hangman while they ate their snacks; students playing in the gym with their friends at the end of the day; and students waiting on the stairs in the library at the start of Sistema. Many of these pictures featured the children with their friends. The inclusion of these types of group activities appears to underscore the importance of having time with peers and illuminates the importance that these non-music activities held for many participants. The selection of these informal activities also highlights the importance of having this safe unstructured time for students to play with their friends. Such findings reinforce the assertion that an El Sistema program can be a form of social justice that is not solely about performing in an orchestra, but also a program where students make friends and feel safe and cared for. The inclusion of these photos in the posters underscores the importance the students placed on having this safe place to play.

The value that students placed on relationships was also evidenced by the inclusion of photos of adults on the posters. On average, 37% of the photos included on the posters related to

group-based activities, both music and other informal activities (Range: 7.7% - 71.4%). Eleven percent of the posters contained selfies of the poster creator. Students also included photos of other adults and other children (24.1% and 7.8%, respectively). In addition to the teachers, many people who volunteered regularly were also included in the posters (see Table 1). In sum, the prominence of people in these posters (e.g., being in a group, peers, teachers, and volunteers) elucidates how students' depictions of Sistema were grounded in the establishment of these important relationships – and that they also could situate themselves within the program and in relationships with others.

Table 1.

*Student activities depicted on student posters grouped by theme*

| Theme | Average Percentage (%) | Range (%) |
|---|---|---|
| Activities | | |
| Music related | 45.8 | 20.0 - 71.4 |
| Free time | 9.0 | 0.0 - 19.0 |
| Snack | 6.6 | 0.0 - 18.0 |
| People | | |
| Being in a group | 37.6 | 5.0 - 71.4 |
| Adults | 24.1 | 0.0 - 66.6 |
| Themselves | 11.5 | 0.0 – 33.3 |
| Other children | 7.8 | 0.0 – 35.0 |

## Discussion and Conclusions

**The many depictions of Sistema**. The posters created by these students showcased the importance of the breadth of programming available in the Sistema program. The comprehensiveness of the photos chosen to depict the students' "My Sistema" highlighted the importance of having a variety of music programs, being part of a group, and developing relationships with peers and adults in a safe space. In many ways, the students' representations of 'their Sistema' reflected an ideal society – a society where they felt safe, valued, and were able to develop relationships with peers and adults. This ideal society also included opportunities to engage in a variety of musical and non-musical activities.

The vast range of photos in each of the various categories underscores the finding that students assigned different meanings to various components of the program. While previous research has focued on the large ensemble component of the program, the diversity of offerings facilitated a sense of belonging for the children in a way that allowed them to connect in a variety of ways. Some students profiled instrumental music, others free time, and still others various people associated with the program. This variety of depictions shows us that for some students "My Sistema" is reflective of music-making, while for others "My Sistema" is people, and still for others, "My Sistema" means a combination of music and other activities. The

overwhelmingly positive depictions that were conveyed through the posters underscores a strong sense of belonging that the students felt for the Sistema program.

While Sistema programs have been lauded for the performance product, the images portrayed in these posters highlight the importance of social aspects of the program – for example, the various music-games, time for building relationships with others, and having opportunities for free play. In this way, the encompassing nature of Sistema is facilitated through the variety of music and non-music activities as well as the opportunity to develop relationships with peers and other adults. These findings suggest that the most valuable part of the Sistema is the variety of programming and opportunities they provide in a safe and caring environment.

**Gathering perceptions through photo-elicitation-photo-choice.** This research study highlights one way that student participants can be agents in the research process. Students in this study were easily and happily able to use photos to depict "Their Sistema." One value of this study is that it examined the implementation of a photo-elicitation methodology that did not require verbal responses from the participating children. Actual selection of emotionally-important photos was found, in and of itself, to be a viable and engaging method for eliciting perceptions of children. As the examination of Sistema programs progresses, it is important to incorporate inclusive research methodologies that allow *all* participants to express their ideas in meaningful ways. The adapted form of photo-elicitation used in this study is one way to facilitate this type of participation.

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# Effects of Two Singer Gestures on Acoustic and Perceptual Measures of Solo Singing

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Abstract

The purpose of this investigation was to examine the potential effects of two singer gestures on performances of solo singers ($N = 32$). Research questions that guided this study were: 1. Are there significant acoustical differences in solo sound (a) between baseline and posttest conditions and (b) between baseline performance and each of five successive, intervening performances employing a particular gesture based on measures of deviation in cents from target fundamental frequency and amplitude (dB)? and 2. Do singer perceptual responses indicate differences in solo sound (a) between baseline and posttest conditions, and (b) between baseline performance and each of five successive, intervening performances employing an arm gesture?

Each song ("Over the Rainbow" with low, circular arm gesture and "Singin' in the Rain" with pointing gesture) was sung five times: Baseline (without singer gesture), three iterations of each song paired with a singer gesture, and a posttest (without singer gesture). This investigation measured acoustic ($F_o$ and amplitude) and perceptual (participant perceptual questionnaire) differences of solo singers. Results indicated no significant differences in acoustic measures of intonation or amplitude between iterations of the songs sung with and without gestures. The majority of participant comments related to intonation and timbre when using gestures. Results were discussed in terms of singing pedagogy, limitations of the study, and suggestions for further research.

*Keywords:* singing, gesture, movement, pitch

Effects of Two Singer Gestures on Acoustic and Perceptual Measures of Solo Singing

Movement and gesture are often used in solo and choral singing settings to enhance vocal sound and learning. Singer movement can distract singers in such a way that it focuses the mind on goals such as musical phrasing, attaining pitch without tension, or musical expression enhanced by freedom of breath movement. One investigation (Nafisi, 2014) into the use of gestures and body-movement as teaching and learning tools in one-on-one voice teaching revealed that several singing teachers in Germany and Australia employed gestures to enhance their explanations and demonstration. Additionally, the researcher found that most of those voice teachers also instructed their students to carry out gestures and/or body movements to aid understanding of specific acoustic or musical concepts and/or perform specific physiological mechanisms with greater ease. Despite the large number of voice teachers utilizing gestures for pedagogical reasons, the researcher noted the need for further study to determine the actual effect of the use of gestures on singing.

Additional research has focused on the physical states of the body and how singer awareness of those states can impact various aspects of singing. Paparo (2016) studied the effects of using *somaesthetics* in the choral classroom on singing performance. "Somaesthetics embraces embodiment in aesthetic experience, acknowledging that the senses are a part of the body and affect its condition" (Paparo, 2016, p. 490). After being trained in the Feldenkrais Method, a form of somatic education that develops greater awareness of one's own function (Feldenkrais, 1972), participants attributed changes in their singing performance because of perceived reduced tension and improved alignment, as well as effects on breathing, resonance, articulation, range, and intonation.

Studies have also investigated the use of singer movement in popular music performances. Turner and Kenny (2010, 2011) studied the use of body movement in western contemporary popular music. In one study utilizing 3-D video footage of body movements of six professional western contemporary popular singers singing the same rhythm and blues song, Turner and Kenny (2010) determined that anteroposterior torso movement affected voice production and was significant to vocal health and sound production. In another study (Turner & Kenny, 2011), six western contemporary popular singers were asked to sing excerpts from three songs – two songs from their repertoire and one selected by the researchers. In one performance of the excerpts, participants were instructed to maintain their typical performance movements. In the second performance of the excerpts, participants were instructed to stay still. Researchers recorded both performances and analyzed sound pressure level (SPL). The researchers discovered a significant reduction in SPL during performances when participants were asked to remain still. The researchers postulated that this reduction in SPL could be attributed to the inhibition of respiratory mechanisms for subglottal pressure production and interference with sensorimotor feedback mechanisms.

Further, three studies investigated the effects of gesture use on children's singing. Liao and Davidson (2007) found a connection between children's singing voices and their use of gestures to improve focus, guidance, support, good intonation, and sensation. Through the use of a mirror game, follow game, and gesture creation activity, the researchers determined that, while the gestures were not always effective at the start of the activities, with practice, the gestures had a positive impact on the children's vocal sound. In a separate study, Liao (2008) examined the effects of gesture use on young children's singing with regard to improving pitch accuracy. In the study, 80 Taiwanese five- to six-year-olds were asked to sing six tonal patterns with and

without gestures. The use of gestures resulted in improved pitch accuracy. In another study, Liao and Davidson (2016) studied the effects of gesture and movement training on the intonation of children's singing in vocal warm-up sessions. Fifty-three fifth grade students were divided into three groups: (1) students who received no gesture and movement training; (2) students who received gesture training; and, (3) students who received gesture and movement training. The children who received gesture and movement training showed greater improvement in intonation than the children who received neither gesture nor movement training.

Two previous studies (Brunkan, 2013, 2016) investigated the use of singer gesture in solo voice settings with college-aged singers. In the first study (Brunkan, 2013), results indicated that the most balanced singer tone quality (as perceived by expert listeners) occurred while singers either observed a conductor performing or performed a low, circular arm gesture, and the most pressed and breathy perceptions of tone quality occurred while singers either observed a conductor performing or performed a high, circular hand gesture. In the second study (Brunkan, 2016), 49 singers were video and audio recorded using a motion capture system while singing a phrase from a familiar song, first with no motion, and then while doing a low, circular arm gesture. Analysis of the data indicated most singers (67.3%) were closer to the target pitch when utilizing a low, circular arm gesture.

The primary singer gesture employed in both of these studies was a low, circular gesture moving up and out in front of the torso. To test an additional gesture recommended in choral methods literature, the present investigation also incorporates a pointing gesture, recommended by Jordan (1996).

Due to the regularity of the use of gestures by voice teachers, choir directors, and performers, and the scarcity of research on the effects of this gesture use on singing, this study serves to expand knowledge in this particular area of vocal pedagogy. Vocal music educators would likely benefit from data that indicate the time it takes singers to master particular gestures in solo singing contexts, and at what point, if any, in an iterative gestural learning process, employment of a specific gesture begins to influence vocal sound. To date, no study has addressed such matters.

## Purpose of the Study and Research Questions

The purpose of this study was to assess across iterations the potential effects of two singer gesture conditions (low, circular arm gesture and pointing gesture) on performances of two familiar songs by solo singers ($N$ = 32) using selected acoustic and perceptual measurements.

The following research questions guided this investigation:

1. Are there significant acoustical differences in solo sound (a) between baseline and posttest conditions and (b) between baseline performance and each of five successive, intervening performances employing a particular gesture based on measures of deviation in cents from target fundamental frequency and amplitude (dB)?
2. 
3. Do singer perceptual responses indicate differences in solo sound (a) between baseline and posttest conditions, and (b) between baseline performance and each of five successive, intervening performances employing an arm gesture?

## Method

Participants ($N = 32$) were recruited from undergraduate music classes at a large southeastern university in the United States. Participants ranged in age from 18 - 32 years, were male ($n = 14$) and female ($n = 18$). Most singers were currently in choir ($n = 23$) and voice lessons ($M = 2.48$ years).

Two familiar musical excerpts were employed in this study. Both excerpts contained ascending octave leaps, consisted of pitches in a one octave range (D to D), and were normally performed at a moderate tempo. The first sung excerpt was "Somewhere Over the Rainbow," and the second selection was "Singin' in the Rain." Participants sang the two songs on the neutral syllable "m/i/" to ensure consistency across performances.

Each of the melodies employed one of two singer gestures. The two gestures used in this study were: (a) a low, circular gesture with "Over the Rainbow" (arms moving outward and upward in front of and to the side of the torso at hip height and above) and (b) an upward pointing gesture with "Singin' in the Rain" (one arm following an upward and outward point beginning at sternum height and moving above the head).

### Procedure

Upon entering the research room, singers completed an Institutional Review Board (IRB) pre-approved consent form as well as a demographic questionnaire. Participants were asked on the questionnaire if they could sing the melodies from memory. The melody of each selection was played for the participants on a keyboard until they felt they could sing the phrases from memory if not memorized upon entrance. Notated versions of the songs were printed and visible to each participant on a music stand. A Master-Key pitch pipe (C – C range) was used to give a starting pitch (D) prior to each repetition of the melodies. Singers stood at a pre-marked position four feet from the video camera. All participants were individually video recorded (RCA Small Wonder EZ2000) and audio recorded using an Edirol R-09HR as they sang. Distance from recording devices was consistent for all participants (audio recorder: 12 inches, video camera: 20 inches) as marked by a tape-line on the floor. Participants were asked to stand with their toes on the tape and distance from microphone to lips was measured.

Singers first sang each selection without gesture (baseline condition). They then sang each selection three times with one of two arm gestures. During "Over the Rainbow" participants performed the low, circular arm gesture throughout the excerpt. Finally, singers sang the song one last time with no gesture and then completed a brief post-test perceptual survey. The same procedures were followed for "Singin' in the Rain" except that the pointing gesture was employed. Singers completed the task by filling out a posttest questionnaire regarding perceptions of singing with gesture.

### Dependent Measures

**Acoustic measures.** The $F_o$ of each vowel midpoint extracted by the Praat software (two for each iteration of each song) was used to measure intonation by comparing the extracted $F_o$ to the scored target frequency. In order to compare intonation in octaves (lower and higher voiced singers), all measurements in Hz were converted to measurements in cents (1200 cents are equal to one octave). Deviations from target frequency were then expressed in cents for comparison

and analyses. For purposes of this study, *in tune* or *out of tune* solo singing was qualified by the measurement of ±7 cents (Lindgren & Sundberg, 1972; Sundberg, 1982; Sundberg, Prame, & Iwarsson, 1995). For each participant, Praat software was used to measure differences in amplitude among sung iterations of each song at two points within each iteration. The mean of each participant's dB SPL for all excerpts then served as the measure of amplitude.

**Participant survey.** The final task of the study for participants involved completing a brief exit survey asking perceptions of singing the songs with and without gestures. Singers were asked what differences, if any, they noticed in their singing when doing no movement, low arm circles, and pointing gesture.

## Results

Results are presented according to research question order. First, acoustic data is presented, followed by perceptual data from participant questionnaire responses. A predetermined alpha level of .05 (adjusted as necessary by Bonferroni correction) served to indicate significance for all statistical procedures.

**Research Question One: Acoustical Measures.** Figure 1 displays cents deviation from target fundamental frequency means for performances with the low, circular arm gesture and pointing gesture compared to the means of baseline and posttest (without gesture) conditions. Overall, singers were audibly (greater than ±7 cents) out of tune in almost every case. Intonation measures of "Over the Rainbow" indicated singers were most out of tune ($M$ = 39.24 cents) in the posttest whereas the baseline measures for "Singin' in the Rain" singers were the most out of tune ($M$ = -31.66 cents). The measure most in tune for "Over the Rainbow" was the baseline ($M$ = 23.82 cents) whereas the most in tune singing measured for "Singin' in the Rain" was during the posttest ($M$ = -7.57 cents). From baseline through posttest conditions, singers tended to raise the pitch slightly during "Over the Rainbow" while singers tended to come closer to the target pitch over time while singing "Singin' in the Rain."

Paired $t$ tests (two-tailed) to measure specific differences in the model with a Bonferroni adjustment of alpha levels to provide conservative tests of significance ($p$ = .05/3 = .017) were run. $T$-test results indicated no significant differences between mean of gestural iterations and posttest measures ($p$ > .05) and between baseline and posttest measures ($p$ > .05).

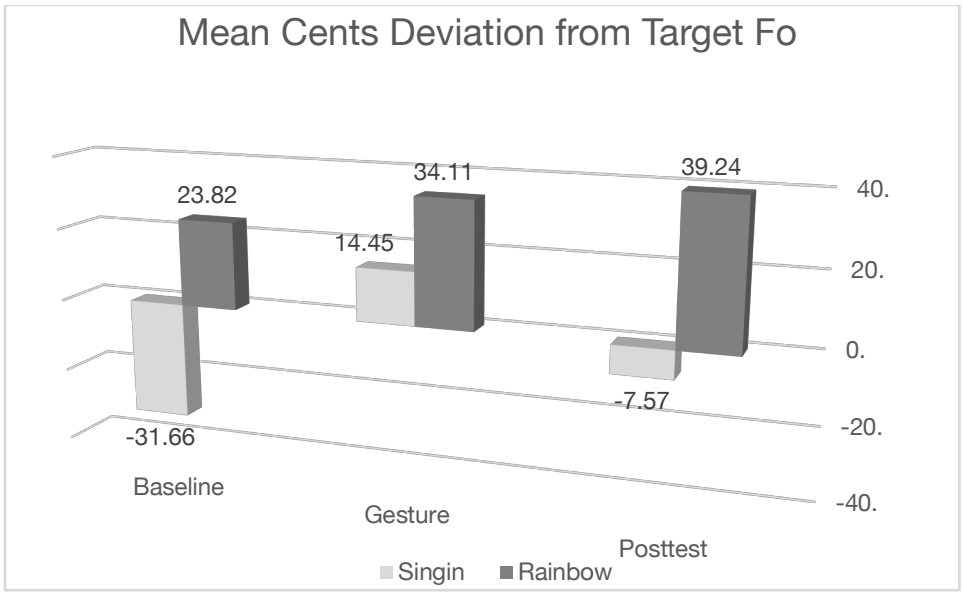


*Figure 1*. Mean cents deviation means for each iteration of the two songs/gestures.

Figure 2 displays the mean amplitude of baseline, gestural, and posttest iterations. For each measure of "Singin' in the Rain" an audible (1 dB) difference was measured between baseline and gestural measures. Between gestural and posttest measures, the dB level did not quite reach 1 dB difference. Measures of dB for "Somewhere Over the Rainbow" showed a difference as well. Singers increased by nearly 2 dB while employing the low, circular gesture during the gestural iterations. During the posttest (no gesture employed), singers sang almost 1 dB softer.

Paired *t* tests (two-tailed) to measure specific differences in the model with a Bonferroni adjustment of alpha levels to provide conservative tests of significance ($p = .05/3 = .017$) indicated no significant differences between mean dB of gestural iterations and posttest measures ($p > .05$) and between baseline and posttest measures ($p > .05$).

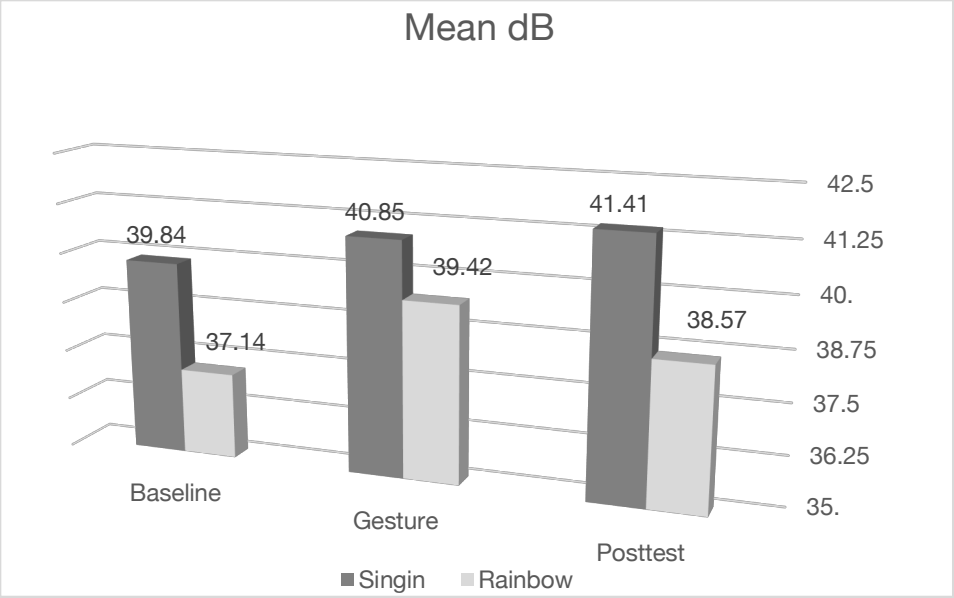


*Figure 2*. Mean dB of sung iterations for the two song selections.

**Research Question Two: Participant Perceptions.** Upon completion of the recording session, solo singers ($N = 32$) responded to an exit questionnaire that solicited overall thoughts and perceptions of singing with gestures in a solo singing context. Participants were asked the following: "Please give your overall thoughts and perceptions of singing with gesture."

Participants wrote a total of 73 discrete comments, which were sorted into categories of overall "positive" and "negative," a process that yielded 62 (85%) positive comments and 9 (15%) negative comments. Most ($n = 15$, 24%) of the positive comments addressed breath control. Other frequent comments addressed intonation ($n = 9$, 12.32%) and timbre ($n = 12$, 9.75%). Comments about intonation included, "the pointing gesture helped me sing to the right pitch" and "getting to the higher notes was easier with the pointing." Comments that addressed timbre included "the pointing gesture focused my sound," and "the low arm circles made me feel like I had a fuller, more supported tone."

Among comments ($n = 9$, 12.33%) about focus of attention were "I focused more on the motion instead of worrying about my sound" and "the gestures helped me focus on more than my sound." Comments ($n = 6$, 8.22%) about ease of phonation included: "the movement helped me sing with more ease," and "moving my arms while singing helped me feel like I was releasing some tension I usually sing with."

The nine negative comments (12.33% of all comments) pertained to doing motion while singing. These comments included such statements as "I don't think the movement made a difference for me," and "the movements were distracting when I was trying to concentrate on singing the right notes."

## Discussion

The purpose of this study was to assess across iterations the potential effects of two singer gesture conditions on performances of two familiar songs by solo singers using selected acoustic and perceptual measurements. Results of this study align with previous research

(Brunkan, 2013, 2016) but are limited to this specific group of participants. No significant differences were found in acoustic measures of intonation or amplitude between iterations of the songs sung with and without gestures. Overall measures of cents deviation from target $F_o$ and amplitude (dB) indicate that the gestures employed in this investigation had an effect, although not significantly, on the sound produced by the singers in this study. Perceptual measures also indicate a perception of effect or difference when employing gestures with singing – some negative and some positive.

Most solo participants (62.87%) trended toward more in tune singing while employing the pointing gesture, whereas, most participants became progressively more out of tune with the low, circular gesture. This finding is quite different from results of previous research employing similar gestures (Brunkan, 2013, 2016) in which the low, circular gesture was connected to more in tune singing. Although some changes of in tune singing were audible ($\pm$ 7 cents), the differences, overall, were not significant in this study.

Measures of amplitude (dB) indicated similar trends for both gestures. Singer amplitude increased for both songs between baseline and gestural iterations. Interestingly, singers continued the increase in amplitude, overall, while singing "Singin' in the Rain" during the posttest (without gesture). Amplitude decreased, however, during the posttest of "Over the Rainbow." Eichenberger & Thomas (1994) speculated that the low, circular arm and pointing gestures led to increased sound energy. This prediction seems to hold true in relation to the findings of this study.

Participant perceptions of singing with and without gesture were varied. Most participants commented that the movement positively impacted their singing or experience. However, there were also perceptions of the gestures distracting from the goal or not helping the task of singing. These results may indicate that many singers are trained to sing while not employing prescribed gestures. Singers, therefore, may be more familiar with singing while standing still. The gestures may then seem to distract from the task.

There were several limitations to the current investigation. First, the pool of participants represented a small portion of singers from one university. Similarity in region, experience, training, and singing style offers a limited view of the phenomena. Further, the singers sang two songs with two prescribed gestures. Voice teachers and choral directors employ a wide variety of gestures with a wide variety of repertoire and with a plethora of goals in mind. Perhaps investigating use of gesture in a more naturalistic setting would be fruitful to gain further understanding. Finally, the measures used in this study to determine difference with and without gesture were limited. Measures such as formant frequency to assess timbre, sEMG to assess muscle involvement, or measures of breath would offer further information about other effects of singer gesture.

Voice educators make pedagogical decisions, employ a variety of tools, and respond to the outcome of those strategies each time they work with singers. Singer gesture is such a tool that is recommended and employed by several pedagogues. Although further investigation is warranted, singer gesture, according to the current study, can affect sound and may be very useful to those working with singers in a variety of contexts.

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# Teacher Techniques for Talking with Students About Knowledge Mobilized During Creative Musical Productions

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Abstract

How can teachers ascertain the musical knowledge of their secondary school students following collective music productions? In creative music-making tasks, teachers should connect subject specific knowledge with several fields of students' experience in order to foster music learning. Following previous work about supporting creative collaboration in music education at school, the goal of this study is to observe the techniques teachers use to talk with students in order to identify their knowledge mobilized after a shared creative music-making task inspired by abstract paintings. The video recordings of 29 small groups of students aged from 11 to 15 years old from seven different classes capture two precise moments during the lesson. The first of these moments is that of students presenting their final productions to their classmates and teacher. The second moment is when the teacher talks with his or her students about the composition process, and their final creation in relation to the abstract painting. The analysis shows techniques that teachers use in order to talk with students. This study helps to better understand teachers' strategies in order to successfully stimulate music learning in creative musical situations, and shows how different fields of students' experience are connected to music learning.

*Keywords:* teacher-student talk, shared creative music-making, musical knowledge

## Teacher Techniques for Talking with Students About Knowledge Mobilized During Creative Musical Productions

Learning starts with students' personal conceptions that are gradually transformed by contact with other situations and conceptions. According to Vygotsky (1925/1971), teachers can provide an appropriate learning environment in order for students to create artistically via conscious and unconscious processes, and through different associations. In music education, music making can be considered creative if its musical ideas are judged as new and appropriate to the task in relation to their specific field, subject and context (Amabile, 1993/1996; Gardner, 1993/2011; Mayer, 1999). Creative music making can facilitate different connections when students' transformative processes involve playing, imagination, fantasy, emotion, meaning and cognitive symbols (Vygotsky, 1925/1971; John-Steiner, Connery, & Marjanovic-Shane, 2010).

On one hand, students' imaginations offer a pathway towards reality, connecting different fragments of life (Peleprat & Cole, 2011) and opening different possibilities (Winnicott, 1971; Vygotsky, 1925/1971). Music learning cannot be disconnected from other fields of experience, which enable students to build musical competencies through 'metaphorical connections' (Oberschmidt, 2011). The fact is that students are able to invent and perform music together without knowledge of underlying musical concepts.

On the other hand, according to Gordon (2001) and Gruhn (2008, 2010), real music learning is based on the interaction between procedural knowledge – knowing how to play – and declarative knowledge – identifying the theoretical concepts mobilized during this activity. By observing students from 11 to 15 years old creating a short collective composition inspired by visual art, Chatelain (2017) found students use metaphorical connections to explain the way they find and organize their musical ideas. As this particular task is based on analogies between the visual and musical, they make various links between musical knowledge and other fields of experience. Therefore, musical understanding is associated with everyday life knowledge and skills. To foster music learning, it is essential to identify the specific knowledge which can be "hidden" in the metaphorical expressions used to link the visual elements to sound. In order for the student to become aware of this, the teacher has an essential role in establishing communication styles and forms of verbal interaction in the classroom during talking phases (Bruner, 1996; Edwards & Mercer, 1987).

**Teacher techniques used to talk with students and identify their knowledge mobilized.** In music education, as in other subjects in a school context, actions are important for learning but "talk is the principal tool for creating this framework. By questioning, recapping, and reformulating teachers are usually seeking to draw pupils into a shared understanding of the activities in which they are engaged" (Mercer, 2004, p. 145). Dialogues between teachers and students, for example in response to a teacher's questions, are ways of making connections between the content of learners' utterances and the technical terminology of the curriculum (Mercer, 2004). When talking with students, teachers use various techniques:

- to elicit knowledge from learners with direct elicitations or cued elicitations
- to respond to what the learners say with confirmations, repetitions, elaborations or reformulations
- to describe significant aspects of shared experiences with statements (we), literal recaps or reconstructive recaps (Mercer, 1995).

In music education, some teacher techniques give opportunities to students to talk about metaphorical connections made while making and learning music in the classroom (Byrne, 2005). After a music composition activity using creative collaboration between students, teachers can elicit certain technical or aesthetic aspects directly from students expressed as rules or music knowledge by asking open questions and reconstructing recaps, or by developing certain significant aspects of the music experience by repeating students' words or ends of sentences (Giglio, 2012, 2015). In this sense, teachers can also ask open questions with interrogative adverbs to help students talk about the parts of their creative music making unknown to the teacher – learning music through imagination, transformation and different connections. However, we must remember that talking can be limited in terms of illustrating musical actions in music activities because "music [itself] is a fundamental channel of communication" (Hargreaves, MacDonald, & Miell, 2005, p. 1).

**Research Questions.** All sorts of musical knowledge can be sought out and activated during students' creative music making. When this activity is linked to other artistic objects, students have to connect their musical experiences with metaphors, stimulating their imagination and involving knowledge from various fields of experience. As the teachers' challenge is to foster music learning by classroom talk, what techniques do they use to talk with students in order to identify their knowledge mobilized after a shared creative music-making task inspired by abstract paintings?

## Method

In this exploratory study, the techniques teachers used to talk with students in order to discover musical knowledge exploited during creative music making were observed. Two music education teachers participated in this study with their respective classes of 11 to 15-year-old students in Switzerland. Twenty-nine groups of four to six students composed short pieces of music, through collective music making, based on an abstract painting by Kandinsky or by Klee[1]. Students worked on their creations for two sessions of about 20 minutes each, and presented them to the whole class. Afterwards, the teacher talked with them in order to find out how they chose and generated their musical ideas. For this study, videoed extracts were selected from phase two (the mini-recital) and phase three (teacher-student talk). Based on the verbal transcription, the techniques that the teacher used to talk with each group of students were examined. The analysis seeks to explain (Mercer, 1995; Giglio, 2012):

- how the teacher employs different techniques in order to elicit knowledge from learners with direct elicitations or cued elicitations
- how the teacher responds to what learners say with confirmations, repetitions, elaborations or reformulations
- how the teacher describes significant aspects of shared experiences with statements (we), literal recaps or reconstructive recaps.

[1] V. Kandinsky « Thirty » (1937), P. Klee « Ad Parnassum » (1932).

## Results

The results are presented via extracts of the dialogues between the teacher and his or her students in which the context and the teachers' techniques used to question the knowledge mobilized which inspires students' creations are shown. During these moments, the teacher uses several techniques to make the students conscious of what knowledge they have in fact used. Our results partly confirm earlier findings from Mercer and from Giglio, especially regarding the use of open-ended questions to identify knowledge involved in the students' creative processes, the use of reconstructive recaps to enrich students' musical language and the use of statements to reformulate shared experiences. In this manuscript, we focus on four examples which illustrate differences when compared with previous research.

### *Excerpt 1: Between questions and repetitions (KA5/ Group 1)*

*Teacher A: How did you make this image into music?*
*Student 1: At the beginning, it made us think of an upside-down snake. The two instruments – the egg shaker and the maracas – kind of made the sound of a snake. Afterwards, we tried to find rhythms that went well with it all* [2].
*Teacher A: The rhythms went well with [the image]?*
*Student 1: Like a jungle.*
*Teacher A: What parts of the picture did you look at that inspired you? Can you point to them with your finger?*
*Student 1:* (shows the shape of the line in the picture) *That's the snake.*
*Teacher A: For you, that's a snake. And this line here: what instrument did you interpret it with?*
*Student 1: The earth?*
*Teacher A: Yes, yes, the earth. But how did you interpret this line here?*
*Student 2:* [shakes the maracas]
*Teacher A: With the maracas. OK.*

The teacher asks an open-ended question (*how did you . . . ?)* and a student replies by describing metaphorical connections made with a visual element interpreted as *an upside-down snake* and the sound of the maracas.

When the student uses metaphorical images, the teacher repeats the end of the student's sentence (*the snake, the earth*) so that the student can continue his or her idea. The teacher redirects the discussion in order to obtain information about the choice of musical elements. The teacher uses two techniques: the use of interrogative adverbs in open questions and the repetition of a student's statement in order to connect visual, imaginative references to his or her musical production. For example, the choice of an instrument like the maracas is admittedly connected metaphorically to the interpretation of the abstract painting, but other elements are also involved that belong to the student's imagination.

This choice is based on the sounds associated with the image of a snake, evoking a certain timbre, as well as on formal aspects such as the musical structure produced. Later in the lesson, the teacher revisits these connections in order to make the most of these metaphorical expressions, reformulated as musical explanations (recaps).

[2] Transcription convention: underlining to indicate the techniques used; for example, repetitions.

Afterwards, teacher Anna (A) alternates open-ended and closed questions in order to encourage shy students to give their explanations and describe their creation.

***Excerpt 2: Eliciting knowledge through open and closed questions (KA5/Group 3)***

> *Teacher A: Oh, look at that! You've found a rhythm. <u>How</u> did you organize that? That's what I'd like to know.* [silence] *Yes?* [smiles, silence]
> *You can't find any words? No? <u>Do you want me to help you a bit</u>?*
> *All students: Yes.*
> *Teacher A: I mean, you looked at the picture to compose some music – we know that. You looked at the picture - you needed the picture to compose something.* [The students nod their heads to show their agreement.]
> *Teacher A: OK. And when you looked at the picture, <u>did you look at specific elements of the picture or did you just say,</u> « that makes me think of this rhythm so I'll do that »? <u>Did somebody do something</u> with an instrument that you liked and then you just continued like that?*
> *I mean, either you just invented some music or you actually used the picture to do it.*
> *Student 1: At the beginning, we looked at elements like this A-shape and then that inspired us . . .*
> *Teacher A: It inspired you to do what?*
> *Student 2: It was the wind.*
> *Teacher A: It was the wind for you?*
> *All students: Yes.*
> *Teacher A: OK. And <u>how did you make that</u> with your instruments?*
> [Silence and smiles]
> *Teacher A: Because you're describing the picture to me, not the music. I mean, you've made music inspired by this picture.*
> *All students: Yes.*
> *Teacher A: I've understood that, but how did this music come to you?* [Subsequently, a student begins to explain their process.]

In this type of situation, the teacher seems to need to ask a whole series of questions, first closed, before the students can start to speak with ease. The teacher uses reformulations and the repetition of parts of sentences. This seems to give the students more self-confidence so that they can finally express themselves concerning their composition process.

The students are reassured by closed questions (for example, "*You can't find any words? No? Do you want me to help you a bit?")*. As soon as the students reply affirmatively, the teacher can move on to more open questions and finally get some information about the musical work.

In other cases, open questions encourage students to verbalize connecting metaphorical images with musical concepts. The teacher can therefore ask questions directly about mobilized musical concepts. Sometimes the teacher draws out mobilized musical knowledge straight away, as the following example shows:

***Excerpt 3: Direct elicitations including demonstration (KA3/Group 2)***

*Teacher A: What are you others doing?*
*Student 2: I'm going to try and beat on the dots.*
*Student 1: Oh yes, A.'s also going to play the maracas.*
*Teacher A: You're doing the same thing. OK, do it. Show me this line.* [students play]
*Teacher A: There you go. And afterwards, you'll play the dots.*

This excerpt shows that in music, talking can be limited in terms of illustrating musical actions, both technically and aesthetically. Consequently, the teacher asks the students to directly demonstrate the musical action ("*OK, do it. Show me this line.*"). The students do not seem to be conscious of the gestures they use, so the teacher articulates their gestures after having solicited the practical example (musical communication): "*You're doing the same thing . . . And afterwards, you'll play the dots."* In this way, the students follow the teacher's directions without actually being able to name the procedural knowledge mobilized, and less still any theoretical concepts. But the knowledge is metaphorically embodied in students' instrumental gestures. During the discussion, they progressively discover musical concepts like scales, staccato or ostinato due to examples being demonstrated on a given instrument.

What role does shared experience play between the teacher and the students in this process? The next example shows a phase of dialogue during a collaborative music-making activity with teacher Bruno (B), inspired by Paul Klee's painting, *Ad Parnassum.*

***Excerpt 4: Reformulating and describing significant aspects of shared experiences (KB3/group 5)***

*Teacher B: In any case, we recognized a stroke that goes up. I think that you agree with me. The piano gave us this magnificent . . .* [the teacher shows the gesture of a glissando without naming it]. *I can understand that in relation to the line we see in the painting.*

When talking with students, teachers can use a technique to describe significant aspects of shared experiences with 'we' statements: "*In any case, we recognized . . .", "I think that you agree with me"* and *"The piano gave us this magnificent [glissando]."* The performance of the musical gesture is a part of this shared experience. By replaying excerpts of their creation during the discussion, the teacher and the students listen together. From this moment on, articulated aspects can be discussed. It is the teacher's responsibility to redirect discussion towards links between visual elements (the stroke that goes up) and musical elements (the glissando), eliciting knowledge from the students via direct or cued elicitations. Therefore, the teacher can:

- respond to what learners say with confirmations, repetitions, elaborations or reformulations
- describe significant aspects of shared experiences with 'we' statements, literal recaps or reconstructive recaps (Mercer, 1995).

Finally, having shared musical experiences is an important component for learning through interactions. In the specific context of this interdisciplinary approach to collaborative music making, the musical gesture as an element of communication is worthy of greater attention. We argue that this non-verbal aspect is an essential part of teacher-student dialogue used to elicit musical knowledge.

## Discussion and Conclusions

The aim of this exploratory study was to identify techniques used by teachers to talk with students in class, linking musical knowledge with other fields of experience through metaphorical connections. This study contributes to understanding how teachers can help students to be aware of their knowledge mobilized during a creative task.

Music teachers need certain techniques to ask students questions, to elicit responses from students, to reformulate, to recapitulate and even to describe significant aspects of students' or students' - teachers' shared experience(s), summarized by the following points:

- using questions and statements to elicit the knowledge implicit in metaphorical descriptions
- varying between open-ended and closed questions to encourage students to express themselves
- using open questions to identify the knowledge involved in the students' creative process
- using reconstructive recaps enriches student's musical language
- combining direct elicitation and demonstration of musical gestures
- reformulating shared experiences by "we" statements.

This study underlines the crucial role teachers' techniques play when talking with students in order to identify and share joint understanding of musical knowledge by metaphorical connections and shared experiences.

On one hand, it shows how students sometimes mobilize and verbalize implicit knowledge metaphorically. On the other hand, this study invites us to subtly differentiate teacher-student talking techniques according to the specific teaching objective: to do, to act, to share, to pronounce, to describe, to connect or to conceptualize music, including non-verbal musical communication.

Indeed, talking with students can gather, explicitly or implicitly, different types of knowledge. That is the case, for instance, for some procedural knowledge which has not been explicitly mentioned by the learners, but rather shared by musical communication. Presumably, some musical knowledge cannot really be communicated through talking. Therefore, oral communication about music can be combined with demonstrations through musical communication. This specific perspective could be developed during further research.

Teachers' closed questions can be an obstacle to the collective reflexive process, interrupting the flow of classroom talk, but this study shows closed questions in a different light. Depending on students' reactions and their ability to express themselves about their method of working, alternations between open-ended questions about content and other closed questions about students' personal thoughts and feelings is a judicious technique to employ.

Finally, this study encourages us to consider other areas of students' experience in order to build students' musical knowledge together, and to inspire the development of this knowledge throughout lifelong learning.

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# Compositional Thinking in Classical Music Within a Computer-Mediated Composition Environment

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Abstract

This empirical study examines the relationship between cognitive thinking styles and composing strategies in classical music by analysing the work of 22 Hong Kong secondary students within a computer-mediated composition environment. A Yale scholar in psychology, Sternberg (1997), proposed that academic performance should not be the only indicator by which an individual's success is judged. Instead, the measurement of success ought to rely more on the contexts of thinking and teaching styles together with the learning environment. In the first stage, a survey of students' thinking styles was conducted to see which 'type' each belonged to. In the second stage, students' innate computer-related abilities were demonstrated by observing their approaches to computer-mediated composition of classical music. This study aims to identify a correlation between an individual's thinking style and his/her composing strategies. This correlation indicates three areas to emphasise in music curriculum development: (1) Personalised learning, which will help students develop composing strategies appropriate to different cognitive thinking styles; (2) The advantages of studying compositional thinking in a computer-mediated composition environment; and (3) The need to build students' musical identities during the classical music composition process. At the end of this paper, a learner-thinking model in computer-mediated composition is proposed.

*Keywords:* Cognitive thinking styles, composing strategies, computer-mediated composition, compositional thinking, classical music

*Note:* This computer-mediated composition project was supported by a grant from the General Research Fund of the Research Grant Council (RGC) to study compositional thinking and composing strategies within a computer-mediated composition environment. This study involved collaboration with a government-funded secondary school that owns 30 iMac music workstations; the students involved participated in a one-year ICT in music curriculum designed by the principal investigator. The 22 Form 4 students involved in this project composed classical music directly on the computer.

Compositional Thinking in Classical Music Within a

Computer-Mediated Composition Environment

Creative thinking is the dynamic process of alternation between convergent and divergent thinking, moving in stages over time, enabled by certain skills (both innate and learned) and by certain conditions, all resulting in a final product (Webster, 2003). Webster's (2003) model represents the creative thinking of both children and adults. It includes five different stages:

1. Product intentions - Composition performance, improvisation, creator's creative thinking.
2. Enabling skills - Thinking process, which involves skills such as convergent and divergent thinking skills (convergent: recognising rhythmic and tonal patterns; divergent: musical extensiveness, flexibility and originality).
3. Enabling conditions - Non-musical creative thinking process; for example, personality factors and environment (work conditions).
4. Working through - Revising, editing, having new ideas.
5. Creative product - Performance of composition, recorded improvisations, analysis of work.

Webster's (2003) model of creative thinking established a framework for the connection between music composition and creativity. However, no study to date has discussed the relationship between music compositional strategies and cognitive thinking style.

**Composing strategies.** During composing, both creative thinking and composing strategies are needed. In this study, the term 'composing' refers to the act of constructing and revising a piece over time. Composition strategy is defined as a plan involving significant decision-making processes that govern the overall composition. Folkestad, Hargreaves and Lindstrom (1998) claimed that the ways in which music is created varies between individuals and between different kinds of music. According to Folkestad, Hargreaves and Lindstrom's (1998) analysis, there are six kinds of composing strategies:

***Horizontal 1a:*** The compositional process represents a tonality that is not interrupted until the entire composition has come to an end; when a mistake is made during the recording, the whole piece is played and recorded from the beginning.

***Horizontal 1b:*** The composer works with an acoustic instrument, testing and recording track by track, instrument by instrument, while playing along.

***Horizontal 2:*** Composition involves trying different things out, element by element, until the melody and/or harmonies of the composition are correct from beginning to end; this method is largely based on improvisation.

***Vertical 1a:*** This method is characterised by the formation of various parts, which are clearly discernible musically; each section is completed for all instruments before the composer moves on to the next.

***Vertical 1b:*** The sound and the created sound structures have a central function, and the composer carefully selects particular timbres.

***Vertical 2:*** The composer defines which instruments will be included in the ensemble for which the composition is intended. When the tonal picture has been set, the musical contents of the various parts emerge during the course of work.

**Cognitive thinking style.** In addition to different composing strategies, every person has an individual thinking style. Sternberg (1998), an educational psychologist in cognitive psychology, distinguished between three kinds of thinking styles: legislative, executive and judicial.

Legislative people like to do things their own way, such as creating, formulating and planning. They like to make their own rules and may not want to do things the way others want them to. They prefer problems that are not pre-structured, so they can structure them for themselves. Moreover, they prefer creative and constructive planning-based activities.

Executive people are implementers. They prefer to be given guidance as to what or how to do what needs to be done. They prefer problems to be given to them and structured for them. They also like following and enforcing rules and laws. They are doers and take pride in this.

Judicial people like to evaluate rules and procedures and to judge things. They like to judge both structure and content. When they face difficulties, they prefer problems in which they can analyse and evaluate things and ideas.

This study will explore whether there is a relationship between these cognitive thinking styles and compositional strategies by focusing on how individuals with different cognitive thinking styles compose classical music and how they compose directly in a computer-mediated environment.

**Computer-mediated environment.** There are many advantages to software-based composing. Reese (2003) observed that students can quickly generate musical ideas and easily alter pitch, duration, tempo, tone colour and volume. Chen (2012) stated that musical software affords an easier entry into this experience than paper and pencil because it allows the direct manipulation of sound and gives immediate feedback to the composer about musical decisions. The computer acts as a kind of musical sketchpad: a form of simulator where one can get an idea of how the music will sound (Brandstrom & Hogberg, 1998). Paytner (2000) stressed that ‘composing’ means positioning things together, putting sounds together and being pleased with the results enough to remember them. ‘Composing’ should involve ‘real sounds’ rather than ‘notations’ on paper.

The definition of computer-mediated environment includes composition software that allows students to work with sound directly on the computer.

## Research Questions

1. What are the different composing strategies that can be found by observing how students compose classical music during the creative process of computer-mediated composition?
2. Is there any connection between cognitive thinking styles and composing strategies?

3. What are the characteristics of the compositional strategies associated with different cognitive thinking styles?

## Methodology

**Research design.** This project involved a one-year case study of secondary students aged 14 to 15 (*SD* = .4) during their computer-mediated compositional process at a band one secondary school in Hong Kong with well-developed ICT infrastructure. Their compositional process was captured through four data sources: (1) file analysis through cloud computing; (2) students' reflective journals; (3) individual interviews; and (4) composition sketches. Twenty-two students were involved, chosen as convenient samples because they selected the 'ICT in music' class (60 minutes each week) as their elective in the school music curriculum. The students used 30 Mac computer workstations at the school equipped with notation software (Sibelius) and sequencing software (Logic Pro).

### Data Collection

1. Digital file analysis - A total of 528 digital composition files (24 files x 22 students = 528) were collected over two semesters. Through cloud computing, digital composition files were backed up and retrieved for file analysis.
2. Reflective journal - The students' reflective journals were collected in the second semester. Through self-reflection, the intentions of student composers were recorded, such as musical styles, listening influences, decision-making and problem-solving.
3. Individual interviews - Three students with the highest scores in their respective thinking styles based on the student survey in the first semester, were selected as in-depth case studies. Interviews were conducted at the end of each composition task to investigate: (a) what previous knowledge and skills were valuable in composing strategies; (b) what skills and knowledge were regarded as most necessary during their compositional process; (c) whether students felt the lack of any skills or knowledge during their compositional process; and (d) how ICT equipment could enhance or improve their skills or knowledge during the compositional process.
4. Compositional Sketches - Twenty-two compositional sketches were collected. During the brainstorming stage, students were asked to sketch their ideas on paper. They could use different kinds of shapes, lines or colours to express their ideas. The ideas could be the use of instruments, musical form or their feelings. These sketches led to a better understanding of students' compositional planning, musical styles and strategies.

Triangulation with the intention of the student and the researcher's file observation was used to cross-check the validity of the file analysis. Individual interviews revealed the skills or knowledge necessary to their composing strategies and how computer-mediated composition helped realise their compositional thinking.

**Selection criteria for case studies.** To deeply analyse students' ideas, compositional strategies and problem-solving skills, one student from each thinking style was chosen.

As stated earlier, a survey designed by Sternberg (1998) was conducted during the first stage, and the scores of the 22 students were collected. Students with the highest scores in their

respective thinking styles were selected as in-depth case studies. Subsequently, their digital files, sketches and reflective journals were closely studied and analysed. During digital file observation, students who developed more musical ideas in their composition each week were selected if more than one student scored the same in the survey.

## Results

Following the survey conducted in the first semester, three students were selected from each cognitive thinking style category: legislative, executive and judicial. Using the four data sources, their composing strategies were analysed based on Folkestad, Hargreaves and Lindstrom's (1998) categorisation of six kinds of composing strategies: ***Horizontal 1a, Horizontal 1b, Horizontal, Vertical 1a, Vertical 1b*** and ***Vertical.*** In each case, the correlation between cognitive thinking style and composing strategies was identified as creative-driven, formula-driven or critical-driven. To systematically analyse the digital file, the first and fourth files were saved and compared as a 'pre-test' and 'post-test' so that the change in the creative process could be observed. These files were triangulated with their sketches (composer's intention), reflective journal (their own voice) and individual interviews (creative thinking in music) to increase the validity and reliability of this exploratory study (see Tables 1-3).

Table 1

*Legislative Thinking Style* (*Creative-driven*)

| Characteristic/ Category | Description |
|---|---|
| Legislative Thinkers | People with legislative thinking style like creating and formulating. They also like planning things and making their own rules. |
| Sketches | A clear plan involving melody, counterpoint and different parts in accompaniment. Her composition was also similar to her planning in her sketch, which showed that she like planning and formulation. |
| Digital File Analysis | She continued to develop her accompaniment part by using harmony and different instruments while she was creating and formulating her composition. She composed new elements for the flute part (counterpoint) and made use of suspension, which demonstrated her composition strategy. |
| Reflective Journal | Although she did not like making plans, she had a clear and detailed plan in her head. She had a clear idea of form, lines, style, meaning and sound in mind. She liked planning things and then formulating them. |
| Interview | Her mental plans included texture and instruments. Most of the details of the composition were in her head rather than sketches. She likes planning. She practiced a few times before recording with both hands. |

| | |
|---|---|
| | When a mistake was made, the whole track would be deleted. She agreed that the compositional strategies were both horizontal 1a and vertical. Staccato melody for the second part was suggested to her. She then planned the whole part, sang it out, revised it and finally recorded it. She planned everything. |

Comparing the data in Table 1 shows that legislative thinking style is related to the compositional strategies of legislative thinkers (creative-driven). Common characteristics include a tendency to formulate, create and plan things. People with legislative thinking style compose in both *horizontal* and *vertical* ways.

Table 2

*Executive Thinking Style* (*Formula-driven*)

| Characteristic/ Category | Description |
|---|---|
| Executive Thinkers | People with executive thinking style prefer to be given guidance. They like following rules and prefer problems to be given to them and structured for them. |
| Sketches | The characteristics of waltz were clearly evident including 3/4 meter, melody with accompaniment, homophonic texture. |
| Digital File Analysis | Mostly composed in horizontal style. The melody did not change from the first to the fourth file. She developed the harmonic progression according to the melody. Teacher suggested that she add a new form by changing the melody to minor and explore new instruments for the minor melody. She followed this suggestion, which showed that she followed instructions and preferred problems to be structured for her. |
| Reflective Journal | The idea came from a waltz in the movie *La La Land*. She listened to more waltz music. She was trying to follow the musical elements of a waltz. When she faced difficulties, she sought help and used those ideas. She tried to ask people to structure the problems for her. |
| Interview | A song from *La La Land* and a waltz from 'The Children's Pieces' (her favourite piece) inspired her. All her plans were drawn in the sketches. She composed the melody first and then added the harmonic progression part one by one. Horizontal composing strategies were shown. When she lacked ideas, the teacher suggested she add a minor part. Therefore, the second part was in minor. She preferred problems to be given to her. |

Collectively, the data in Table 2 shows that executive thinking style is related to the compositional strategies of executive thinkers (formula-driven). They share the common characteristic of following rules and guidance. Mostly, the **horizontal method** is used in executive thinkers' composing.

Table 3

*Judicial Thinking Style* (*Critical-driven*)

| Characteristic/ Category | Description |
|---|---|
| Judicial Thinkers | People with judicial thinking style like to evaluate and judge. When they face problems or difficulties, they will analyse and evaluate things by themselves. |
| Sketches | During brainstorming, she engaged in clear planning such as dividing the piece into two sections – one in homophonic texture and another in monophonic texture. The composition was however totally different from the planning in the sketch. The musical ideas in the composition were more creative. |
| Digital File Analysis | The composition was mostly vertical in style. The student explored many new ideas such as instruments, melody, rhythm, etc. that interested her. The teacher suggested bassoon to her and composed a line in demonstration. She took the bassoon part but composed a new line herself, which showed that she analysed and evaluated ideas. |
| Reflective Journal | She did not like to stick to a plan, as many new ideas popped up. She judged the spontaneous ideas before she used them. She changed plans constantly. New ideas were preferred, which clearly showed that she evaluated and judged ideas. She collected opinions from teachers and students. Before using them, she tested and evaluated them, finally picking the best one. This procedure involved evaluating and judging things. |
| Interview | She had a complete picture of each part but recorded them line by line. If she made a mistake, she would delete the whole track. If it was the harmony part, she would check whether it was affecting the melody or accompaniment. She agreed the composing strategies were mostly vertical and she considered this issue before deleting the track. She listened to the bassoon part suggested by her teacher and found its timbre interesting but the melody unsuitable; therefore, she composed a new melody herself. She evaluated it before using it. When evaluating her work, she found that it sounded somewhat clumsy because many |

instruments were used. She listened to each track one by one, adjusted the dynamics (automation) to bring out each part of the piece.

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In Table 3, the data collected show that judicial thinking style is related to the compositional strategies of judicial thinkers (critical-driven). They share the common characteristics of analysing, evaluating and judging things. When composing, judicial thinkers mostly think *vertically*.

## Discussion

**Personalised learning in computer-mediated composition.** This study uncovered the relationship between cognitive thinking style and compositional strategies in computer-mediated composition. This result suggests that 'one-size-fits-all' teaching cannot adequately develop students' full potential in composing.

Broeker (2006) claimed that a controlled environment could potentially change the end product. Moreover, Folkestad, Hargreaves and Lindstrom (1998) suggested that teachers should not teach composition methods but rather create a context in which students can explore their own ways into music composition. Learning should be an enterprise in which students search for new discoveries and experiences, using the teacher as a guide or resource when needed.

In this project, teachers encourage different composing strategies according to students' cognitive thinking styles – that is, personalised learning, which can provide a better composing environment. Such an approach prevents the situation described by Broeker (2006), in which a controlled environment changes the end product and limits students' creativity.

**Compositional thinking as a personalised creative thinking in music composition.** Webster (2013) suggests that compositional thinking by students is vitally important, because it both increases musical intelligence and increases the likelihood of creative achievement. The definition of music composition intelligence is that students have a natural capacity for thinking in sound for compositional purposes. This capacity is not just a talent of 'gifted' individuals, but a natural part of musical intelligence that is present to some extent in all individuals. This study's findings identified three major composing pathways related to the three different cognitive thinking styles: creative-driven, formula-driven and critical-driven.

**Musical identity in computer-mediated composition.** Based on this study, teachers can reinforce students' musical identities during the composing stage. Although we cannot ask every student to do a survey to identify their individual cognitive thinking style, we can observe their thinking style during the creative process and guide them with proper composing strategies. Students can then reference relevant composers, scores, recordings and theories suggested by the instructor to develop their own musical identities and compositional thinking through the computer-mediated composition environment. Therefore, students can engage in their own learning experiences in the digital environment through the three E's (experimentation, exploration and evaluation) to develop their own musical identities.

**A proposed 3Es learner-thinking model in computer-mediated composition.** In Figure 1, the student starts with personalised learning in computer-mediated composition to

discover what kinds of musical style or instrumentation they would like to use. During the creative process, different kinds of cognitive thinking styles and composing strategies are formulated and they develop their own ways of compositional thinking. Students explore different musical ideas directly within the computer-mediated composition environment. They refine their ideas and 'create their own sound' in the piece, developing their musical identities. To finalise the creative product, students continue listening to and evaluating their piece until it represents their musical identity.

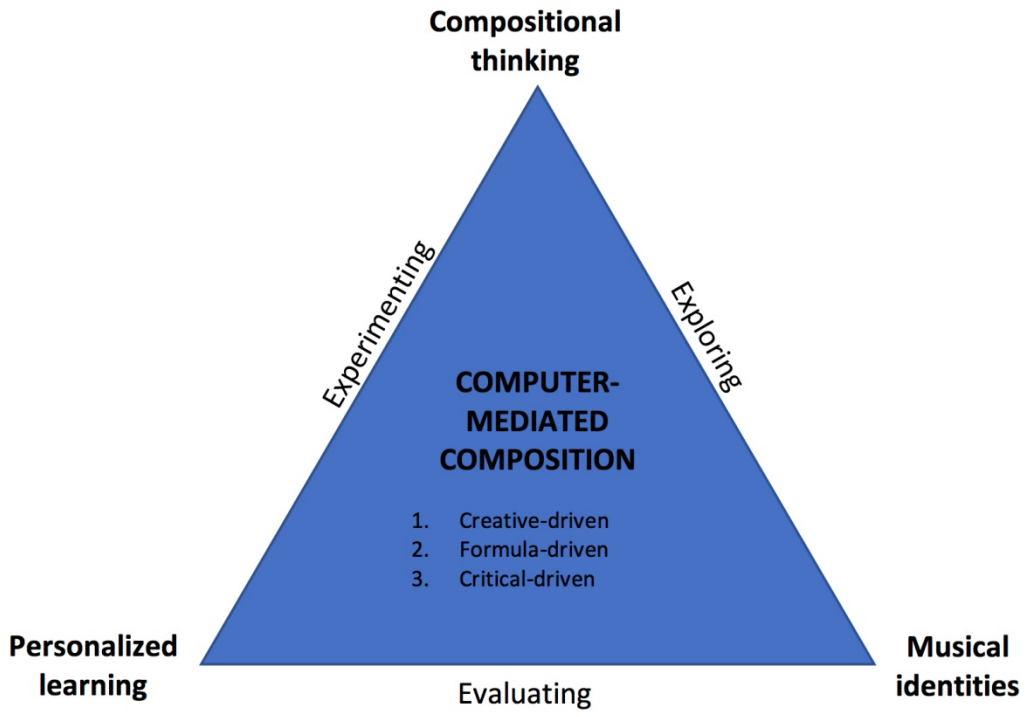


*Figure 1*. 3Es learner-thinking model in computer-mediated composition

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Students' digital files
1. Creative-driven: https://youtu.be/0fKguP4th5s
2. Formula-driven: https://youtu.be/gXYawjH09hM
3. Critical-driven: https://youtu.be/cS8ezMy6aw8

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# Tradition, Camaraderie, Respect, Passion, and Performance: Italian and American Musicians' Perceptions of the Community Band Experience

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Abstract

We examined perceptions of benefits and reasons cited by Italian and American community band participants. The paper reports the qualitative data generated from open-ended prompts. Themes ($n$ = 79) were identified and frequency counts were taken for each. The most frequently-noted themes across all responses as well as the largest differences in theme prevalence between Italian and American responses are reported. Italians participate in community band primarily because of camaraderie; Americans for performance and love of music. Italians' memorable experiences were strongly associated with travel while the Americans cited specific performances. The most important things learned through the experience for all were musical growth and camaraderie. Suggestions for improving the community band experience focused largely on practice, preparation, rehearsals, and repertoire. Responses from both groups demonstrated more similarities than differences in perceived benefits derived from community band.

*Keywords:* community band, adult learning, community music

Tradition, Camaraderie, Respect, Passion, and Performance:

Italian and American Musicians' Perceptions of the Community Band Experience

The United States and Italy enjoy robust musical traditions including the wind band. Once Eurocentric, wind bands are now widely prevalent (Dubois, Méon, & Pierru, 2013; Sheldon, 1998). Italy has strong musical communities evidenced by numerous town bands, many dating to the mid-late 1800s. The US shares the spirit of community in town bands. The nearly-3,000 US community bands are outlets for social interaction and enjoyment (Cavitt, 2005).

Community band research is growing. According to Rohwer (2016) many studies ". . . have documented consistent trends of positive perceptions and benefits from participating in bands" (p. 22). Community music making has long been woven into society's fabric (Cross, 2006; Higgins, 2008; Leglar & Smith, 2010); adult musicians derive innumerable benefits that enhance quality of life (Rohwer & Rohwer, 2009; Shansky, 2010; Sheldon, 1998). Participants enjoy positive effects of community music-making on self-esteem, cognitive skills, mood and emotions, and mental health (Carucci, 2012; Hallam, Creech, Varvarigou, & McQueen, 2012; Kostagiolas, 2015; Kokotsaki & Hallam, 2011; Kruse, 2012). Development of self-efficacy seems to stem from pursuit of musical skillfulness, sharpening performance abilities, and friends' support (Dabback, 2010; Kruse, 2012). Community bandsmen value musical, social, and personal components of the experience (Coffman, 1996, 2008; Kruse, 2012; Mantie, 2012; Roberts & Farrugia, 2013; Rohwer, 2016; Sheldon, 1998).

Confredo (2016) conducted an extensive survey of Italian ($n$ = 225) and American ($n$ = 3,044) community bandsmen to identify similarities and differences in perceived benefits regarding the band experience. Respondents agreed that the experience has an important, positive impact on the development of personal musical skills and that it contributes to aspects of health, happiness, personal growth, and well-being. Confredo's results aligned with previous research with international samples (Coffman, 2006, 2008; Jutras, 2011; Mantie, 2012).

Extant data provide a compelling view of perceived benefits of the community band. Given that community music making is so robust in the US and Italy, we wondered whether participants' perception of benefits would be similar. Do outcomes of community band transcend language and geography? Can the rewards be considered universal? We examined perceptions of benefits and reasons for participation in and devotion to Italian and American town bands. This is a report of qualitative data generated from Confredo (2016). Herein, we delve more deeply into perceptions of benefits of community band participation expressed by Italian and American participants in response to a series of open-ended questions.

## Method

Using rosters of the American Association of Concert Bands (ACB) and the Associazione Nazionale Bande Italiane Musicali Autonome (ANBIMA), data were collected via a web-based survey, an aggregate of appropriate concepts derived from three related studies (Coffman, 2008; Jutras, 2011; Mantie, 2012). English and Italian versions were emailed to conductors and other officials of the ACB and ANBIMA organizations who encouraged musicians' participation.

Participants were Italian ($n$ = 111) and American ($n$ = 1,797). We selected a random sample of 317 participant responses from all American responses. This sample size is based on recommendations from Patten (2014). All 111 Italian responses were included. Bandsmen, in their native language, answered a series of four open-ended prompts which asked them to

provide information based on their community band experiences. Italian responses were translated, first with Google Translate. With a working knowledge of conversational Italian, authors reviewed responses together and discussed meaning for accuracy. Authors again reread the Italian and further revised.

Italian responses were considered first in the preliminary analysis. Authors independently read approximately one-third of total responses to the first question, noting emergent themes. They compared findings, agreed on common wording for similar themes, and merged themes into a single list. This process was repeated and used to create a preliminary four-part qualitative codebook (i.e., one for each of the four open-ended prompts).

Using the preliminary codebook, we re-read and coded the same Italian responses, highlighting any not easily fitting within the initial codes. We collectively considered all highlighted responses and reached consensus coding. When minor codebook modifications were necessary, all responses within a single prompt were re-checked and re-coded to fit with the updated codebook. This process was followed for all questions for both groups.

We attempted to code American responses using the initial Italian codebook. However, new themes emerged and those uniquely American themes were added to the codebook. The final codebook contained 79 themes within responses to the four prompts. Though many themes were unique to a single prompt, some were repeated across two or more parts of the codebook. Coded response frequency counts were taken for each theme. We reported the most frequently-noted themes across responses (20% occurrence or higher), and the largest differences in theme prevalence between Italian and American responses.

## Results

In Question 1, respondents shared main reasons for band participation (22 categories). Italians were motivated by issues of camaraderie (60.36%). This category constituted the largest difference between groups. Americans reported main reasons for band participation as performance and love of music (64.35%), also important to Italians (50.45%). Camaraderie was the second largest category reported by Americans (27.76%). All feel strongly that music and a sense of belonging are important. Other primary reasons were: positive emotions/feelings (It – 44%; Am – 21.8%); community involvement (It – 24.32%; Am – 3.47%); musical growth and skills development (It – 13.51%; Am – 16%); personal story/history (It – 12.61%; Am – 8.52%); return to music after extended absence (It – 0.0%; Am – 11.99%); service/leadership (It – 9.01%; Am – 5.99%); wellness/therapy (It – 3.6%; Am – 7.89%); music education (It – 5.41%; Am – 3.15%); family (It – 5.41%; Am – 4.73); other (It – 4.5%; Am – 2.21%); leisure/hobby/recreation (It – 3.6%; Am – 5.99%); respect (It – 2.7%; Am – 1.26%); collaboration (It – 2.70%; Am – 0.63%); travel (It – 1.8%; Am – 0.32%); competition (It – 1.8%; Am – 0.0%); invited/persuaded (It – 0.90%; Am – 8.20%); specific performance (It – 0.90%; Am – 158%); interaction with other musical groups (It – 0.90%; Am 0.0%); youth involvement (It – 0.90%; Am – 0.0%); teaching opportunities (It – 0.90%; Am – 0.0%)

In Question 2, respondents shared memorable band experiences (18 categories). While 45.05% of Italians reported an experience connected with travel, only 5.05% of Americans cited travel-associated experiences. Americans most often recalled experiences connected with specific performances (43.53%). For Italians, this was the second most frequent response category (34.32%). Americans cited performance as second most frequent response category. Other memorable experiences included: general performances (It – 28.83%; Am – 22.71%); competition (It – 22.52%; Am – 0.32%); interaction with other musical groups (It – 13.51%; Am

– 3.79%); other (It – 3.6%; Am – 11.99%); personal story/history (It – 6.31%; Am – 9.46%); repertoire (It – 0.90%; 9.15%); experience with guest conductor/composer/artist (It – 9.01%; Am – 4.10%); musical growth and skills development (It – 4.5%; Am – 5.99%); rehearsal (It – 0.0%; Am – 5.68%); parties/social gatherings (It – 5.41%; Am – 4.10%); family (It – 4.5%; Am – 5.36%); camaraderie (It – 0.0%; Am – 5.05%); audience response/interaction (It – 4.5%; Am – 4.73%); play solo (It – 1.8%; Am – 4.10%); youth band involvement (It – 2.7%; Am – 0.32%); conductor interaction (It – 0.0%; Am – 2.52%).

In Question 3, respondents listed three of the most important things learned in band (18 categories). Both groups most often reported musical growth and development, and camaraderie and friendship. Musical growth topped Americans' list (53%), then camaraderie (42.27%); with transposed order for Italians (camaraderie = 57.66%; musical growth = 44.14%). The largest area of difference was collaboration. Many Italians (36%) discussed lessons learned about working with others; only 4% of Americans referenced collaboration. Other learned elements were: accountability/service (It – 28.83%; Am – 23.34%); respect (It – 26.13%; Am – 5.36%); patience/personal skills/managing emotions (It – 21.62%; Am – 24.92%); positive feelings/emotions (It – 22.52%; Am – 22.40%); intergenerational connections (It – 14.41%; Am – 2.52%); performance (It – 12.61%; Am – 5.99%); lifelong learning (It – 3.6%; Am – 11.36%); music education (It – 6.31%; Am – 4.10%); other (It – 22.70%; Am – 5.99%); community/group service (It – 2.70%; Am – 5.36%); wellness/therapy (It – 3.60%; Am – 4.73%); repertoire (It – 2.70%; Am – 2.52%); conducting (It – 0.90%; Am – 1.26%); tradition (It – 0%; Am – 0.95%); guest conductor experiences (It – 0.90%; Am – 0.63%).

In Question 4, respondents shared things to improve the band experience (21 categories). Responses were widely varied. The most often cited Italian response was practice (30.63%). For Americans, it was practice (25.24%) and repertoire (25.87%). That about 12% of Americans cited "nothing/not sure" indicates most feel satisfied. Other areas for improvement were: additional educational opportunities (It – 26.13%; Am – 4.73%); repertoire (It – 16.22%; Am – 25.87%); commitment/working together (It – 23.42%; Am – 14.51%); collaborations/exchanges (It – 22.52%; Am – 0.95%); additional musical opportunities (It – 22.52%; Am – 16.09%); specific musical skills (It – 16.22%; Am – 11.36%); organization, communication, procedure, scheduling (It – 13.51%; Am – 15.77%); instrumentation/ membership (It – 4.50%; Am – 15.46%); equipment, funding, venue, support (It – 15.32%; Am – 14.83%); ensemble/musician quality (It – 6.31%; Am – 11.67%); developing intergenerational connections, youth (It – 9.91%; Am – 2.21%); conductor (It – 0.90%; Am – 9.15%); proximity to rehearsal venue (It – 0.90%; Am – 8.83%); greater valuation of band, publicity (It – 8.11%; Am – 7.57%); sectional rehearsals (It – 0.90%; Am – 6.31%); other (It – 5.41%; Am – 5.05%); upholding traditions, values, culture (It – 5.41%; Am – 0.63%); rotating musical parts/chairs (It – 2.70%; Am 3.15%); more socializing (It – 0.90%; Am – 3.15%). Selected narrative to all questions is found in Table 1.

Table 1. Selected Narrative to Open-Ended Prompts

| 1. What are the main reasons why you are part of the band? | |
|---|---|
| Italian | American |
| *They are part of a band because the band is the cultural-musical environment closer to the people and to popular culture and is certainly the ideal type of association for those who want to approach proactively to music. Of course, on this basis it consists of desire to do, to play and to learn. It creates a real group of friends who can share many interests and passions and with whom you can have a wonderful and unforgettable moments!* | *Playing music with others is a passion of mine. I don't care if we are performing in front of people or just rehearsing. I experience the time during a song as a magical time. It's as close to a religious/ spiritual experience as I can get. I have nightmares if I go too long without playing music with others. My involvement in the band keeps me from having those nightmares.* |
| *I grew up in the band. It is where my parents played. The passion to play has come as a result. And the band has become my second family.* | *I went for 53 years without playing, (I'm now a retired professor of math), but was challenged to start playing again by a colleague. Also, I thought it would be an interesting experiment, just to see what happens when I pick up the instrument after so many years.* |
| 2. Describe the most memorable experience with this band. | |
| Italian | American |
| *Here are two – the first happened during a parade. A child from the stroller looked at us with wide eyes and imitated us musicians blowing at full speed into a kazoo. The second happened during a test. Of the five flutists, I was picked to play a solo. A trumpet player had to make an entrance. Except that he did not, and when the conductor stopped us and asked the musician why he did not come in he responded: "Sorry, I was listening to Laura play."* | *Almost too many to mention: performances in Carnegie Hall and the Kennedy Center for the Performing Arts; two trips to Europe for concerts at international festivals; amazing guest artists; annual "side-by-side" concerts with talented area high school musicians; challenging music; annual recording project (Volume 27 and counting).* |
| *We made a partnership in Switzerland. We played in a shed of the parties where the music was not significant part for the Swiss, but the important part for them was the food. We slept in a war bunker in a sleeping bag, and this has allowed the harmony of the group with dances* | *I have to say that for me each rehearsal, each concert and all the preparation we do is so exciting to me. I love the band, the members, and the directors. This band has added so much to my life. It helps me relieve stress and it has helped me gain* |

| | |
|---|---|
| *and music (among us). This demonstrates that even if we were not greeted warmly, the music has overcome everything and allowed us to live a strong friendship experience.* | *confidence. I am proud to be in this wonderful band.* |

3. List the three most important things you've learned through your experience in the band.

| Italian | American |
|---|---|
| *To be together with others to create and build one of the most profound things and fantastic that exists in the world . . .*<br>*The music, pure and perfect. I learned that friendship can become even deeper thanks to the music and that any harm can be disintegrated by a musical chord.*<br>*I learned a lot more than three things, but all are too many to list . . . and then I do not remember! I remember, however, that music and tonight I'm late so I can not write much.* | *1) The joy of becoming part of something bigger than myself.*<br>*2) Learning to work with people who may be very different from myself, but who are united with me in creating something beautiful. We each have something unique and valuable to contribute to the whole.*<br>*3) Listening in a whole different way – analyzing orchestration choices, understanding balance of parts . . .* |
| *Live in harmony with others.*<br>*Respect the ideas of everyone, even if you disagree.*<br>*With the determination and commitment you can achieve great results, even not being a professional.* | *That we are more as musicians than the sum of our parts. That music was and will always be a universal language. That our common interest as musicians overrides whatever our socioeconomic status.* |

4. List three things that could improve your experience in the band.

| Italian | American |
|---|---|
| *Study, comparison with musicians from different bands, improvement of interpersonal relationships between colleagues.* | *1. People need to practice*<br>*2. People need to leave ego at the door*<br>*3. People need to help others play their instruments better.* |
| *The opportunity to be directed by different masters and the chance to play with people from other groups, and more study of the instrument* | *More challenging music. More efficient rehearsals. More sectional rehearsals.* |
| *Organize masterclass with professional musicians, who can technically improve the musicians.*<br>*Organize musical journeys yet to see different musical cultures.* | *More rehearsal time, more concerts, and a wider range of music* |

*Organize to participate in a contest to measure the level of preparation and plan a future development*

## Discussion

When asked why they participated in community bands, most respondents cited performance and camaraderie as key in addition to sense of group and belonging. Results corroborate quantitative data (Confredo, 2016) that sociocultural issues are important to American and Italian respondents. We were struck by the deeply personal commentary shared by many.

Although, for Americans, camaraderie was important, performance was the most frequently cited reason for membership. Some summarized this sentiment, "*I want to have the fun of playing in a concert band.*" . . . "*To return to doing what I once loved very much.*" . . . and simply, "*Make music.*" Performing, and *performing with others* are strong motivating factors for why musicians from both countries play into adulthood.

Competition, travel, and performance at special events are important, particularly to Italians. While some similar aspects were cited by Americans, competition was missing. We assume that Italian band programs and competitions are interwoven with the experience. In American culture, competition is associated mostly with high school marching and concert band. Competitive performance is largely absent in US community ensembles. It is not clear why the American community band culture does not value competition like the Italians. Competition may be a validating force in Italian culture. In American culture, however, adjudications occur as a structured part of many school music experiences, sometimes validating a music teacher and the program. There is a parallel between Italian community band and American high school band motivators for ensemble performance due to competition. This interesting aspect begs greater inspection.

Italians often cited travel opportunities. Travel is sometimes part of US school band activities, but was rarely cited by American respondents. Further study into community band travel might provide insight into Italian cultural characteristics not common to the US. Since travel carries a socialization component, it may be an extension of importance placed on friendship and camaraderie by Italians.

Most respondents said performance at special concerts and events was significant. Italian events are often culturally-based (e.g., religious celebrations, saint feast days). Americans more often cited participation at seasonal performances, commemorations, and patriotic observances. Special events create poignant memories that were joyfully recounted. This outcome substantiates data that support the referential nature of music and its power to magnify experience and shape memory.

While Americans want repertoire to reflect personal preferences and be more challenging, programming for community bands can be tricky. Conductors must consider many elements. If repertoire demands exceed musicians' capabilities, performances may be compromised and developing music learners disenfranchised. However, if repertoire is too simple, boredom and, possibly, termination are risked. Astute conductors also consider audience appeal. The band offers a service for an audience, thus obliging conductors to take musical preference into account. Conductors of non-auditioned ensembles might identify musicians who

would benefit from greater musical challenges, incorporating experiences such as featured soloists, chamber music, and section features into the community band activities.

Italians and Americans agreed on the desire for additional musical opportunities. They want *more* of what they derive from their bands. They enjoy the experience; adding related opportunities would make it better, deepening the adult music learning process.

We were heartened that respondents agreed that their biggest take-aways are development of musical growth and camaraderie. In a world rife with segregation, negativity, and hostility, it is inspiring that respondents feel band experiences help them to work cooperatively.

Italians and Americans are more alike than different in perceived benefits of community band participation. Beyond enjoyment, they continue to grow musically and personally. The expressions of passion for this activity should be read by music educators everywhere. If we are not working towards helping young musicians to realize that a musical life is a life fulfilled, we are not working hard enough.

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# Arab Students' Perceptions of University Music Education in the United Arab Emirates: A Discussion of Music Education and Cultural Relevance

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Abstract

To be a twenty-year-old in the United Arab Emirates (UAE) requires the ability to juggle opposing worlds. The fast-paced hyperactivity of commerce and development—tallest buildings, firsts in the world— counters the interconnected family with traditions that represent shadows of a tribal past. Although, globalization has undoubtedly transformed the UAE, many cultural traditions and values remain deeply embedded within society. Musical traditions, however, have been profoundly impacted both by the Westernized media and the subsequent religious reaction to it. Within UAE society, the intersection of globalization and religion has manifested in complex and varied musical discourses.

The purpose of this study was to explore with five Arab young adults their perceptions of Western and Arabic musical cultures as well as their perceptions of the Western classical vocal teaching they experienced at an American-modelled university in the United Arab Emirates. Of particular interest were issues of cultural relevance and the role of music and music education in Arab society. Data collection methods for this study included individual, semi-structured interviews with each participant and three focus group discussions. Based upon current literature, four research questions were developed and provided the foundation for the interview protocol. The research questions focused on the following themes: (a) participants' beliefs about Arabic music; (b) participants' beliefs about music in Gulf society; (c) participants' perceptions of their university Western classical vocal teaching; (d) participants' perceptions of Western classical and Arabic classical singing aesthetics.

This paper will explore the following three themes from the interviews and focus group discussions pertaining to music education: *Theme 1: Western classical music teaching was culturally congruent and incongruent; however, the university music experience was transformative. Theme 2: Lack of music education has cultural implications. Theme 3: Participants have a strong personal connection to Arabic music, and Arabic music provides bridges to home.* Using Paris' conception of *culturally sustaining pedagogy* as a theoretical lens through which to view participants' perceptions of music and music education in the UAE as well as the juxtaposition of heritage and emergent musical traditions within a globalized-traditional society, issues of cultural relevance, personal transformation, and musical identity will be further discussed.

*Keywords:* cultural relevance; music education; UAE; United Arab Emirates

# Arab Students' Perceptions of University Music Education in the United Arab Emirates:

## A Discussion of Music Education and Cultural Relevance

To be a twenty-year-old in the United Arab Emirates (UAE) requires the ability to juggle opposing worlds. The fast-paced hyperactivity of commerce and development—tallest buildings, firsts in the world— counters the interconnected family with traditions that represent shadows of a tribal past. Although, globalization has undoubtedly transformed the UAE, many cultural traditions and values remain deeply embedded within society. Musical traditions, however, have been profoundly impacted both by the Westernized media and the subsequent religious reaction to it. Within UAE society, the intersection of globalization and religion has manifested in complex and varied musical discourses.

The complexity of these musical discourses first became apparent to me when I was hired to teach Western classical voice at a university in the UAE. Although the university was an American-modelled university, most of my students were Arab. As a Western-trained musician, I was confronted with the question, "How can my teaching be relevant for my students?" Over the course of six years, I was enriched by my students' musical cultures as well as their enthusiasm and interest in other musical epistemologies. Upon returning to the United States, I began to reflect upon my musical encounters in the UAE. How was I to describe the complex ways in which music existed within the educational space in which I worked and within the broader UAE society? To answer that question, one year later, I returned to the UAE to conduct interviews and focus group discussions with five of my former students. I hoped that their perceptions might shed light on musical discourses within the UAE and Gulf society and the ways in which religion, tradition, Westernization, and cultural plurality influenced those discourses. The coexistence of cultural, religious, and ecological paradoxes within the UAE creates a society that one might describe as a microcosm of today's globalized world. Therefore, the ways in which musical culture and beliefs about music education manifest within this globalized society may be of interest to music educators from varying locales and landscapes.

**United Arab Emirates: Historical Context and Background.** Since 1970, the United Arab Emirates (UAE) has transitioned from a traditional, Bedouin, pearl-fishing and tribal community to a modernized, urban, and cosmopolitan leader in the Gulf region (Fox, Mourtada-Sabbah, & Al Mutawa, 2006). Globalization and the mass influx of Western media have significantly impacted music in the Arab world (Frishkopf, 2010). Prior to mass media production, music greatly contributed to a collective cultural identity. Sacred and secular music occupied the same social space and were motivated by a similar value system. Singers, like Umm Kulthum, "trained their voices in the call to prayer (*adhan*), Qur'anic recitation, or religious hymnody" (Frishkopf, p. 10).

In the UAE, mass media production and the transition of music into public space caused a religiously conservative reaction (Frishkopf, 2010). This created a sharp divide between religious and secular music and the ways in which they functioned in society. Religious music continued to be "tied to live social contexts (ritual)" (Frishkopf, p. 11), whereas, secular music was removed from them.

In addition to social function, the music of the UAE was further impacted by the religious reaction to mass media (Frishkopf, 2010). In the 1970s, music in the UAE flourished as local musicians contributed to a rich musical community. However, religious conservatism and the

increased availability of music media in the 1980s and 1990s impaired local music production. Live performance by local musicians was replaced by imported music and foreign musicians. As a result, local musicians began to adopt foreign musical elements. This has manifested today as a "nonlocalized contemporary Gulf style of music, rather than the heterogeneous assortment of styles and genres of the past" (Frishkopf, p. 120).

## Theoretical Framework

Paris (2012) proposed *culturally sustaining pedagogy* (CSP) as a means of addressing cultural plurality and fluidity in education because he believed that terms like *relevant* and *responsive* could not adequately address the needs of a pluralistic society. These terms refer to the way in which a student's culture is used to teach him the dominant culture. CSP, on the other hand, aims to perpetuate and encourage cultural plurality. This pedagogical stance is strongly supportive of students' cultures rather than merely responsive or relevant. CSP seeks to sustain culture both in a traditional and evolving way according to students' lived experiences by, "support[ing] young people in sustaining the cultural and linguistic competence of their communities" (Paris, p. 95).

Although culturally sustaining pedagogy was conceived of as a means for addressing education inequality in the United States, the ways in which Paris and Alim (2017) and other scholars (Domínguez, 2017; Lee, 2017; Rosa & Flores, 2017) discuss issues of coloniality, Eurocentrism, and cultural "appropriateness" within education are particularly salient for discussions about Western classical music education both in the United States and abroad.

Domínguez (2017) emphasizes the ways in which coloniality—the repercussions of colonialism—is perpetuated in education. He states, "colonization as an explicit *de jure* system of political domination has ended, yes. Yet . . . assaults on agency, culture, language, and identity persist. These are the accruing injuries of coloniality" (Domínguez, p. 227). For Domínguez, coloniality allows for the prioritization of a Eurocentric educational paradigm and the silencing of non-Western cultures and epistemologies. Within the field of music education, the emphasis on Western classical music education, whether the context is an American elementary music classroom or an American university in the United Arab Emirates, allows for the perpetuation of coloniality. Therefore, culturally sustaining music pedagogy encourages and sustains musical plurality as a means of empowering students, recognizing their cultural competence, and disrupting coloniality.

A salient part of a student's cultural competence is language. Rosa and Flores (2017) examine language agency and discourses of "appropriateness" from a "critical raciolinguistic perspective" (p. 186). In their discussion about discourses of, "appropriateness," they argue for a dismantling of the linguistic hierarchy that continues to marginalize students. Educators who enact CSP allow for and value the linguistic practices of their students. They do so by actively working to disrupt "linguistic purity" discourses (Rosa & Flores, p. 185). Similarly, "musical purity" discourses oftentimes allow for a hierarchical approach to music education in which some music is deemed more "appropriate" for educational settings than others.

The linguistic and cultural heritage of students who are marginalized by dominant, namely Eurocentric, discourses is at the center of CSP. In her discussion about intergenerational cultural practices, Lee (2017) expands the discussion about, "emergent" and, "heritage" (Domínguez, 2017, p. 233) cultural practices within CSP. One of the tenets of CSP is that culture is fluid, and changeable and students' cultural practices should not be essentialized. However,

within the emergent forms of culture, both Lee and Paris emphasize the importance of recognizing heritage practices. Lee (2017) calls them a, "repository of historically intergenerational cultural practices" (p. 266). It is the simultaneous recognition of both heritage and emergent cultural practices in a non-binary and non-essentializing way that allows for students' cultural identities to flourish. This, however, according to Lee, is also the, "dilemma" without a, "simple resolution" but, "is a necessary first step" (p. 268). She states that, "as we think about what should be sustained and why, we must realize that there are always competing demands around what is historically transmitted as tradition, and new practices and allegiances that are often hybrid and emergent" (Lee, p. 268). Despite the dilemma, the recognition of students' cultures both in traditional and evolving ways is an important step towards culturally sustaining and revitalizing education.

The aspects of CSP on which Paris and Alim (2017) and other contributing scholars focused (Domínguez, 2017; Lee, 2017; Rosa & Flores, 2017)—cultural plurality, coloniality in education, discourses of "appropriateness," linguistic and cultural competence, and emergent and historical practices—are all applicable and salient for discussions about music education. The prioritization of Western classical music and the pedagogy, norms, discourses on which it is founded for music education allows little space for the empowerment of students with non-Western musical competence. Culturally sustaining pedagogy requires that music educators expand their musical epistemologies so that they may recognize and sustain the musical cultures of their students.

## Method

### Research Questions

The purpose of this study was to explore with five Arab young adults their perceptions of Western and Arabic musical cultures as well as their perceptions of the Western classical vocal teaching they experienced at an American-modelled university in the United Arab Emirates. To carry out the purpose of this study, I addressed the following research questions:

1. What do they consider to be the current and future states of Arabic classical music?
2. How is music viewed in Gulf society?
3. How do they describe the classical vocal teaching to which they were exposed at their university?
4. How do they compare the aesthetic preferences and techniques used for classical Arabic and Western classical singing?

### Participants

Five alumni who were former music students at the university at which I taught offered to share their personal stories, perceptions, and views of music education in the UAE. Also discussed were issues of cultural relevance and music; music within Arab and UAE society; the current and future status of traditional Arabic music; and the ways in which their university music experience affected them. All five participants spent significant time inside and outside of the classroom with me during which rapport and trust were built. All five participants were aware of the researcher's intent and agreed to participate. Table 1 shows relevant data about each participant.

Table 1

*Participant Demographics*

| Pseudonym | Age | Gender | Nationality | Years lived in UAE |
|---|---|---|---|---|
| Mohammed | 29 | Male | UAE | 20 |
| Noor | 22 | Female | Egypt | 22 |
| Ghada | 24 | Female | Egypt | 24 |
| Fatima | 27 | Female | Saudi Arabia | 4 |
| Fadi | 26 | Male | Lebanon | 20 |

**Procedures**

Data collection methods for this study included individual, semi-structured interviews with each participant and three focus group discussions. Based upon current literature, four research questions were developed and provided the foundation for the interview protocol. The research questions focused on the following themes: (a) participants' beliefs about Arabic music; (b) participants' beliefs about music in Gulf society; (c) participants' perceptions of their university Western classical vocal teaching; (d) participants' perceptions of Western classical and Arabic classical singing aesthetics.

Focus group discussions allowed participants to further discuss, in more depth, about what they had spoken in their individual interviews. Particularly for discussions about religion and music, participants felt more comfortable discussing sensitive issues with their colleagues who came from similar backgrounds. The same interview protocol was used in the focus group discussions. The first focus group discussion took place with three participants after their individual interviews. The second focus group discussion took place with the remaining two participants after their individual interviews. The final focus group discussion took place with all five participants after all individual interviews were conducted. This research design allowed for an in-depth inquiry into the perceptions of the participants.

**Data Analysis**

All interviews were transcribed, and member checks were conducted with participants prior to data analysis. Participants were provided transcriptions of their interviews and focus group discussions and asked to confirm that the transcriptions were accurate. Data analysis took place after all interviews were completed and transcribed and was based on Creswell's (2013) five-stepped process: 1) data collection; 2) data managing; 3) reading and memoing; 4) describing, classifying, and interpreting; and 5) representing and visualizing.

## Results

Based on the research questions, five major themes under two large categories were obtained from the in-depth individual and focus group interviews. The two large categories are: 1) Music Education and 2) Music and Culture. This paper will focus on the first three themes, related to music education, which are the following:

Theme 1: Western classical music teaching was culturally congruent and incongruent; however, the university music experience was transformative.

Theme 2: Lack of music education has cultural implications.

Theme 3: Participants have a strong personal connection to Arabic music, and Arabic music provides bridges to home.

### Findings

*Theme 1: Western classical music teaching was culturally congruent and incongruent; however, the university music experience was transformative.*

The participants discussed their music experience at an American university in the UAE. They illuminated cultural conflicts between the pedagogy traditionally used to teach Western classical music and the traditions of Arabic classical music.

> *Because the thing is, you can catch a melody, but in order for you to be able to improvise because improvisation is one of the pillars of Arabic music, your ear has to know the 'maqam' [melodic modes] inside and out, or else you're going to go out of tune. And for that it's not going to help you to learn how to read, all you have to have is sort of an aural awareness. Arabic music with all of the microtones, and things like that they're not 'on' the staff, how would you notate them, it's not as helpful as it is for Western classical.* (Noor)

The emphasis on head voice in Western classical singing was also noted as a pedagogical incongruence.

> *Head voice is not really common, but the reason why it's not really common is the 'urab' [ornamentation] doesn't sound as pleasing when it's done with head voice, and for some reason the language itself is more easy to impersonate and act out with the voice and the emotions when you're using the chest voice, and I think it's a lot more culturally acceptable. The head voice is very related to opera. That's a very interesting stereotype actually, but it's just because head voice is not really commonly used so people find it strange when they're listening to an Arabic piece of music and suddenly there's some head voice in it and they're like 'what is this.'* (Noor)

Despite the incongruences, students noted ways in which their Western classical musical experience at the university was culturally congruent. Cultural plurality and globalization, salient issues in UAE society, were among the reasons that this type of training was indeed relevant.

*It's good to know both sides, to learn from both sides because they're completely different, the way you learn it, the way you perform it are completely different.* (Mohammed)

*So for me, now when I go to people and tell them that I sing opera, they say, you're probably the first Saudi that sings opera and they were fascinated by this, and it's such an amazing art, and it's such an amazing kind of music that we are missing here in this part of the world. So, you'd want to teach it for those who are interested in opera and classical music but not to mix them with Arabic.* (Fatima)

Participants agreed upon the transformative nature of their university music experience. The notions of camaraderie and community were strongly emphasized. In a society where the value of music is contested, finding like-minded individuals with whom to share this passion was life-changing.

*A sense of belonging first because you feel like you have a bunch of people that you share something with. That you felt all these years that it's a bit of a grey zone, not everyone will accept it, or someone that would see you doing it would question your integrity.* (Mohammed)

*It was the cherry on top (laugh), everybody says that you come out of university with something new, or with something that you didn't plan on learning, and that was it for me, it was a huge thing, it changed my life, literally. It became a very big part of me, being able to sing that way became a part of my character, it was never on my mind and then I discovered it, and it just, it changed something in me that I was able to do something from a world that I had never experienced.* (Fatima)

*Theme 2: Lack of music education has cultural implications.*

In the Gulf region, the presence of Arabic music education in primary and secondary schools, according to the participants, is almost non-existent. Participants suggested that Gulf society does not recognize the value of Arabic music education.

*It's [music education] not done, of course and it [society] needs more of the mentality to be more open to accept it and realize the importance of it. I think the importance of music education is not there, in the Arab world. So, introducing this meaning and this importance is, I think, the first thing to do. Musical education in the GCC [Gulf Cooperation Council] is non-existent, very little and it's only with the non-GCC nationalities.* (Fatima)

*I used to always ask for it, even after I graduated from university, I tried to look for things in Abu Dhabi, and I wanted something Arabic, most of the choirs were either doing Western music, I even tried to look for vocal teachers, but it was so hard to find.* (Ghada)

The participants agreed that education of Arabic musical traditions would greatly benefit society; however, according to Mohammed, the extreme variance of opinions about music within UAE society will prevent music education from becoming mainstream curriculum.

> *It would be good to bring in new schools, to see schools that would teach different kinds of music, Arabic, opera, that would be great. (Fatima)*

> *Is there a place [for music education]? There will always be, but is it necessary? That's a philosophical dilemma. So, I think, is there a place, yes, but it will not be mandatory by the ministry ever, I don't think so, I don't see it happening.* (Mohammed)

Even though the participants noted the ways in which Gulf society continues to be more open to music, they were skeptical about music education becoming accepted.

> *Slowly, very slowly, but the problem is, as much as they can shift, there is still this whole being a conservative society where it's just difficult for them to accept that their children are going to be musicians.* (Noor)

> *They would allow their children to study it cautiously because they wouldn't want their children to pursue it professionally.* (Mohammed)

In addition, even though Mohammed was transformed by his university music experience, he found it difficult to advocate for music education in primary and secondary schools. As an Emirati, he recognizes the devout religious beliefs against music both within society and within his own family.

> *See, you can't enforce it [music education] on all schools and on all students because not all parents would be accepting of it. We shouldn't enforce our thoughts on them. They have the right to reject it as much as we have the right to express it.* (Mohammed)

Although participants found it difficult to imagine mainstream music education in the UAE, they recognized that the absence of Arabic music education had cultural implications.

> *Whoever has a musical talent, they end up adopting a kind of music from outside, so they don't show the identity of the culture in their music. They bring it from outside. There's this Saudi musician who became popular for rapping. Everyone's like 'why, why take it from outside this different kind of singing or talent, you don't show your own' but come to think about it, they don't have their own kind of music and their own kind of thing, because but it's not in the GCC, it's not taught here, it's not a fundamental thing here.* (Fatima)

*Theme 3: Participants have a strong personal connection to Arabic music, and Arabic music provides bridges to home.*

Arabic music provided participants a means of connecting with their families and communities. It provided a bridge between generational gaps.

> *If I would perform Arabic music, I would always feel like this is my roots. I would always feel more connected to Arabic music. Because my love for music came from Arabic music before Western or any other music. You feel like, because you grew up with it, your parents' generation relates to that kind of music more than Western music. You feel like by doing that, somehow it's more acceptable than performing Western music. You feel more of a connection and more of an acceptance because when you perform something from your parents' generation and their friends and their cousins enjoyed once upon a time, for you to revive that feeling, it's a good feeling.* (Mohammed)

Music education as a means of preserving Arabic music traditions and connecting students with their families was discussed. Participants emphasized the need for Arabic music education as a means for cultural preservation, particularly at the university level.

> *Look how western classical music has managed to stay alive, and this type of music needs to stay too, and I think that also introducing this type of music to these students, especially in this part of the region would actually open up some doors for them, in terms of their families, because it would be more socially acceptable because you're already doing something that is kind of within the traditions but you're just expanding it and learning.* (Noor)

> *Having an Arabic choir who sings traditional songs, having more of that, and even offering Arabic singing classes at university would be important.* (Ghada)

## Discussion

**Cultural congruence.** The participants articulated the ways in which their Western classical music education was culturally congruent and incongruent. The prioritization of reading music notation in the Western classical tradition is in opposition to the Arabic oral tradition. The Arabic musical traditions of *ʿurab*, microtones, improvisation and *maqams* are not compatible with Western classical music traditions. The participants were explicit about the ways in which Western classical singing differed aesthetically from Arabic singing. In addition, they expounded upon the difficulties they faced when they tried to maneuver between the two singing traditions. The participants demonstrated a strong correlation between their vocal and their cultural identities.

Despite the incongruences between Western classical and Arabic classical musical teaching, the participants valued the opportunity to learn Western classical singing. This finding is particularly salient when considering the culture of the UAE. The participants articulated the importance of cultural plurality. As indicated by Asfour (Fox et al., 2006, p. 146) and Paris (2012), cultural plurality simultaneously embraces the future and the past. It is an act of self-preservation while embracing the "other." By embracing a pluralistic approach to music education, the participants are "sustaining the cultural and linguistic competence of their communities while simultaneously . . . [receiving] access to dominant cultural competence" (Paris, 2012, p. 95). This may be a way to preserve Arabic musical traditions in a manner that withstands the pressures of globalization.

**Transformation and identity.** Music is an important part of many people's identities (Macdonald, Hargreaves, & Miell, 2002). For the participants, music plays a significant role in their lives; however, the cultural and religious pressures with which they are surrounded make the negotiation of a musical identity complicated. Therefore, a community of fellow musicians, at the university, provided the participants with a transformative experience. For many of them, this was the first time they were a part of a like-minded community. As the participants are faced daily with opposing forces of globalization and tradition, a community of like-minded individuals may have been the one place where they felt like they belonged and where they could express themselves. They were all Arab, Muslim, within the same age range, and they all loved to sing. This experience, most likely, would not have been as impactful if it were not situated within the context in which it was.

**Cultural implications.** The participants agreed that music education in the Gulf would be beneficial. They associated the lack of music education with a loss of Arabic musical culture. However, despite these sentiments and despite their own transformative music experience, they were unsure whether it should be incorporated into K-12 schools. A conclusion to be drawn from this finding is that the globalized media has created a cultural paradox. Within the Arab world, the UAE, with its Media City and Internet City, has positioned itself in the center (Fox et al., 2006, p. 50). However, despite the progressive nature of the media, society has responded with increased conservatism. According to Frishkopf (2010), "once the door to the satellite censorship has been opened, cultural censorship may follow" (p. 21). This is problematic for Arabic musical heritage.

The globalized media has caused society to be more cautious about music and music education. Although music education is an important means of transference of Arabic musical culture, conservative censorship negatively impacts possibilities for music education. The forces of globalization have threatened cultural traditions. In the UAE, the presence of symbols that "depict traditional cultural themes – coffee pots, old forts, dhows, falcons, etc. – " (Fox et al., 2006, p. 260) bear witness to a growing nostalgia for the past. Despite the Gulf society's concern with preserving Arabian traditions, Arabic music traditions have been threatened both internally and externally by globalization. Externally, Western music is appropriating Arabic music traditions. Internally, the presence of Western music, the content of which contains objectionable morals, reinforces a conservatism towards all musical genres.

**"Pedagogical Bridges"** (Gay, 2002, p. 113)**.** Unsurprisingly, the participants expressed a strong connection to Arabic music. Much of the literature on culturally relevant, responsive, and sustaining pedagogy (Gay, 2002; Ladson-Billings, 1995; Paris & Alim, 2017) attests the importance of cultural relevance in education. Besides being meaningful and relevant, the participants expounded upon the ways in which their participation with this music better connected them to their families. Particularly within a culture that has a complex relationship with music, the participants' accounts were powerful. Music, for the participants, was a salient part of their identities. This part of their identities, however, was oftentimes absent from their relationships with their families. By engaging with and performing Arabic music during their university music experience, they felt freer to reveal this part of themselves to their families.

## Conclusions

The paradoxes with which young adults are surrounded in UAE society require that they fluidly navigate between Western, Arab, familial, educational, religious, and secular spaces. For the participants of this study, each contradictory space contributes to the multi-faceted nature of their identities. Despite the ease with which they navigate these paradoxes, the participants' relationship with music was one in which the opposing forces of tradition and modernity were hard to reconcile. Their university music experience provided them with a space in which they could safely express their passion for music and discover others with whom they share this passion. Although some of them were unsure whether they would ever resolve their love of music within the complex musical discourses that permeate their families and Gulf society, they appreciated the opportunity to engage with Arabic musical traditions and felt closer to their families by doing so.

For a nation that has allowed a globalized media to permeate its airwaves, it seems surprising that music is absent from national school curriculum and only one university in the UAE offers music courses. This juxtaposition demonstrates the complexity of beliefs about music within Gulf society. For Mohammed, Noor, Ghada, Fatima and Fadi, their university music experience was transformative and empowering. As Mohammed says, "It provided a sense of belonging first because you feel like you have a bunch of people that you share something with. That you felt all these years that it's a bit of a grey zone, not everyone will accept it, or someone that would see you doing it would question your integrity."

If K-12 music education is not likely to be compulsory soon, perhaps university music settings can offer an alternative. They can provide opportunities for students to reconnect with their roots and build "bridges" between home and school. These opportunities are valuable both on a personal level as a means for enriching students' musical-cultural identities as well as on a societal level as a means of *sustaining* the musical culture. Engagement with music allows students to find their voices, and to play participatory and articulate parts in a community in the making. Encounters with the arts and activities in the domains of art can nurture the growth of persons who will reach out to one another as they seek clearings in their experience and try to be more ardently in the world (Greene, 1995, p. 132).

This is especially salient for young adults in the UAE who are grappling with the changing landscape and the effects of globalization. As they confront their musical heritage within the context of a globalized media and "seek clearings" through the complex musical discourses with which they are surrounded, and oftentimes confined, perhaps *culturally sustaining* university music education can empower them to embrace and express their musical selves.

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# Timing Patterns of Professional and Student Conductors:

# An Exploratory Study

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Abstract

The purpose of this project was to examine patterns of tempo variations chosen by expert and novice conductors. Volunteer participants from three levels of expertise were asked to learn and conduct the first 40 measures (10 phrases) of the *Yorkshire Ballad* by James Barnes. We used a unique software program developed for studying conducting patterns: Participants' arm motions were detected by a Wii™ controller and used in real-time to control the tempo of an audio recording. The only musical element controlled by the conductor was the rhythmic flow/onset of each sequential beat. When the participants had generated a tempo performance of the excerpt with which they were pleased, the chosen performance was analyzed to ascertain their musical decisions. Results indicated that there were consistent patterns of rubato in the conducting of the piece that could be related to both the structure of the phrases as well as the overall structure of the composition. Analysis of the use of rubato in an ensemble setting could provide interesting relationships between these conducting performances and previous studies of solo performances, and may begin to demonstrate whether rubato tendencies in group performances conform to common practice expectations.

*Keywords:* Rubato, Tempo Variation, Conducting, Ensemble Performance

Timing Patterns of Professional and Student Conductors: An Exploratory Study

There is little doubt that the musical score is only a skeletal window into all the aspects that make a performance musical (Gabrielsson, 1974; Gabrielsson, Bengtsson, & Gabrielsson, 1983; Shaffer, 1981). Musical training develops students' ability to take the written score and transform it into sound that ideally evokes aesthetic experiences (Johnson, 1996a, Johnson, Madsen, & Geringer, 2012a; Johnson, Madsen, & Geringer, 2012b; Palmer, 1989; Repp, 1996). Most all detailed analyses of variations in performances have been of solo and prepared instruments because they lend themselves most easily to that analysis (Johnson, Madsen, & Geringer, 2012b). However, ensemble performances are still the main attraction at most concert venues (Repp, 1996, 1999; Shaffer, 1984). In particular, the question of whether tempo flow in an ensemble setting parallels that of soloists seems essential to understanding the musical aspects of rubato. The purpose of this project was to examine the timing patterns chosen by expert and novice conductors.

## Method

### Participants

Participants were 12 volunteer individuals connected with a large Midwestern university in the United States. Four were outstanding undergraduate students, four were outstanding instrumental graduate students with substantial conducting experience, and four were faculty members. All participants were purposefully solicited for participation based on their demonstrated level of musicianship.

### Apparatus

We captured conductor's tempo data with original software and hardware adaptations developed by Eitaro Kawaguchi at the Center for Music Research at Florida State University. The program (named "Einsatz") was written in C++ using Visual Studio Community, made available by Microsoft™. The software program uses input from the infrared camera of a Nintendo Wii™ to determine a given conductor's baton movement. The movement data are used to determine the rate of beat pulses, which are applied in real time to control the playback speed of pre-recorded audio files. A commercial software program, Chronotron©, plays back the detected tempo changes with minimal distortion to the audio signal. The end result is that the "conductor" feels like he/she is conducting the pre-recorded music. The baton movement captured by the Wii Remote's camera is recorded and used for subsequent analysis.

This is the first study that made use of this equipment and software. We used a Dell Precision M3800 laptop with Windows 10 to run the software, including audio playback, and to save the captured motion data from the camera. The excerpt was heard on Logitech z320 speakers connected directly to the laptop as participants conducted.

### Experimental Materials

The first 40 measures (2½ sections, 10 phrases) of the *Yorkshire Ballad* by James Barnes were conducted by each of the participants. The selected recording of that piece for this project

was recorded in 1990 by the Tokyo Kosei Wind Orchestra (KO CD-3014), and conducted by the composer. This excerpt contains an opening AABA section, which was then re-orchestrated and repeated (AABA), and then re-orchestrated and repeated again (only the AA section of this repeat was used). The excerpt (in the original recorded tempo) was edited and uploaded for playback and beat-note timings were entered into the data collection software.

**Procedure**

Subjects participated individually. Participants entered the laboratory and were given a copy of the Instructions to Participants. The instructions are presented in Figure 1.

This is another project studying the use of rubato in making a performance more musical. This one branches out into the area of conducting. We have developed a new technology where we have taken an ensemble recording, and as you conduct, the ensemble performance will follow your beat to play the next note. The algorithms are pretty good, but, as in all ensembles, they will follow behind, and generally not anticipate very well.

What I would like for you to do is conduct the Tokyo Kosei Wind Orchestra in the first 40 measures of the *Yorkshire Ballad* arranged by James Barnes. The score is on the white board in front of you. The task is to make the first two and a half phrases as musical as you possibly can, given the limits of the technology. You may restart and/or repeat this process as many times as you want until you get the performance with which you are most satisfied. As stated above, you are going to do this with a completely new technology designed just for this project. Warning – it is sometimes a little buggy, and has some limitations.

**KNOWN LIMITATIONS**

- Conducting must be done with a somewhat consistent beat pattern. The program will consider each beat a quarter note.
- The program reads only vertical baton movements at this point (Y axis).
- The inaccuracy of the band's performance depends on the nature of conducting movement - a snappy movement at downbeat point will reduce the delay in beat detection, but is not very characteristic of the piece.

**HOW TO DO IT**

Place baton (marker with reflector) above the yellow line on the computer window and hold it steady for 2 seconds … Low BEEP is heard and status (orchestra) changes to READY.

Start conducting – The program counts down 2, 1, (0) … Initial BPM is established during countdown. The music starts at count 0.

During count down, a vertical movement of more than 1/8 window is required to be recognized as beats.

If glitches happen, please start over. The program does take a little getting used to.

You may stop and/or repeat as many times as you would like in order to get the recording of timing you like best. I want whatever you think is musical, and am willing to sit and experiment as long as you would like.

*Figure 1.* Participant instructions.

Participants then began to conduct the performance. Their goal was to learn to control the timing elements of the performance through their conducting to achieve what they thought was a "musical" performance. They were permitted to continue working on their "perfect" performance as long as they chose, until they were satisfied with it in its entirety. When they felt like their performance was what they wanted, the onset data were saved and marked as their "perfect performance."

## Results

All professional and graduate student conductors claimed to be familiar with the *Yorkshire Ballad* excerpt. The undergraduate students all stated they knew the piece, and had played it, but none reported to have studied the score. As the piece is not highly complex, a musician who has played it could reasonably claim a level of familiarity sufficient to make informed musical decisions in this exercise.

Data were analyzed first by looking at similarities within groupings of subjects and differences between groups. We calculated group means of the individual note onsets for the undergraduate conductors, the graduate conductors, and the professional conductors. The graph of these means is included (see Figure 2).

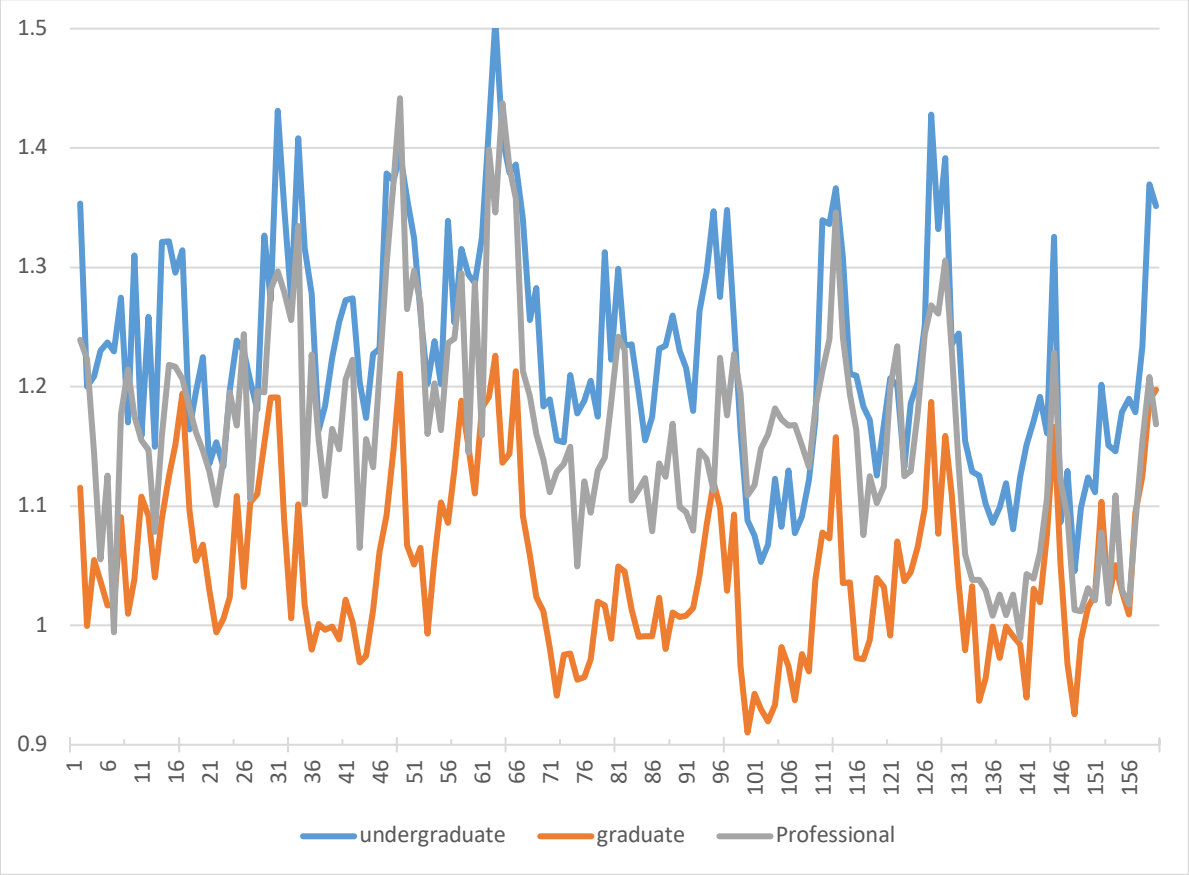


*Figure 2.* Mean Note Onset Times for the Three Conductor Experience Levels.

Similarities between all three groups are evident. The average intraclass correlation coefficient was .87 across the three groups. The inter-item correlation between the undergraduate

conductors and the graduate students ($r = .76$) was slightly higher than the association between undergraduate students and the professional conductors ($r = .74$). However, the inter-item correlation between the graduate and professionals was lower ($r = .63$).

Three aspects can be noted from the data in Figure 2. First, the graduate students generally chose to take a faster overall tempo than the other two groups of conductors (also see Table 1). There was a significant difference between the three groups (Kruskal Wallis $\chi^2 (2, 159) = 222.65$, $p < .001$) in beat onset times. All three means were different from each other, $p < .001$. Second, while the graduate students used less rubato than the other two groups, the undergraduate students and professional conductors used almost the exact same amount of tempo variation (see Table 1).

Table 1

*Mean Onset Times per Beat for the Conductor Experience Categories*

| Category | *Mean* onset time in seconds | *Standard Deviation* |
|---|---|---|
| Graduate | 1.05 | 0.071 |
| Professional | 1.16 | 0.090 |
| Undergraduate | 1.23 | 0.092 |

The third observation is probably the most critical, and that is to note that where variations in tempo did occur – they occurred in almost same exact place temporally, and in the same direction for all three groups, thus accounting for the high intraclass correlation. This would seem to indicate the presence of some generally agreed upon common practice, which has been noted in previous research as well.

In order to look at the rubato usage in the piece as a whole, we examined the form of the phrases. Ten phrases were analyzed in this excerpt. The first four phrases were song form – AABA. In the second section, instrumentation and altered and repeated the first set of phrases – AABA. Orchestration was then altered again, and the AA phrases were repeated before the excerpt ended. We then compared the timings for all eight repetitions of the A phrase in a factor analysis. Six occurrences of the A phrase—the first three iterations, the last two iterations in the second section, and the second iteration in the third section—all loaded on one factor. However, the other two occurrences of A, that is, the first iteration of the second section and the beginning of the third section, loaded on a different factor. The B themes were performed with remarkable similarity in both iterations ($r = .94$), and the timings were extremely similar to the A theme on the first factor. These timings are illustrated in Figure 3.

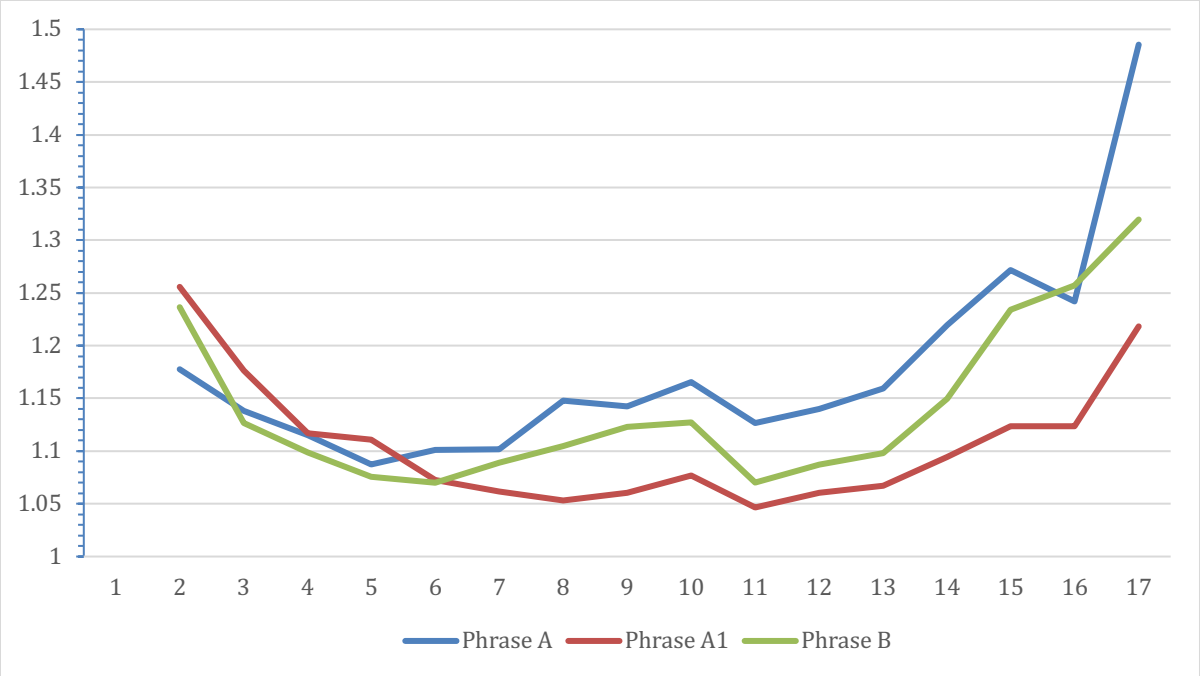


*Figure 3.* Mean Note Onset Times for Phrases A, A1, and B.

## Discussion

No prior experience with the work in question was required to conduct the piece of music using this program, although all participants indicated at least some familiarity. The only musical element that the conductor controlled was the rhythmic flow/onset of each pitch. Pitches, amplitude, timbre, phrasing, and all other musical variables were not affected. After participants had generated a performance of the excerpt with which they were pleased, we analyzed the chosen performance to determine their musical decisions regarding tempo variations.

Participants were solicited in order to produce three groups: Outstanding undergraduate students, graduate students with excellent previous work experience, and professional band directors. We speculated that there might be choices made by the different groups that would distinguish them with regard to the use of rubato. Although there were some interesting differences between the groups, there were no large discernable patterns. We now believe that the differences noted were anomalies based on individual personal choices rather than their respective demographically-based categories. While the graduate student group used less rubato, it appears that the rubato to tempo relationship is strong; perhaps if they had chosen a slower tempo, the rubato might well have increased concomitantly. We believe that the most consequential aspect of these comparisons is that the lines across all three groups are consistently parallel. This leads us to the speculation that there is a definite pattern to the changes in timing, and that they are at least intentional as opposed to random.

In almost all of the phrases there is a slower beginning leading to a quicker ending of the musical question in the middle of the phrase. At that point, there is a relaxing of the tempo as the answer begins, then an immediate acceleration before the phrase relaxes into a resolution. The pause in the middle of the phrase happens in eight of the 10 phrases in a relatively similar way. The two times that the A theme returns with a new section and new instrumentation, the tempo

of the phrase seems to be a little more of a two-measure speeding up into a two-measure slowing down. Though there is still a tiny acceleration in beat 10 that propels the phrase to its conclusion, it is smaller magnitude than in other phrases.

The question and answer aspect of all ten phrases of the excerpt lend themselves well to this kind of pattern, and provide support for the idea that a common practice of tempo rubato appears present in the performance of conducted works. The relation of these timings is reflective of the timings noted in the performances of Mozart, though the timings themselves are not patterned the same way (Johnson, 1996b). On the other hand, the relationship between the formal structure of the piece and the timings are even more similar to what was noted in performances of the Bach *Bourrèe* in previous research (Johnson, 1999; Johnson, Madsen, & Geringer, 2012b), both in relation to form and the structure of the tempo changes. In many phrases, it was found that players started slowly and then accelerated through the phrase, held back on the tempo at a point, and then rounded out the phrase marking it with rubato. The relationship of phrases in this study seems to be more uniform than in the above two studies of solo pieces. Though that relationship may be an artifact of arithmetically combining multiple performances, it might also result from differences in musicians' group performance versus solo performance. It could be hypothesized that in a group, musicians may develop an expectation for a uniform pattern that allows an ensemble to perform together, whereas as a soloist, individuals are able to take more liberties in timing.

Comments of the participants would indicate that the research apparatus was very user friendly; they noted how satisfying it was to control a fine ensemble such that it followed them so well. One person commented, "It was like *Guitar Hero* for conductors." All of the subjects expressed enthusiasm for the new instrument, and the faculty participants wanted to know if they could use it to teach students. They deemed it an excellent tool for students just learning how to conduct, but also noted that experienced graduate students would benefit from hearing the effect of their timing changes on the outcome of performances. The task was definitely pleasurable for the participants, which should make recruiting future study participants an easy task.

The instrument was also extremely user friendly for the researchers, and will be used to further explore what is being taught as common practice in performance. Clearly the relationships of rubato to phrase structure in this composition is intriguing and provides some insight into how we listen to and process music. The results of this study, and how they relate to previous investigations seems to warrant further analysis. Though this is a study that is exploratory in nature, there is ample evidence to suggest that more work in this area could be enlightening.

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# Developing Desired Nonverbal Responses in Pre-Service Music Educators and Music Therapists and the Effect of Instruction on That Development

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Abstract

The effectiveness with which teachers and therapists can communicate both nonverbal approval and disapproval can greatly impact the environment in which they work. Changing these learned responses is difficult, especially when the interaction requires an instantaneous expression opposite from natural response. Music conductors, music teachers, and music therapists must develop appropriate facial affect to get desired results in their unique professional settings. The purpose of these studies was to investigate the development of these facial affects and then to examine the effects of two different nonverbal training methodologies on the ability of music education and music therapy students to effectively and quickly deliver identifiable nonverbal reinforcement. The first was guided practice; the second was a regimented, systematic set of lessons and application. Results indicated that neither of these brief, but logically-planned methods were enough to influence substantial differences in peoples' ability to communicate nonverbal neutral or disapproval expressions clearly.

*Keywords:* facial expression, nonverbal, approval, disapproval, reinforcement

Developing Desired Nonverbal Responses in Pre-service Music Educators and

Music Therapists and the Effect of Instruction on that Development

Much research supports that humans possess a highly developed social awareness, and that survival requires individuals to be skilled in recognizing emotions (Adolphs, 2006). Facial affect communicates meaning more quickly than spoken language (Farah, Wilson, Drain, & Tanaka, 1998; Kanwisher, 2000), existing as an important tool of social coordination (Kilts, Gideon, Ely, & Hoffman, 2003) that allows others to understand the attitudes of a person – a fact particularly germane to the teaching field (Darrow & Johnson, 2009).

Research has pointed to a model of emotion that is composed of neural activity that is both conscious and unconscious, also known as "explicit" – or "automatic," "spontaneous" – and "implicit" – or "conscious," "effortful" (Batty & Taylor, 2003; Critchley et al., 2000; Niedenthal et al., 2010; van der Gaag et al., 2007). Constructivist theories have eschewed genetic determinism and proposed a view of emotion as a product of social origins or cultural beliefs, assuming a dual interaction between social and genetic functions beginning at birth in an "environment of evolutionary adaptedness" (Mason & Capitanio, 2012).

Beyond the perceptions of performance, the relationship of facial affect and rapport between teacher and student may be of greater magnitude. Vieillard and Guitetti (2009) found that children can recognize, describe and name emotions that are closely related, suggesting a sophisticated ability – even in children as young as six years old – to recognize the subtle nuances between even closely related emotions. Observers rating the rapport between music teachers and students gave the highest ratings in treatment groups that consisted of video-only observations, leading Darrow and Johnson (2009) to conclude that nonverbal behaviors are of equal relevance to verbal behaviors when it comes to establishing teacher-student rapport. They suggested that prospective music teachers pay purposeful attention to nonverbal behaviors: "Students preparing to be teachers should begin honing the persona that they want to project . . . interpretations of nonverbal behaviors constitute an important part of educational practice." (p. 277).

## Study 1

The purpose of Study 1 was to examine the effects of hearing a personal statement on the demonstrated facial expressions of music education and music therapy students.

## Method

Advanced music students were selected for participation from a large, Southeastern university. Participants ($N$= 40) were selected from a mandatory capstone course taken immediately prior to professional internship. All participants were senior music education or music therapy majors.

As a full group, participants wrote out three past experiences: one representing a situation warranting high magnitude approval, one warranting high magnitude disapproval, and a final experience representing high negative magnitude. Students split into pairs. Student A looked into a TRUE MIRROR© as his or her previously written approval-warranted situation was read aloud by Student B. During the reading of the statement, Student A attempted to make a facial

expression demonstrating approval. Following the reading of the statement, Student A quickly demonstrated an approval expression, which Student B photographed using a smartphone camera. A timer measured the seconds it took to complete the entire task. Students then repeated the same procedure using the high magnitude disapproval statement to produce a disapproval expression. During the reading of the high negative magnitude statement, Student A looked into the TRUE MIRROR© and attempted to maintain a "flat affect." That expression was also photographed. In total, three photographs were taken of Student A's facial expressions: approval, disapproval, and flat affect (i.e., demonstrating neither approval nor disapproval). The two students then switched roles, repeating the entire process with randomized condition orders. Following the photographing of each student, all participants completed personal reflections measuring task difficulty of the completed activity on a ten-point scale.

## Results

Significant differences were found among participants' correct identification of the three facial affects, $\chi^2$ (2, 780) = 80.42, $p < .001$, $v = .32$. Post hoc analyses found significant interactions between participants' correct identifications of approval and disapproval ($p < .001$) and approval and flat affects ($p < .001$). No significant interactions were found between disapproval and flat identifications. Results indicated that participants were more successful when identifying approval affects, and were less successful when identifying disapproval and flat affects.

Perceived task difficulty was significantly different between the three affects, $\chi^2$ (2, 94) = 23.16, $p < .001$. Post hoc analyses found significant differences between participants' self-determined degree of difficulty performing approval and flat affects, $z$ (2, 46) = 3.72, $p < 0.001$, and approval and disapproval affects, $z$ (2, 46) = 5.31, $p < 0.001$. No discernable difference was found between task difficulty of expressing disapproval or flat affect. In addition, no significant correlation between practice time and reported task difficulty emerged.

Significant differences were found between students' self-reported confidence and their ratings of difficulty of forming the three facial affects, $\chi^2$ (3, 47) = 43.57, $p < .001$, $w = .30$. Post hoc analyses indicated significant differences between reported confidence and the difficulty of forming disapproval and flat affects ($p < .01$).

## Discussion and Conclusions

Correctly identified approval expressions contained a smile, raised eyebrows, and widened eyes. Correctly identified disapproval expressions demonstrated furrowed eyebrows, narrowed eyes, and lip tension. Approval and disapproval expressions shared no common qualities. Correctly identified flat affects demonstrated relaxed lips and eyes. Eyes and eyebrows were not raised, lowered, widened, or narrowed. Results from this study were instructive, leading to a follow-up study aimed to improve students' abilities to reflect accurate facial affect.

## Study 2

The purpose of Study 2 was to examine the effects of nonverbal training on the ability of music education and music therapy students to effectively and quickly deliver identifiable nonverbal reinforcement.

## Method

A pretest/posttest design allowed researchers to evaluate the effects of the instructional process.

### Participants

Study participants were chosen based on their enrollment in an undergraduate music education and music therapy course at a large, Midwestern university. The course addressed theory and techniques of behavior management in the education and therapy settings, so content of the course and study were related.

### Pretest

After students granted informed consent, they split into pairs. Using a smartphone camera, Student B photographed Student A demonstrating three separate facial expressions: an expression of approval, an expression of disapproval, and a neutral expression of neither approval nor disapproval. This resulted in three separate photographs of Student A. The participants repeated the procedure where Student A photographed Student B. All photographs were paired by the students with corresponding expression labels and emailed to a researcher.

### Intervention

Following the pretest, an intervention occurred over three classes. On the first day, a researcher distributed a Facial Manipulation Worksheet to each participant (see Appendix). Worksheet instructions were based on drawing techniques from *The Artist's Complete Guide to Facial Expression* (Faigin, 2008). Students followed along as prompts were read aloud by that researcher. The prompts guided the students through facial manipulations associated with each of the three targeted affects. Students followed the instructions of the prompt while observing their own reflection in their cell phone camera. Students then demonstrated the newly learned expressions to peers. Students were invited to give peer comments and take notes on the worksheet before ending the lesson for the day.

The instructional intervention was repeated two more times: the second day addressed disapproval, and the final day addressed a neutral facial expression. Following the introduction and practicing of the new facial expression, a researcher guided the class through a review and comparison of the expression(s) of the prior classes. Each intervention lesson lasted approximately five minutes.

### Posttest

On the final day of the study, students reviewed the three facial expressions with a researcher and took part in a posttest. Posttest procedures matched the pretest procedures exactly, with each student demonstrating and photographing the three facial expressions, and emailing labeled photographs to the researcher.

## Evaluation

A total of three pretest and three posttest photographs from 25 students were used to create a survey aimed to measure the identifiability of the expressed emotions. The researcher coded each photograph for pretest/posttest designation and corresponding expression before importing the data into Survey Monkey for survey creation.

A new pool of students (*N*=41) was recruited to take the survey. Evaluators included music education and music therapy undergraduate and graduate students at two large research universities. Researchers provided a hyperlink for the survey following verbal assent by participants. Of the total 150 photographs in the study, each evaluator saw a random assortment of 75 photographs. Each evaluator saw an "approval," "disapproval," or "neutral" expression photograph of each participant, but through a randomized distribution of pretest and posttest photos. For each photograph, the evaluator answered the following two questions:

1. Do you believe the person in the photograph is expressing approval, disapproval, or neither approval nor disapproval? (Choose One: Approval, Disapproval, Neither Approval nor Disapproval).
2. With what degree of confidence did you answer the question above? (Choose One: High Degree of Confidence, Moderate Degree of Confidence, Low Degree of Confidence.)

A total of 41 sets of evaluation responses were collected.

## Results

The primary question posed for this project was whether preservice teachers and therapists could be taught to exhibit identifiable positive, neutral, and negative reinforcement in a brief series of lessons. Results of the pretest resembled findings of the origination Study 1. Students were most easily able to accurately demonstrate an expression of approval (96% evaluator accuracy). Facial expressions exhibiting disapproval (87.25%) or neither approval nor disapproval (70.49%) were more difficult to discern by evaluators, particularly in the context of discerning the two expressions from each other.

Table 1

*Evaluation Accuracy and Degree of Confidence Means: Pretest and Posttest*

| | Approval | | Neutral | | Disapproval | |
|---|---|---|---|---|---|---|
| | Evaluation Accuracy | Degree of Confidence | Evaluation Accuracy | Degree of Confidence | Evaluation Accuracy | Degree of Confidence |
| Pretest | 96.64 | 90.63 | 70.49 | 52.30 | 87.25 | 65.48 |
| Posttest | 96.39 | 88.63 | 72.71 | 46.32 | 90.28 | 77.69 |

Posttest results showed little change in evaluation scores. Approval scores remained high (again over 96%). Posttest disapproval photographs (90.28%) and neutral photographs (72.71%) were slightly more accurate than pretest photographs. Therefore, the researchers concluded that the intervention aimed at teaching preservice music educators and music therapists to demonstrate facial expressions was not effective.

Researchers also analyzed the degree of confidence in which survey evaluators labeled each photograph. Evaluators rated their pretest responses with 91% confidence in the approval category, 52% confidence in the neutral category, and 65.5% confidence in the disapproval category. In both the approval and neutral categories, posttest mean degrees of confidence fell, with approval confidence at 89% and neutral confidence at 46%. Disapproval confidence raised in the posttest evaluation to 78%.

The most significant finding of the study lay in the correlation between mean pretest and posttest accuracy scores for each expression and the mean degree of confidence in which evaluators rated their choices. Mean accuracy scores and mean confidence scores correlated at a rate of $r = .97$. This demonstrated a strong relationship between each specific expression and the degree of confidence in which the evaluator interpreted each expression.

## Discussion

Much of what teachers communicate in a classroom is nonverbal. Sending appropriate nonverbal signals, as well as recognizing and interpreting the nonverbal signals of others, are essential features of effective teaching. The magnitude of nonverbal communication and its role in student/teacher interactions was even calculated by Abraham Mehrabian (1981), who found 93% of communication to be nonverbal: 55% through facial expression and 38% through tone of voice, leaving only 7% through verbal expression. That 55% is a critical component to classroom interaction. However, most people give little thought to what they communicate nonverbally. Indeed, much of what humans communicate nonverbally is without intent (Knapp & Hall, 2006). Nevertheless, the messages are read, and have important implications regarding interactions in the music classroom.

This project was an effort to extend previous research into the 55% (i.e., nonverbal communication through facial affect) by examining students' abilities to demonstrate approval, disapproval, and neutral nonverbal expressions. This replication not only found approval to be easy to express, but also fairly easy to interpret. Findings of both studies suggested neutral and disapproval expressions were less accurately communicated. Although the nonverbal expressions of approval, neutral, and disapproval have all been discussed as if they are equally easy to convey, it seems clear now they are not.

Of course, some aspects of methodology should be noted. The pictures taken of participants were simply snapshots in time. No video captured the exact peak of the expression or the muscle motion forming the expression. The stimulus was quite simply a frozen moment. Another important consideration should be the lack of accompanying context for the photographed expression. While the initial study did introduce personal experience into the manipulation of expressions, the second study worked exclusively from emotional context. Considering the rich context of a classroom, this fact served as a limitation for the study.

On the other hand, the second of our studies made a concerted effort toward creating a substantial independent variable by transferring defined artistic sketching technique to teacher facial expression development. The researchers initially attempted to do this through acting

pedagogy, but found it to be too general for the purposes of this study. That absence created a vacuum for the project, leading to a branching of ideas eventually including that exploration of sketching and drawing technique of facial expressions. This highly detailed and refined information led us to believe it could be the doorway to helping people convey a clearer snapshot of expression – albeit we were going "in through the out door" (i.e., using the reflection to cause the manifestation). But, like many great ideas, it turned out to be ineffective. Though expression recognition was slightly higher in two of the three posttest affective states, the differences were very likely serendipitous, and not reflective of real change. A well-defined path to teaching students to deliver clear neutral and disapproval expression was not evident, though we are certain it exists. This is an area worthy of more contemplation, as this is truly a skill teachers should possess. As teachers of future music educators, we should vigorously concern ourselves with providing students skills critical to future vocation.

One interesting result of this study was the relationship of certainty in the evaluators' responses and their percentage of correct identifications. It is clear that when the evaluators were certain, they were also right. When they were uncertain, assessment accuracy reflected ambiguity. The lesson taken from this is that participants knew that they did not understand. Snapshot or not, context or not, the evaluators' uncertainty, oddly enough, gives us some level of certainty.

These projects have shown an interesting reality. Students can, in an instant, demonstrate an approving affect. But, they cannot do the same for neutral or disapproving affects. In fact, researchers have been relatively ineffective in teaching students to improve. Granted, our interventions were brief. Simply extending these interventions could be helpful. On the other hand, one might ask about the cost benefit of such a modification to curriculum. If the snapshots were transformed into larger moments – such as a video or series of action shots – then the function of an expression may be more discernable. The same might be true if any or all of this were in some contextualized setting.

We believe in the importance of this topic, and that developing these skills is critical to teaching success. Without these skills, students will need to resort to words of disapproval which can be so much more lasting and damaging. Clearly investigating some of these issues of temporality and context will be considered as we continue to determine the nature of nonverbal expression as a valuable teaching tool.

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# Interplay of Cultural Musical Identities and its Relevance to Music Education in Kenya: A Case of *Kamabeka* Dance

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Abstract

The aim of this study is to determine how cultural music activities change and resist change in the formation of new identities at the Kenya Music Festival (KMF), and the implications of this interplay of identities to music education. The KMF is an annual carnival for educational institutions in Kenya. During this event, renditions of various musical cultures are exhibited, one of which is the *Kamabeka* dance of the *Bukusu* sub-tribe of the Abaluhya community in Kenya. This study examines how various musical and non-musical variables in performance of this dance interact within a community of practice to create a new musical identity that is uniquely KMF, but at the same time retaining the cultural identity that defines these activities. The study attempts to conceptualize how the context in which a musical activity is carried out interact with the music to construct a context specific identity, while at the same time retaining the activities' culturally accepted identity, which transcends different performance contexts. To achieve this, the Culture-Information Model of Creativity (Akuno, 2005) is used to explain the musical output which is dance. In addition, the research uses Video Stimulated Reviews (VSR) of recorded performances at the Kenya Music Festival and in traditional context as performed by the cultural bearers along with interviews and participant observation of these activities as data collection methods. Two categories of *Kamabeka* dance performances were selected: one from the cultural practitioners and the other from the KMF. Four teams from each category were recorded and trainers of the dances were interviewed. The two musical identities formulate a convergence that lends itself to scrutiny in music education research. The core that identifies *Kamabeka* dance remains as a resistant entity in the process of appropriation and it is this that is the focal point of *Kamabeka* dance identity

*Keywords:* Musical identity; Kamabeka dance; musical context; cultural change; Kenya Music Festival

# Interplay of Cultural Musical Identities and its Relevance to Music Education in Kenya:

## A Case of *Kamabeka* Dance

Every community has its own cultural and musical identity. Modernity and globalization continue to influence these identities, thus making music a culture indicator of various community dynamics. As such, traditional music and dance on the African continent continues to grow and transform. The predominant influence of changing audiences, performance spaces, production methods and varying aims of the dance performance are inevitable. These social-cultural changes among others have influenced the oral traditions and the methodologies that have sustained the performance of traditional dances in Africa.

The *Kamabeka* dance is a cultural dance performed among the *Bukusu* sub-tribe of the Abaluhya community in Kenya. This dance has been re-interpreted in a new context, the Kenya Music Festival (KMF). The KMF is an annual carnival for educational institutions in Kenya. During this event, various cultural musical renditions are exhibited and adjudicated. The adjudicators in this festival are music practitioners drawn from various educational institutions in the country. The ministry of education prepares and facilitates an annual trainers and adjudicators workshop held before the beginning of the festival, to prepare the adjudicators for the task ahead. Ranking, together with the adjudicators' comments, have over the years formed a foundation of what is perceived as a 'good' musical performance. As a result, subsequent performances emulate characteristic features of the previous year's winning performance in a bid to take first position and win a prestigious trophy. The festival has, therefore, formulated certain identities of the Kenyan cultural dances of which the *Kamabeka* dance is an example.

In this paper, I describe two types of *Kamabeka* dance performances: (1) the dance as performed by the cultural bearers; and, (2) the dance as performed at the festival. I attempt to conceptualize how the context in which a musical activity is carried out interacts with the music to construct a context-specific identity, while at the same time retaining the culturally accepted identity, which transcends different performance contexts. Akuno's (2005) Culture-Information (CI) Model of Creativity will be used to articulate this dynamic.

According to the CI model, creativity is a product of culture and information. Culture, as Akuno argues is "that which the individual absorbs naturally from the environment, through daily exposure . . . [while] information is knowledge and skills that are systematically and deliberately passed to the individual through formal and informal learning" (p. 172). Akuno's model is appropriate for this study as it focuses on the music curriculum in schools and the training programme of an apprentice musician, which is the kind of learning that takes place in a community such as the KMF.

**Aims and Objectives.** This study grew out of the researcher's interest in the continuous development and identity change of cultural musical renditions in Kenya. If a teacher was handling *Kamabeka* dance of the *Bukusu*, for example, which rendition of the dance would be most appropriate – that performed by the culture bearers, that performed at the KMF, or both and why? The aim of this study is to determine how cultural music activities change and resist change in the formation of new identities at the KMF, and the implications of this interplay of identities to music education.

## Method

The study uses ethnographic content analysis. This method is "qualitative in nature and aims to provide an in-depth description of a small number of cases" (Mouton, p. 149). Stratified sampling was used. Here data was collected from two musical settings: One from the culture bearers of the *Kamabeka* dance in Bungoma district as performed during fieldwork; and the other from the performances at the Kenya Music Festival. From the first strata, four performing groups were chosen and recorded through snowball sampling. In each group, the leaders were purposively sampled for interviews. From the second strata at the Kenya Music Festival, the first four ranked performances were recorded and their trainers interviewed.

Data collection methods included interviews, participant observation and video recording. Semi-structured interviews were conducted to elicit responses from the trainers of Kamabeka dance at the Kenya Music Festival and the leaders of various performing groups. Video recordings of performances at the Kenya Music Festival and those in the traditional context as performed by the cultural bearers were obtained and reviewed. Participant observation was used to identify the costumes, time taken, pattern formations, dance patterns and use of performance venue among others.

In order to explicate how the dance has changed from its cultural context to the Kenya Music Festival context, qualitative data were analyzed as follows: (1) by identifying the characteristic features of dance performance in the two contexts; and, (2) by identifying similarities and differences in the *Kamabeka* dances performed in the two settings.

## Results and Discussion

***Kamabeka* dance performed by culture bearers**. I begin by addressing the cultural identity of the *Bukusu Kamabeka* dance as performed by the culture bearers. By culture bearers, I am referring to the communities that have borne the identity of *Kamabeka* dance as part of their cultural expression. However, these groups of people do not live in isolation, devoid of modernity. In reality, they expose themselves to musics foreign to their cultural orientation. These are the people whom Dibango (1991) refers to when stating that, "they keep their traditional music for cultural activities and their work. They listen to the village singers but at the same time they listen to Franco" (p.7).

Dance is never performed in the absence of music; music here refers to both singing and instrumental renditions, with drama, costume and decor. Traditionally, the *Kamabeka* dance was accompanied by the *litungu* (lyre), *chimbengele* (wooden sticks), *siiye* (wooden box) and *bichenje* (leg jingles). According to Mindoti (personal communication, September 2011) other instruments such as the *isiriri* (a fiddle) and *engoma* (drum) were incorporated as a result of acculturation. These instruments were played by men who were also the soloists. The instrumental ensemble would begin the performance as the dancers freely joined in at their pleasure. All songs were strictly sung in *Lubukusu* (the *Bukusu* language) thus articulating a strong sense of cultural identity. These songs are folksongs whose themes are quite diverse – ranging from the reminiscence of the *Bukusu's* historical migration to their present location, social commentaries, and praise (among others). Nevertheless, the community has adopted the *Kiswahili* language – which is Kenya's national language – and encompassed themes relating to politics.

Among the *Bukusu*, the *Kamabeka* dance is performed during happy occasions such as weddings, beer parties and general entertainment. In such functions, the dancers are both male and female and any member of the community irrespective of age can join in the dancing. This is an opportunity for the younger members of the community to learn as they observe and imitate the older dancers. During my fieldwork, two performing groups whose performances included this dance were the *Namatete* Band and the *Sinani* Group Band. These two groups have special members whose role is to dance. Other groups do not have an organised dance troupe, but normally encourage members of the audience to dance during their performances.

The dance movement includes shaking of the shoulders that is distinct from the shoulder shaking of other Kenyan communities such as the *Akamba*, *Kisii*, *Luo* and *Giriama*. Different terminologies are used to explain the actual movement of shoulder shaking, for instance *khunikinia kamabeka* means to make shoulders tremble or to vigorously shake them; *khukhupa kamabeka* means to flap shoulders backwards and forwards or upwards and downwards; [whereas] *khutiembukha* means to sway the upper part of the body, above the abdomen, up and down in response to the *[L]itungu* music (Wanyama, 2007, p. 11).

As the dance unfolds certain formations are evident: (1) each dancer dances with no regard to the others; (2) the dancers form a single file and dance as they follow a leader; and, (3) dancers pair themselves facing each other, male versus female. Prominence is given to freedom of expression through dance. The formations are elastic and depend on both musical and extra-musical factors such as length of song, soloist's cues, the level of involvement of the dancers and the audiences' responses. The dances are performed in open spaces or fields not far from the homesteads. Such environments provide room for freedom of movement and sometimes single files of dances can even encircle the homesteads. The instrumentalists move as they play following the dancers for some short distances. They then remain stationery for a while and wait for the dancers to move back towards the instrumentalists. The soloist is, in most cases, an instrumental performer of either the *Litungu* or the *Isiriri*.

As this takes place, music and dance serve various functions: (1) it acts as a socializing agent for community members, allowing for interactions of members of the same or different age group depending on the contexts of musical performance; (2) during entertainment, the dance provides an avenue for courtship; (3) social values and important messages are perpetuated during these dance sessions such as mockery of the greedy in society; and, (4) it fosters group solidarity. Moreover, Nicholls (1996) postulates that, "dances are for physical exercise, exhibition of skills, emotional expression, aesthetic enjoyment, courtship and partner selection, interpersonal communication and cultural continuity" (p. 43).

Costumes in the traditional musical performances were not an issue, as each dancer wore everyday attire. There were instances, however, when the dancers would wear *biyula* (skirts) made from sisal along with *kamakhola* (banana bark) and *kamaru* (banana leaves) around their waists and around their upper arms to accentuate the shoulder shaking (Wekesa, personal communication, September 20, 2011).

***Kamabeka* Dance at the KMF**. The KMF serves as a hub for the encounters of world music in a postmodern context. The festival with its own guidelines continues to enjoy the support of a majority of Kenyans under the auspices of the ministry of education. It has given the Kamabeka dance another identity. In as much as the festival has made attempts to preserve the cultural authenticity of the dance, modernization has made it rather elusive owing to the context of performance. Here the dance is performed on a raised proscenium stage that limits the

available space for dancing, to a totally passive audience. Although the audience is multicultural with diverse religious backgrounds, people expect some form of entertainment as payment is made in order to watch the performances.

The *litungu*, *isiriri*, *siiye,* and *chimbengele* are used for performances on stage. Plastic containers often used for performances in the villages are not used for stage performances. This is because the festival regulations emphasize the use of authentic musical instruments as opposed to improvised ones.

Dance patterns and formation are strictly choreographed to suit the requirements of the KMF. The dancers begin dancing at the same time, forming various patterns and formations on stage (e.g., circular patterns and linear patterns) as they shake their shoulders. The shoulder shaking movement is sometimes adulterated by the popular dance movements from Zaire called *Ndombolo*. Wanyama (2009) concurs with this observation, and states that even though culture is dynamic, "it is quickly and seriously posing a great threat to the traditional authenticity, identity and originality, as it were, of the *Litungu* music and *Kamabeka* dance" (p. 219).

The dancers move, turn, stand up or lean forward at the same time for the sake of uniformity, while the instrumentalists also move together as they lead in the singing. There is little room for total individuality of dance expression. Dance costumes of various colors are tailor-made to enhance the dancers' shoulder movements. Together with this is decor for visual appeal.

The main function of the dance in the festival context is entertainment and winning the competition. Since the performers may not all be from *Bukusu* communities, they end up singing songs whose messages they do not understand or cannot relate to. Some of the students simply enjoy the melodies. Any dance performance that makes it to the top (i.e., ranking by the adjudicators at the festival) becomes a yardstick for future performances of the same dance by other performing groups. In effect, the adjudicators become critical agents who propagate what a 'good' dance is.

**Divergence and convergence of the two identities.** From the above description, it is clear that the authentic *Kamabeka* dance style has been retained with much of its instrumentation, language and themes. Shoulder shaking is a characteristic feature that, though modified through acculturation at the festival by some performing groups, is emphasized. This means that there is an effort to retain distinctive features of the dance as performed in traditional contexts.

In as much as the *Kamabeka* dance has struggled to retain its cultural identity, it has been transformed in the KMF context. The tempo of performance has been accelerated from *moderato* to *allegro*; the venue has changed from a village to a stage; the function of the dance has moved from educative –recreational to competition; and the audience has changed from participatory to passive. In this regard Nicholls (1996) states that, "although dances staged within cultural arts festivals are based on traditional forms, they have been uprooted from their customary social context in time, place and motivation. Sometimes they are significantly modified to suit the imagined tastes of the metropolis. Costumes are often changed and sometimes new musical instruments are added to the original ensemble" (pp. 51-52). Thus, the changes executed cannot be ignored.

**Implications for Music Education.** Culture – the environment in which one grows and lives – bears upon the performance of *Kamabeka* dance movements and patterns in the

traditional context. It is this context that gives meaning to the dance (which is *functional* within the *Bukusu* community). Similarly, if we look at the musical life of an individual who has been enculturated within the KMF, it is obvious that such an individual comes across performances of dances from various cultural groups, including *Kamabeka*.

The dancers of *Kamabeka* gain their information in two ways: (1) through the education system setup in the KMF context; and (2) through apprenticeship in the traditional *Bukusu* context. This results in the creative work, *Kamabeka* dance, which is the product. Whereas there are discourses on what *authentic* traditional music is – and what is contemporary – the music festival has given voice to the dance idiom in a multicultural context. As such there is a basis upon which knowledge of the dance is disseminated. The multiple identities form new meanings. Music educators must decide what aspects of the dance they would like to address.

In a classroom setting, the members – both the learners and the teacher – come from diverse backgrounds. There are already varied interpretations of the dance from various perspectives, as members bestow interpretations from their points of view. In essence, "the learners' cultural and national characteristics become evident in their behavior, attitude, as well as work methods" (Soot & Viskus, 2014, p. 1199).

The teacher must guide learners in identifying the characteristic features of the dance that makes it unique among others. These include dance vocabulary, dance space, accompanying musical instruments – rhythmic rendition, and the singing. It is the rhythm that greatly motivates one to respond by dancing. This dance allows music educators to delve into its dance structure and dance vocabulary alongside other musical elements that lend themselves to examples of African musical elements. The teaching of *Kamabeka* dance done outside the classroom and taken as part of co-curricular activities can incorporate traditional teaching methods. These methods include demonstration, observation, and repetition.

## Conclusions

Two contexts within which *Kamabeka* dance is performed and learned have been identified. These two contexts continue to thrive alongside each other, giving life and growth to the dance. As culture continues to evolve there is always a core that remains static. It is this core that gives identity to the dance.

The *Kamabeka* dance of the *Bukusu*, has distinctive shoulder shaking which is central to the identity of the dance. This dance is performed in response to music that features culture specific rhythmic organizations. As such, music educators have a lot to use in terms of teaching examples from this dance. It is *Kamabeka* dance in the *traditional context* that informs the KMF context. At the same time, the dance in the KMF context helps to propagate the traditional context. This is because one of KMF's objectives – similar to that of Kenya's education policies – is the promotion of Kenya's cultural heritage. Finally, it suffices to say that musical hybridity influences identity formations.

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# A New View of Vocal Learning in Infancy:

# Song Acquisition Predicts Accelerated Speech Acquisition

# and Accelerated Clarity of Expressive Speech

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Abstract

Although exposure to infant-directed-singing may support infants' phonological processing (Tsang, Falk, & Hessel, 2017) and/or enduring memories for structural aspects of language (François et al., 2017a), little is known about associations between infants' song acquisition (Benetti, 2017; Gudmundsdottir & Trehub, 2017; McGraw, 2017a) and co-occurring speech acquisition (McGraw, 2017a). However, in results of song acquisition studies, McGraw (2017bc 2018ab) reported that young children who were tuneful singers by age 2 were often observed to have accelerated speech with notable speech clarity. The purpose of this study was to investigate associations between song acquisition and speech acquisition in infancy. Using a mixed-methods research design, an auditioned children's choir was selected as a purposive sample. Parents of 37 singers responded to questions regarding song acquisition, speech acquisition, and clarity of expressive speech in infancy. A power-size test for correlations indicated that the sample was larger than required to avoid Type I/II errors. Ordinal data with many tied scores met assumptions for Goodman & Kruskal's *Gamma* test of correlation. Analyses of parents' responses to questions (surveys/follow-up interviews) indicated that 32 of 37 singers were tuneful by age two – and had parents who consistently sang to them, birth to two. Robust results of Goodman & Kruskal's *Gamma* correlation tests follow: (1) Significant, ongoing exposure to parents' infant-directed-singing predicts song acquisition by the age of two, $G = .96$. (2) Infants' song acquisition predicts accelerated speech acquisition, $G = .82$. (3) Infants' song acquisition predicts accelerated clarity of expressive speech, $G = .88$. Robust associations show that ongoing exposure to parents' *infant-directed singing* predicts song acquisition in infancy. Results also indicate that infants' song acquisition predicts two indicators of accelerated language acquisition: (1) accelerated speech acquisition, and (2) accelerated acquisition of speech clarity. Results suggest that ongoing exposure to infant-directed singing *tunes* infant-toddler perceptual/categorical learning of native language vowels such that accelerated speech has a distinctive quality, that of co-accelerated speech clarity. Results further suggest that infants and toddlers *imitate* and gain competence with *features* of *infant-directed vocalizations* in their ongoing singing of modeled infant directed-songs. Benefits of music for aspects of language learning are well-documented, and results here extend such findings – indicating that language acquisition is more multi-faceted than previously understood.

*Keywords:* singing, infant, song acquisition, speech acquisition, accelerated speech, speech clarity

A New View of Vocal Learning in Infancy: Song Acquisition Predicts

Accelerated Speech Acquisition and Accelerated Clarity of Expressive Speech

Recent research indicates that song acquisition, birth to age two, is the foundation for ongoing musical development to age seven (McGraw, 2017abc, 2018ab). Interestingly, in these studies, many parents of early singers independently reported accelerated speech acquisition coupled with accelerated speech clarity, a fascinating combination.

Singing is a *hybrid* vocalization (Christiner & Reiterer, 2013) with attributes that could support the acquisition of singing *and* speech. Thus, some researchers have observed that exposure to infant-directed (ID) singing could scaffold linguistic learning (Longhi & Karmiloff-Smith, 2004; Falk, Tsang, & Kello, 2018; Gerry, Unrau, & Trainor, 2012; Costa-Giomi, 2013a; McGraw, 2017abc; Tsang, Falk, & Hessel, 2017). Interestingly, music and language have shared neural resources (Segado, Hallinger, Thibodeau, Penhune, & Zatorre, 2018). Nan et al. (2018) reported kindergartners' ability to discriminate between pitches improved their ability to discriminate between vowels, consonants, and words, while Lebedeva and Kuhl (2010) found that exaggerated pitch patterns facilitated phonetic recognition for 11-month-old infants. Moreno (2009) concluded that "Music and language seem to share special features that allow music to improve and shape language processing" (p. 329). Brandt, Gebrian and Slevc (2012) and Chen-Hafteck and Mang (2012) have documented prelinguistic intertwining of music and language. To date, however, no studies have investigated the next stage of development. The purpose of this study, therefore, was to investigate the association between parents' ID-singing and song acquisition in infancy, and to consider associations between song acquisition and co-occurring speech acquisition.

**Background.** Songs – even first songs sung by infants and toddlers – combine melody and 'lyrics.' Both infants and toddlers sing pitches, song-segments, and tonal patterns using *vowels*, while toddlers (16-24 mos-of-age) sing melodies with lyrics comprised of *vowels* and words, or complex songs with words (Barrett, 2011; Costa-Giomi & Benetti, in press; Elmer, 2011; Gudmundsdottir & Trehub, 2017; Kessen, Levine, & Wendrich, 1979; McGraw, 2017ab; Papousek & Papousek, 1981; Sloboda & Howe, 1991; Tafuri, 2008; Valerio & Reynolds, 2009). Interestingly, some emergent singers imitate longer sung-sequences (using vowels) than they concurrently speak (Benetti, 2017; McGraw, 2017ab).

Researchers have found that by listening to parents' ID-singing, infants and toddlers perceive similarities and differences in melodies (Costa-Giomi, 2013ab) – and learn to sustain vowels on pitches of a melody, 'switch' between singing and speech, imitate a 'singing' vocal timbre, and imitate features of infant-directed vocalizations (Costa-Giomi & Benetti, in press; McGraw, 2017ac; Tafuri, 2008).

**Optimal period for song acquisition.** Birth to age two is a *critical period* for language acquisition (Newport, 2002), and seems to be *optimal* for song acquisition (McGraw, 2017abcd). In such periods, learning occurs rapidly and efficiently through exposure (Bailey & Penhune, 2013; Robson, 2002). Both talking and singing are procedural skills (Harrison & O'Bryan, 2014; Knowlton, Siegel, & Moody, 2017) acquired through exposure to parents' vocalizations.

**Singing and vocal learning.** Parents intuitively use *ID-speech* and *ID-singing* with babies and toddlers. Although ID-singing and ID-speech share multiple acoustic characteristics (Falk, 2007), almost *all* research to date has centered on *ID-speech*. Remarkably, as Falk observed, "while the properties of ID-speech . . . have been extensively studied in the last decades, singing for children and its impact on language acquisition is nearly absent in the literature" (p. 1).

**Vowels and vocal learning.** Infants have *broadly tuned* perceptual abilities and can learn any language. *Perceptual narrowing* occurs between 6-12 months-of-age (Werker & Tees, 1984), and exposure *tunes* the perceptual system more narrowly such that infants become sensitive to *native-language vowels* (Kuhl et al., 1997). Infants *segment* the sound-stream and track 'regularities' (Saffran, Johnson, Alsin, & Newport, 1999). Importantly, for infants, *segmentation of songs is much easier than segmentation of speech* (François et al., 2017ab). Notably, segmentation supports singing practice with native vowels well into the second year of life (Benetti, 2017; McGraw, 2017abc; Oller, 2000).

The two features of *ID-speech* most important for linguistic learning are *long duration vowels* and *use of a slow speech rate* (Meltzoff & Kuhl, 2016; Werner, 2002). These elements are *even more accentuated* in ID-singing than in ID-speech (Falk, 2007; Tsang et al., 2017*)*. Interestingly, Teixido, François, Bosch, & Mannel (2018) observed that singing children's songs scaffolds linguistic learning similarly to ID-vocalizations. Mothers repeat a small number of songs using consistent tempos and pitch levels, supporting long-term memory and segmentation of melodic patterns (Chang & Trehub, 1977; Cirelli, Trehub, & Trainor, 2018).

ID-speech is a signal with high levels of variability, one that is challenging to imitate (Costa-Giomi, 2013b). In contrast, ID-singing is more stable and constrained – thus, infants and toddlers *can* imitate ID-singing, and in so doing, imitate ID-features critical for linguistic learning (Costa-Giomi & Benetti, in press; Elmer, 2011; McGraw, 2017ac; Tafuri, 2008).

**Clarity.** Adult vocalizations that feature long-duration vowels in slow tempos heighten speech clarity for infants and toddlers (Ferguson & Kewley-Port, 2007), as does singing in higher pitch ranges using a 'smiling voice' (Ohala, 1980; Trainor, Clark, Huntley, & Adams, 1997). Importantly, Falk (2007) investigated *clarity in mothers' ID-singing*, reporting, "Singing . . . is well-adapted to assist the child at an early stage in acquiring the linguistically relevant characteristics of his/her mother tongue" (p.1). Table 1 shows the efficacy of ID-singing for linguistic learning.

Table 1.

*ID-singing: Vowels and clarity*

| ID-Feature | Singing | References |
|---|---|---|
| long-duration vowels – important for language acquisition and speech clarity 5:1 vowel duration – singing | X | Falk, 2007; Meltzoff & Kuhl, 2016; Tsang et al., 2017 |
| prominence/distinctiveness of vowels | X | Falk, Muller, & Dalla Bella, 2015 |

| | | |
|---|---|---|
| stability of vowels (vs. variability) | X | Falk, Muller, & Dalla Bella, 2015 |
| slow tempo, slow phonation rate | X | Christiner & Reiterer, 2018; Falk, 2007, 2011 |
| singing in higher pitch ranges boots vowel clarity | X | Trehub & Trainor, 1998 |
| singing 'with a smile' boosts vowel clarity | X | Trainor et al., 1997 |

*Note.* X indicates more robust manifestation of ID-element.

**American English and pediatric milestones**. American English is a vowel-heavy, stress-timed language – and in speech, unaccented syllables are *reduced*: 30% of vowels use indistinct *schwa* sounds (see Wikipedia entry). Hartman (2013) found American English to be frequently underarticulated. In singing, vowels are phonated differently from speech, and sung vowels have greater clarity than those of speech (Good, Russo, & Sullivan, 2015).

In contrast to early speech clarity reported for 'tuneful' babies and toddlers (McGraw 2017abc), most American children develop speech clarity slowly. Pediatric milestones (Dosman, Andrews, & Goulden, 2012) have no developmental expectations for speech clarity prior to age *two*, with *five* years of age identified as the time when speech should be "100 % intelligible to strangers." A National Institue on Deafness and Other Communication Disorders (NIDCD) milestone for age 2-3 states: "Speech is becoming more accurate but may still leave off ending sounds. Strangers may not be able to understand much of what is said" (U. S. Department of Health and Human Services, 2010). Lysako et al. (2014) reported that *infants' accelerated speech clarity at 12 months* of age predicts their speech development from two to seven years of age.

## Method and Results

This is the first known study to investigate associations between infants' song acquisition and speech acquisition. In language acquisition research, parents' answers on surveys investigating speech development have been found to be reliable (Preston et al., 2010; Rescoria & Alley, 2001; Zubrick, Taylor, Rice, & Siegers, 2007). Here, parents' answers to questions (surveys/follow-up interviews) were similarly consistent, suggesting construct validity and reliability of responses.

**Subjects, sample, and procedures.** In hopes of finding an information-rich sample of children who sang tunefully as infants, a *purposive* sample was selected (Patton, 1990) -- a nationally recognized children's choir. The sampling strategy met all 'standards' for such qualitative research (Palinkas et al., 2015). The rationale follows: (a) early singers enjoy singing in choirs (McGraw, 2007); and (b) early singers enjoy singing vocal harmony (McGraw, 2017b). Moreover, expert-directors had auditioned singers, reducing researcher-bias for subject selection. Desired vocal quality for child singers was described in online audition information as follows: "Potential singers should be able to carry a tune with a pleasant, undamaged singing voice."

Permission was obtained to ask parents to respond to the questionnaire. Staff distributed questionnaires in envelopes to singers and returned questionnaires to researcher in those

envelopes. Procedures follow: (a) research questions formulated; (b) sample identified; (c) questionnaire developed and distributed; (d) power-analysis done for correlation sample-size; (e) analysis of questionnaire responses; (f) selection of appropriate correlation test; and (g) analysis of data using appropriate test of correlation.

**Data description.** Analyses of questionnaire responses indicated ordinal data with discrete, categorical variables; non-parametric, non-normal distribution with many tied scores; marked positive skews for each criterion variable; outliers; and evidence of strong associations.

**Power-size analysis**. The following parameters were entered for a power-size analysis: $\alpha$ (two-tailed) = 0.05; $\beta$ = 0.2, and an estimated r = 0.6. Results indicated that a sample size of 19 was needed. Total sample size = $N = [(Z_\alpha+Z_\beta)/C]^2 + 3 = 19$ (www.Sample-Size.net). Thus, the sample size of 37 subjects (32 *early* singers + 5 *later* singers) was much larger than required to avoid Type I/II errors.

**Questions, qualitative analyses, and correlation tests**

*Parents' live singing to babies and early tuneful singing*.

Questionnaire.

*Did you regularly sing to your child when he/she was a baby* _____

*If your answer is 'yes,' please estimate daily exposure.* _____

*Did your child sing 'in tune' right from the start?* _____

*Please tell the age when your child began to sing in tune.* _____

- Thirty-two (32) of 37 singers were reported to be tuneful by the age of two and to '*sing in tune right from the start*.'
- Parents of *early* tuneful singers ($n$ = 32) reported significant, ongoing live singing to their children, birth to two.
- Five singers were reported to first sing tunefully at the age of 3 or 4 (i.e., *later* singers).

**Correlation 1**. The *Predictor* variable – *parents' singing to infants and toddlers* - was operationalized as 'singing exposure, birth to age two.' This ordinal variable has two levels of singing exposure: '*No* exposure to parents' singing, birth - two' was coded as 1. 'Ongoing singing exposure, birth to two' was coded as 2. The *Criterion* variable – *song acquisition* – was operationalized as 'singing tunefully by the age of two.' This ordinal variable has two levels of singing skill acquisition: '*No* tuneful singing by age two' was coded as 1 and 'tuneful singing by age two' was coded as 2. Goodman & Kruskal's *Gamma* test (37 Ss) indicated a robust correlation between parents' infant-directed-singing and infants' song acquisition, $G$ = .96. The

direction of the relationship was specified: thus, *ongoing exposure to parents' infant-directed singing predicts infants' song acquisition by age two*.

**Speech acquisition**

Questionnaire.

*Please circle the word(s) that best describe your child's speech acquisition:*

*Behind schedule* *On schedule* *Accelerated* *Highly accelerated*

Most early singers' parents reported that *Accelerated* or *Highly accelerated* speech acquisition co-occurred with early tuneful singing (i.e., simple sentences from 14-24 mos.-of-age). Parents of two early singers reported *on schedule* speech acquisition. No parents reported *behind schedule* speech acquisition. With responses coded numerically from 1 (*Behind Schedule*) to 4 (*Highly accelerated*), the 'average' across early tuneful singers was 3.5 – indicating *Accelerated speech with a strong trend toward highly accelerated speech*. Descriptive statistics follow – Range: 1- 4; Mean: 3.5; Mode: 4; Median: 4; Variance: 0.4; SD: 0.63; Skewness: $Sk_2 = -2.38 < -0.643$. Non-normal distribution, skewed left (Doane & Seward, 2011).

**Correlation 2**. The *Predictor* variable -- *song acquisition* – was operationalized as 'singing tunefully by age two.' This ordinal variable has two levels of singing skill acquisition: '*No* tuneful singing by age two' was coded as 1 and 'Tuneful singing by age two' was coded as 2. The *Criterion* variable – *accelerated speech acquisition* – was the parents' forced-choice answers. Questionnaire answers were collapsed into two levels of speech acquisition: (a) *Behind schedule* and *On schedule* formed the first set, coded as 1; and (b) *Accelerated acquisition* and *Highly accelerated acquisition* formed the second set, coded as 2. Goodman & Kruskal's *Gamma* test (37 Ss) indicated a robust correlation between infants' song acquisition and accelerated speech acquisition: $G = .82$. The relationship direction was specified: thus, *song acquisition by age two predicts accelerated speech acquisition*.

**Speech clarity**

Questionnaire.

*Please circle the phrase that best describes your child's <u>early clarity of speech</u>*

*(from roughly 12 months of age onward).*

*Like baby talk* *Words easy to understand* *Precise articulation*

Most parents of early singers reported clarity of expressive speech: 16 parents reported *Words easy to understand* and 14 parents reported *Precise articulation*. One bilingual parent reported speech clarity at age 3, while another parent reported *Like baby talk*. With responses

coded numerically from 1 (*Like baby talk*) to 3 (*Precise articulation*), the average across early tuneful singers was 2.4, indicating *Words easy to understand with a strong trend towards precise articulation.* Descriptive statistics follow: Range: 1-3; Mean: 2.4; Median: 2; Mode: 2; Variance: 0.25; SD: 0.5. Skewness: $Sk_2 = 2.4 > 0.643$. Non-normal distribution, skewed left.

**Correlation 3.** The *Predictor* variable – *song acquisition* – was operationalized as in the first correlation test. The *Criterion* variable – *accelerated speech clarity* – was parents' forced-choice answers on the questionnaire: Answers were collapsed into two levels of speech clarity: (a) the lowest level, *Like baby talk* was coded as 1; (b) *Words easy to understand* and *Precise articulation* formed the second set, coded as 2. Goodman & Kruskal's *Gamma* test (37Ss) indicated a robust, positive correlation between early song acquisition and accelerated speech clarity: G = .88. The relationship direction was specified: thus, song acquisition by age 2 predicts accelerated speech clarity.

## Discussion and Conclusions

The purpose of this study was to investigate associations between parents' ID-singing and infant-toddler song acquisition, as well as associations between emergent song and speech. Using a mixed-methods research design, parents of singers responded to questions about their children's singing acquisition, their children's co-occurring speech acquisition, and whether or not they consistently sang to their children, birth to age two.

**Song acquisition**. Robust results (Gamma = .96) indicated that parents' *ID-singing* scaffolds infants' song acquisition and confirmed beliefs regarding the importance of parents' singing to babies and toddlers.

**Accelerated speech**. A robust association indicated that song acquisition by age two predicts accelerated speech acquisition, Gamma = .82. Qualitative results indicated that 59% of early singers had *highly accelerated* speech acquisition, and 35% had *accelerated* speech acquisition. This correlation coefficient was lower than the one for speech clarity only because there are *multiple paths* to accelerated speech acquisition, whereas speech clarity is grounded in vowel quality and duration.

**Speech clarity**. Ongoing practice with long-duration vowels in singing likely benefits phonation of the shorter-duration vowels of speech, and by extension, *clarity of expressive speech*. The robust, positive correlation reported (Gamma = .88) here supports this hypothesis, as speech acquisition for these subjects was not merely accelerated, but accelerated with a *distinctive signature – clarity*. Qualitative results indicated that 44% of early singers had *precise articulation*, with the speech of 50% described as *easy to understand*.

Results strongly suggested that infant-toddler song acquisition (and by implication ID-singing) *scaffold speech clarity better than ID-speech* for infant-toddler language learners. Here there was evidence of clarity by age two, while research-based pediatric milestones have a five-year trajectory (Dosman et al., 2012).

In sum, *as a group,* early singers had accelerated speech with a distinctive acoustic signature – notable *speech clarity*. Such *homogeneity* is quite different from the *heterogeneity* reported in language acquisition research. There, great *variability* is expected in the ages at

which speech milestones are reached (Dosman et al., 2012; Purdy, 2017). Table 2 extends reported associations by showing the frequency of early singers in each category and indicates that children with 'on schedule development' were outliers.

Table 2

*Early Singers: Accelerated Speech and Accelerated Speech Clarity* (*n = 32*)

| | Speech | | | Clarity | | |
|---|---|---|---|---|---|---|
| Measure | On Schedule | Accelerated | Highly Accelerated | On Schedule | Words Easy to Understand | Precise Articulation |
| Percentage | 6.0 | 35.0 | 59.0 | 6.0 | 50.0 | 44.0 |
| Ss | 2.0 | 11.0 | 19.0 | 2.0 | 16.0 | 14.0 |

Children who reach speech milestones early are referred to as *early talkers*. They have both "distinctive neural signatures" and enduring advantages with spoken language, reading, and other literacy/linguistic skills (Preston et al., 2010, p. 2185). Results suggested that early singers experience similar ongoing advantages, as most were 'early talkers' with accelerated speech clarity. Table 3 summarizes these qualitative results.

Table 3

*Expressive Speech: Early Singers Compared to Developmental Milestones*

| Expressive Speech [NIDCD] | Age 2 Milestones | Age 3 Milestones | Age Early Singers |
|---|---|---|---|
| Speech Acquisition | 2-word phrases | 3-4 word sentences | *Accelerated speech* trending towards *highly accelerated* Simple sentences 14-24 months |
| Speech Clarity | First milestones age 2 (18-24 months) | Some speech recognizable to strangers, age 2-3 | *Words easy to understand* trending toward *precise articulation* |

**Implications**.

- *Singing benefits speech*. In speech acquisition, infants and toddlers are challenged by combinatorial combinations between syllables (Lipkind et al., 2013). An additional possibility for the robust accelerated speech association (Gamma = .82) is the *rhythmic organization of singing*. Rhythmic singing is used in rehabilitation for speech disorders

(stuttering, reading disabilities) and in pronunciation practice associated with the learning of a foreign language (François, Grau-Sánchez, Duarte, & Rodriguex-Fornells, 2015). Early singing may improve speech mechanics in similar ways. Singing-related vocal-motor development benefits phonological learning (Tierney & Kraus, 2014; Tsang et al., 2017), reading proficiency (Bonacina, Krizman, White-Schwoch, & Kraus, 2018), and processing of sound-in-noise for preschoolers – a literacy biomarker (White-Schwoch et al., 2015).

- *Transmission*. ID-speech is used for a brief timeframe. Mothers begin to phase ID-speech out when toddlers speak first words, and most American fathers do not use it (Texidio et al., 2018; Van Dam, Jessup, & Tully, 2016). ID-singing, however, is used throughout early childhood by parents and music professionals (Andress, 1998). Furthermore, cross-generational transmission is observed (Custodero & Johnson-Green, 2003), as early singers imitate parents' singing and 'sing constantly' across early childhood (McGraw, 2002, 2017b). Thus, ID-singing is not only an efficient signal for vocal learning, it is also enduring.
- *Singing!* Parents – especially fathers – who are uncomfortable with ID-speech can sing instead, knowing that they are simultaneously supporting language acquisition (Van Dam et al., 2016). Moreover, "songs are an aid for language acquisition" (Schon et al., 2008).
- *Timing*. Both prenatal and early-life ID-singing are critical for ongoing development (Woodward & Guidozzi, 1992).
- *Development*. Song acquisition changes neural development, as does ongoing pitch-accurate singing practice (Salselas & Herrera, 2011).

**Coda**. This is the first known research to address early-life associations between emergent singing and speech, as well as the link between ID-singing and song acquisition. Results are robust, and implications are compelling.

While McGraw (2017b) showed that song acquisition supports ongoing musical development to age seven, results here indicated that song acquisition also supports aspects of speech acquisition. Furthermore, results suggested that vocal music – infant-directed singing, the songs that are sung, and song acquisition – plays an elemental role in early vocal learning. In sum, linguistic learning is not grounded strictly in *spoken* language, per se – and speech acquisition in infancy is more multi-faceted than previously understood.

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# School Choir Competition in Japan: Art or Athletics?

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Abstract

The present study revealed the positive and negative aspects of choir competition in Japan, and finally discussed the healthy use of competition. Ten adults who had actively engaged in choir as an extracurricular activity volunteered for this study. All of them had participated in the NHK All-Japan School Choir Competition and/or the National Choral Competition. Five participants reached the final round of one of the competitions, and one won first prize during the final round. Three participants reached the semi-final round. Although the remaining two participants did not progress in the competition, they won silver and gold medals, respectively, in the preliminary round. The author conducted semi-structured interviews using open-ended questions. The interviews started by asking why they started participating in the choir and what choir activity meant for them. The participants were also asked to describe the human relationships within the choir groups, their ideas about winning the prize, and what they achieved through choir activities. Before the commencement of the analysis, interviews were recorded and fully transcribed. The Modified Grounded Theory Approach (M-GTA) was adopted to analyze interview transcripts. The M-GTA, developed by Kinoshita (2003), is one version of the Grounded Theory Approach (GTA). The interview data yielded 26 concepts. After examining the relationships among these concepts, the following eight categories were developed. The first three categories pertained to the process of participating in the competition: 'Sticking to the prize,' 'opinions toward the results,' and 'successful experience through competition.' The next two categories related to the human relationships within the choir group: 'Relationships among choir members,' and 'strong influence of the teacher,' and 'reliance on the teacher.' Two categories related to the influence of competition on the later lives of participants: 'Quitting choir activities,' and 'development through competition.' One additional category addressed the 'musical meaning of choir activities.' All participants were highly interested in winning the prize, and some said that winning the prize was more important than musical achievement. On the contrary, there were many participants who placed more importance on musical achievement and musical enjoyment; even the participants who stated that winning the prize was their priority noted that they obtained considerable musical meaning from engaging in choir competition.

*Keywords:* choir competition, school, musical development, influence of teacher, extracurricular activity

School Choir Competition in Japan: Art or Athletics?

In Japan, school choir is extremely popular. Along with brass band activities, it is one of the most popular extracurricular activities among elementary, middle, and high school students. One of the reasons for this is the popularity of competitions. There have been many school choir competitions in Japan, from the local level to nationwide, and many students compete ruthlessly with each other to win prizes, which provides a strong impetus for students to begin and to continue choir activities.

The NHK All-Japan School Choir Competition and the National Choral Competition are the largest and most important competitions in Japan. Both have a long history. The NHK All-Japan School Choir Competition was first held in 1932, and the National Choral Competition started in 1948. Since then, they have grown year by year, until last year the number of schools participating reached 2,548 in the NHK All-Japan School Choir Competition (e.g., elementary, middle, and high schools; Nihon Hoso Kyokai, 2018) and 1,197 in the National Choral Competition (e.g., middle and high schools; Japan Choral Association, 2018)

Within school education, a competitive aspect has been introduced to many activities in school lessons and outside the curriculum, which includes areas such as essays, sports, fine arts, and music. Researchers and educators often justify the utility of competition in terms of how it increases the motivation of individuals (Kohn, 1992). Students dedicate themselves to developing their skills through competition. However, competition is a double-edged sword, with good and bad effects. While many educators and researchers have highlighted the positive aspects of competition, numerous studies have revealed problems and negative outcomes associated with competition, whereby the inherent value of learning was diminished by the extrinsic motivation to win the prize (Johnson & Johnson, 1989).

This conflicting nature of competition is reflected in school music programs. Studying for music competitions has both negative and positive aspects. Austin (1990) warned about the attitudes of educators, as "Many of today's music educators are immersed in the race to be number one, and at times it is difficult to tell where [the] athletic field ends and [the] music classroom begins" (p. 22). This extremely competitive attitude is not restricted to educators. Millard (2014) revealed that although educators participate in competitions to try to motivate students toward their musical achievement goals, they perceived that their students prefer to attend competitions in order to gain high ratings and recognition.

While researchers have warned against the negative aspects of competition, the positive aspects of competition have also been noted by researchers and practitioners. Kawamoto (2016) showed the effects of classroom choral competition on group identification and self-affirmation. Takahashi and Kanaya (2015) also found some positive effects on group emotion for junior high school students, whereby female students showed increased familiarity amongst themselves, greater trust of the teacher, and an increased sense of fairness in the classroom after participating in the classroom choir competition.

Previous studies showed how competition has both positive and negative aspects, and indicated that the advantages and disadvantages of competitions in education should be discussed from various perspectives – for example, musical development, student's motivation, and human relationships. However, in Japan, few studies have comprehensively examined the utility of competition. Furthermore, few of the extant studies have focused on extracurricular school choral competitions. As reported earlier, many schools participate in the prestigious competitions with extreme motivation. Such focus might distort the educational aspects of competition, or it

be highly advantageous for students' development. Accordingly, the present study revealed the positive and negative aspects of choir competition in Japan, and discussed the healthy use of competition.

## Method

### Participants

Ten adults who had actively engaged in choir as an extracurricular activity volunteered for this study. All the participants had participated in the NHK All-Japan School Choir Competition and/or the National Choral Competition. Five participants reached the final round of one of the competitions, and one won first prize. Three participants reached the semi-finals. Although the remaining two participants did not reach the semi-finals, they won silver and gold medals, respectively, in the preliminary round (see Table 1).

Table 1

*Participants' Duration of Choir Activity and Prizes Won*

| Participant (age) | Duration of participation in choir | Stage and prize |
|---|---|---|
| 1 (25) | elementary, middle, high | final |
| 2 (26) | elementary, middle, high | final |
| 3 (19) | elementary, middle | final (first prize) |
| 4 (21) | elementary, middle | final (second prize) |
| 5 (21) | elementary, middle | final (second prize) |
| 6 (18) | elementary | semi-final |
| 7 (20) | middle, high, university | semi-final |
| 8 (20) | middle, high | semi-final |
| 9 (22) | middle, high | preliminary (silver medal) |
| 10 (24) | middle | preliminary (gold medal) |

*Note.* Preliminary stagers were by prefecture (47 prefectures); semifinal by region (8 regions: Only for NHK All-Japan School Choir Competition); and finals were national.

### Data Collection and Interview

The author conducted semi-structured interviews using open-ended questions. In interviews, participants were asked why they started choir activity and what such activity meant for them. The participants were also asked to describe the human relationships among the choir members, their ideas about winning a prize, and their achievements through choir activities. Before the commencement of the analysis, interviews were recorded and fully transcribed.

## Data Analysis

The Modified Grounded Theory Approach (M-GTA) was adopted to analyze the interview transcripts. The M-GTA, developed by Kinoshita (2003), is a modified version of the Grounded Theory Approach (GTA). The major difference between the M-GTA and the GTA is that the former directly produces the concepts by interpreting the data, while the original GTA develops concepts by using intervening tools such as codes and properties. Therefore, in the M-GTA the analysis does not proceed in a well-sequenced manner by slicing and coding the data; rather, it starts at the concept level, which leads to reading and interpretation within the context of the data as a whole.

## Results

Interview data yielded 26 concepts. After examining the relationships among these concepts, the following eight categories were developed. The first three pertained to the process of participating in the competition: 'Sticking to a prize,' 'opinions toward the results,' and 'successful experience through competition.' The next two categories related to the human relationships among choir groups: 'Relationships among choir members,' 'strong influence of the teacher,' and 'reliance on the teacher.' Two categories related to the influence of competition on the later lives of the participants: 'Quitting choir activities,' and 'development through competition.' The remaining category addressed the 'musical meaning of choir activities.' The content of each of these categories and the relationships among them are discussed in the following section.

**Sticking to the prize.** This category consisted of four concepts: (1) Choosing the school that regularly goes on to final stage; (2) the existence of rival schools; (3) satisfied with a prize rather than with the quality of performance; and (4) performance specifically designed to win a prize. Many comments indicated that winning a prize was extremely important for the participants who actively participated in the choir activities. As seen in the first concept (i.e., 'choosing the school that regularly goes on to final stage'), some participants clearly said that one of the most important factors in choosing the school to enter was that the school have a strong choir group that can compete successfully in the final round. Since the participants were very motivated to win a prize, they were very conscious of rival schools. In the concept of 'existence of rival schools,' the participants reported that they had particular schools that they always wanted to beat.

The strong will to win prizes was also reflected in the concept 'satisfied with a prize rather than with the quality of performance,' whereby some participants seemed indifferent to their musical achievement. One participant clearly mentioned that winning the prize was more important than the quality of the performance. As the result of such attitudes, the participants seemed to create performances from a specific perspective that was reflected in concept 'performance specifically designed to win a prize.' Included within this concept were comments by some participants that they often designed their performance to appeal to the judge, not according to their own musical sensibilities.

**Opinion toward the results.** This category consisted of the following concepts: (1) 'understanding the evaluation viewpoints;' (2) 'evaluating other schools;' (3) 'not accepting the

results;' and (4) 'evaluations based on judge's preferences.' Participants were very sensitive to many aspects of evaluations, consistent with the previous category ('sticking to the prize'). Many participants tried to understand how their performances were evaluated by analyzing and digesting their competition results. For example, many comments included in the concept of 'evaluation viewpoints' showed that the participants tried to understand the viewpoints by which the judges evaluated their performances. Furthermore, as seen in the concept of 'evaluating other schools,' the participants usually evaluated other schools at the competition based on their own evaluation viewpoints.

Since the participants possessed their own standards regarding the quality of performance which were used to evaluate other schools' performances, sometimes the participants could not accept the results when they did not win a prize. Within the concept of 'not accepting the results,' many participants reported that they felt their performances were much better than performances that won higher prizes. The comments within the concept of 'evaluations based on judge's preferences' suggested that many participants tried to digest these feelings of being unable to accept outcomes by considering that the evaluation heavily relied on the preferences of the judges, and that it did not reflect the objective quality of the performances.

**Successful experience through competition.** The final category that related to the process of participating in a competition was Successful Experience Through Competition, which consisted of three concepts: (1) 'development of unity power;' (2) 'sense of accomplishment;' and (3) 'satisfied with the quality of the performance.' Compared to the previous two categories, this category delineated the positive aspects of competition. While the previous two categories showed that participants were strongly bound to the competition by the existence of a "prize." This category showed that they had many positive experiences in the process of participating the competition. The concept of 'development of unity power' consisted of comments that recognized the relationships among the members became closer during the process of participating in the competition. In particular, many participants valued the feeling that everyone was united while singing on the stage.

The concept of 'sense of accomplishment' was established from the participants' reports after the competition performance. The participants unanimously expressed a feeling that "I made it!" immediately after the performance, which indicated that they felt a deep sense of accomplishment. The importance of this sense of accomplishment was reinforced by the concept of 'satisfied with the quality of the performance,' which derived not only from the satisfaction of winning a prize, but also from the sense that they performed as they intended and thereby achieved their musical goals.

**Relationships among the choir members.** This category consisted of three concepts: (1) 'hierarchy of human relationships;' (2) 'difference of motivation between members;' and (3) 'rivalry between members.' These concepts elucidate unusual aspects of human relationships. In many choir groups, the participants' behavior both in and out of school is tightly controlled. For example, hairstyles and clothing styles are strictly regulated. One participant reported that the teacher even recommended the food they should eat at home. The participant actually followed the recommendation. This kind of control was strictly maintained by the choir group's hierarchical relationship. The concept 'hierarchy of human relationships' clearly delineated that, in some choir groups, there was a clear human hierarchy in which the teacher and senior

members ensured that the junior members adhered to the regulations. Several participants complained that they could not establish a collaborative relationship with the senior members.

The concept 'difference of motivation between members' showed that the members varied in the extent of their motivation, even in the top-ranking choir groups. One participant who reached the final round stated that one of the greatest difficulties in organizing the group was how to maintain the same level of motivation among the members. While all members did not work equally hard, intense rivalries among members were observed, leading to the concept of 'rivalry between members.' Many participants seemed conscious of their own singing skills and compared their skills to those of others. In particular, in a club that had a large number of members, given the NHK competition's number restrictions, members had to pass an audition in order to participate in the competition. This further facilitated rivalry among members.

**Strong influence of teacher and reliance on teacher.** This category consisted of three concepts: (1) 'great respect for the teacher;' (2) 'reliance on the teacher for winning a prize;' and (3) 'evaluation from the teacher.' As seen in these concepts, the teacher who directed the choir group had considerable influence on the students. In the concept of 'great respect for the teacher,' the participants' respect for the teacher was so strong that they expressed they would follow absolutely the teacher's instructions. As one participant explained:

> It was like a religious organization. The teacher was great and a woman of exceptional character. We totally relied on the teacher and believed in her. We gradually built such a feeling. It was a mystery how she created such an atmosphere, but she did. (Participant 3)

In addition to the strong respect for the teacher, many participants believed that the teacher's ability strongly influenced the results of the competition. The comments in the category of 'reliance on the teacher for winning a prize' expressed that participants felt they owed a great deal to the teacher who helped them win the prize. Participants from different regions unanimously revealed that there were "famous teachers" in their prefecture, who were regularly brought in to lead the students to the final round. The participants believed that their chance of reaching the final stage was optimized by learning from such a famous teacher. A participant who unfortunately did not have a chance to study with a famous teacher suggested that she could have reached the final stage if she had studied with a famous teacher (Participant 8).

As discussed earlier, since the participants were strongly influenced by the teacher, it seemed natural that feedback received from the teacher was precious to the participants. The concept of 'evaluation from the teacher' showed that even brief reviews of the participants' performances had a large influence on increasing or decreasing the participants' motivation.

**Quitting choir activities.** In terms of the influence of competition on students' later lives, two contrasting categories emerged, of which one was negative: 'Quitting choir activities.' This category consisted of three concepts: (1) 'lack of time to spare;' (2) 'dissatisfaction with superficial activity;' and (3) 'burnout.' Many participants did not continue choir activities after graduating from school, even though they had been actively engaged in such activities in school. One reason they ceased choir activities was explained in the concept 'lack of time to spare.' Tight schedules that were part of everyday adult life prevented them from continuing choir-activities.

However, time was not the only issue. The concept of 'dissatisfaction with superficial activity' explains that the quality of choir activity was also one of the most important factors in

continuing choir. Many participants explained that they had dedicated so much of their school lives to choir activity that they could not satisfactorily participate in choir activity as working adults, because this time, it would be solely for enjoyment. As anticipated, the concept of 'burnout' was established to explain the discontinuation of choir activity. One participant confessed, "I could go on to the final round: It's enough for me." (Participant 3).

**Development through competition.** This category consisted of three concepts: (1) 'musical development;' (2) 'development of organizing skills;' and (3) 'development of self-efficacy." While the previous category showed that competition does not always bring positive outcomes to participants' later life, the participants developed various kinds of skills and emotions through their participation in competitions. The concept of 'musical development' showed that, by participating in competitions, the participants acquired various musical skills, such as voice production and pitch sensitivity. Development of skills was not limited to those of a musical nature. Interestingly, many participants described complex human relationships among seniors, juniors, and fellow members at choir club, which led to establishing the concept of 'development of organizing skills.' Many participants reported that one of the hardest aspects of managing choral club activity was how to address difficulties with human relationships. The participants unanimously stated that such experiences enabled them to develop group-organization skills.

'Development of self-efficacy' is an important concept. Participants who reached the semi-finals or finals obtained a visible result whereby they outperformed the students of other schools. An interesting comment from some participants was that they considered their choir activity to be an important marker in their lives:

> If I am asked about my middle-school life, I am proud to say "I performed in the final round of choir competition." Thanks to my participation in competition, I made a great footprint in my life. (Participant 4)

**Musical meaning in choir activity.** This category consisted of three concepts: (1) 'attraction to live performances;' (2) 'enjoyment of singing;' and (3) 'creative expression.' As reported earlier, winning a prize seemed to be of high interest to the students. However, many participants never lost the musical meaning of the choir activities. The first concept of 'attraction to live performances' includes both listening to live performances and performing live on stage. Several participants explained that the chance to enter the choir group came by way of a live performance that senior members gave to the applicants who wanted to join the club. Many participants said they were so impressed by their seniors' performance that they wanted to join the choir. Singing in the concert hall was also special to the participants. Interestingly, several participants reported strong memories of special moments in which they were strongly moved by their own performances in the concert hall.

The concept of 'singing with enjoyment' included in this category derived predominately from the participants who were unable to reach the higher rounds. Although these participants were not indifferent to the prize, they placed higher priority on 'singing with enjoyment' on the stage.

The 'creative expression' concept included comments that participants tried to create their own musical expression that was not restricted by the judges' criteria for a good performance. One participant reported that she knew her performance was evaluated according

to the judges' criteria. However, she placed more importance on conveying her own creative expression, which was created by the members' independent activity. It was interesting that the participant experienced two contrasting ways of creating musical expression:

> When I joined the choral club at the university, I was so surprised that all the activities such as organization and creation of musical expression were led by the students. When I was a high school student, the teacher always came and taught us. Namely, I was a "receiver." On the contrary, at the university, we incorporate members' different opinions of how to perform the piece. I really enjoyed this process through which we created the expression by ourselves. (Participant 7)

## Discussion

The present study clarified the positive and negative aspects of choir competition, and discussed healthy ways of introducing competition as part of school education. Although it might not be appropriate to clearly divide the characteristics of competition into positive and negative poles, the categories established in this study express the positive and negative aspects from different perspectives.

As anticipated, 'winning the prize' was one of the participants' main interests. For example, most participants pointed out their reason for starting competitive choir activity was to win the most prestigious prize as possible. The tendency to be motivated by a prize was observed in the process of competition participation. The participants were sensitive to the judge's criteria for a good performance, which led the singers to design a performance that the judges would love, rather than creating a performance that came purely from their own musical preferences. Although the motivation for the prize itself should not directly be considered a negative aspect of competition, the present study revealed that sometimes 'winning the prize' seemed to take priority over the musical achievement of the choir activity.

While being motivated by the prize raised fundamental questions concerning musical achievement, many participants were not indifferent to the musical meaning of their choir activities. They had a rich sensitivity regarding live performance and found much enjoyment in singing in the concert hall. Interestingly, many participants recalled extremely emotionally powerful moments that occurred during their live performances. They reported these moments were so impressive that they had goose bumps.

Extremely characteristic human relationships were observed among the top-ranking choir groups. There were strict hierarchical relationships dominated by the choir teacher, whereby students' daily and school lives were strictly controlled. Via these choir clubs, the teacher had garnered a notable reputation in the school-choir world, and the influence of the teacher on the students was very considerable. The students showed great respect for the choir teacher, and their reliance on the choir teacher to win the prize was also high. They believed that their teacher could take them to the final round.

This aspect of control seemed to work effectively in developing group unity and student discipline. In such a situation, the students worked very hard to faithfully follow the instructions of the "famous teacher." As a result, the choir club's performance level became very high. Indeed, the "famous teacher" always achieved great success in competitions, in whatever school they taught. Thus, the outcome of the competition strongly depended on the teacher's ability. This raises an important question: Who is competing? Although the teacher contributes a great

deal to developing students' skills and provides them with many opportunities whereby they can win the prize, there could be problems in terms of the ownership of choir activities.

In contrast to those who found themselves in a tightly controlled situation, several participants – especially those who could not reach the higher rounds – placed great importance on enjoyable singing that was not restricted by the competitive context. These participants also found enjoyment in creating musical expression by themselves. Although these participants were not indifferent to the prize, they independently pursued choir activities.

In conclusion, the participants' attitudes and feelings toward choir competitions were not simple. All participants were very interested in winning prizes, and some said that winning prizes was more important than musical achievement. At the same time, there were also many participants who considered musical achievement and musical enjoyment more important than prizewinning, and even participants who stated that winning prizes was the priority noted various forms of musical meaning that they derived from engaging in choir competitions. Such mixed attitudes and emotions might derive from various factors, such as human relationships, the influence of the choir teacher, and successful experiences. Choir competition fundamentally has the potential to develop the musical education of its members. Music educators should keep in mind the true nature of choir competition, and consider the healthy use of competition from an educational perspective.

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# Using Creative Musical Arts to Activate Creativity in Young Children

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Abstract

The musical arts play a critical role in engaging children to use their creativity. Engaging young children in musical arts activities is often viewed as inferior to most academic subjects by some teachers and parents in contemporary African societies. In the school environment, most attention is given to academic subjects as there are misconceptions that creativity is not important, although research has proven otherwise. An involvement and participation in the musical arts engages children in the making of artistic creations, creative thinking, musical arts literacy development and a development in the understanding of the musical arts as cultural products. The purpose of this qualitative study was to activate creativity by encouraging young African primary school children from two different cultural backgrounds to produce and perform their original musical arts production and to explore how creative they were. Observational field notes collected during the production process and performance were used to collect data. Various creative assessment inventories were used to measure the children's creativity. Results of the study indicated that engagement with musical arts revealed some elements of creativity amongst the children when they were encouraged to participate in musical arts activities.

*Keywords:* musical arts, creativity, creativity analysis

## Using Creative Musical Arts to Activate Creativity in Young Children

The arts play a role in engaging people in creative thinking and activities. People in different contexts take part in different activities that display art. Some of these activities are drama, dancing, music, and painting. In most instances, when people are happy they sing, just as when they are sad. When they celebrate, they sing, and they sing even when they are mourning. Thus, music is an integral part of everyday life for most people. Nzewi (2009) further emphasises that for an indigenous African child, music starts from infancy when the mother sings to her child as a way to soothe the child from discomfort or to get the child to sleep. Hence, the indigenous African approach emphasizes that musical arts performance impacts social and cultural living within societies.

In communities, children are often exposed to more practical musical experiences as they get older because they are encouraged by adults and their peers to engage in such activities. These early practical exposures to music making enable African children to spontaneously and intentionally create music as part of their social and play interactions. However, set-backs are sometimes evident when most of the school curriculum is based on western art music rather than tradition African music. In such contexts, children are expected to learn about composers, compositional techniques and musical examples that have no cultural reference to their own. Another setback that limits their participation is the availability of relevant resources. With regard to music, Nzewi (2009) observes that when children are exposed to music, the use of examples and materials from their direct environment makes it easier for them to understand and learn the art. Through understanding and learning, one is then exposed to situations that could render knowledge that could stretch one's creativity.

There is evidence from studies that young children are creative and that participation and practical performance of the musical arts activates creativity. However, little has been reported about the use of musical arts to activate creativity in young school children of African and Jewish backgrounds working together to produce and perform their original musical arts production.

The aim of the current study is to use creative musical arts to activate creativity in young children. Furthermore, the objectives of the study are: (1) to encourage children from two different cultural backgrounds to produce and perform their original musical arts productions; and, (2) to determine the elements that indicate creativity in the children's production and performance.

Nzewi (2009) states that indigenous musical arts are conceived as a three-dimensional creative embodiment of music, dance, and drama (e.g., a 'plastic arts discipline' that includes costume, masks, and properties). Though these art forms could be identified, performed and discussed independently, they are seldom separated in performance practices and creative thinking.

There is no hierarchy in these different disciplines in indigenous African musical arts. Musical arts activities always have a function as they are applied in religious settings, therapy and healing, and social events – as well as in recreational activities (Nzewi, 2007). These indigenous musical arts practices are usually open, and include active participation by any member of the community unless an organised group from the community is specified (e.g., the initiates, the maidens, children, wives and so forth). These performance opportunities also serve as a time to transmit cultural principles, values and skills to the members of society through performance (Manganye, 2003).

## Method

The study employed a non-experimental, exploratory research design utilizing a qualitative research strategy.

### Participants

The sample consisted of 22 grade 2 and 3 children from two different schools (School X and School Y) who attended extra-mural activities at School X. Children were from two different cultural backgrounds (i.e., African and Jewish heritage). The music extra-mural activity was offered to children of both schools by the researcher once a week at the school hall of School X. This extra-mural activity included singing, instrumental playing and performances during some school assemblies at School X. These schools were selected because of the availability of the children, and, therefore, the study used a sample of convenience.

**Data Collection Procedure.** A cross-sectional method was selected for collecting relevant information. According to Elahi and Dehdashti (2011), a cross-sectional research method is defined as a sampling procedure where the sample is collected from the population at one point in time.

The data collection process occurred during eight sessions at School X over a period of 6 weeks. Each session was an hour long. The first five sessions took place once a week while the last three sessions took place during the sixth week. Observational field notes were written, and creativity assessment inventories were used to assess the participants.

The first session involved improvisation on the djembe drums, playing a three-note improvised musical motive on the available musical instruments; learning a song based on the tune "Brother John" in the *Sesotho* and Hebrew languages; and the creation of two original stories. Children from the two schools were randomly placed into two groups for the creation of two stories. During the 'story creation' session, the two groups started their stories by beginning with the words, "Once upon a time . . . ". To create two complete stories, each child in turn added ideas in order to build on what other group members had suggested without changing the main idea and thoughts. During the second session, the children revised the instrumental piece and started learning the song "Chumbara." For this creative activity, children had to write new song lyrics for the "Chumbara" melody. The children from each group were also given opportunities to begin writing and refining their stories on paper.

The third session involved merging the two stories from the two groups as suggested by one of the participants. After merging the stories, each child selected a character from the merged story, and then all the children created masks for their characters.

During the fourth session, children finished up their masks and began writing the storylines for their chosen characters. Some children could not finish their masks during the session and had to use extra time after the session to complete their masks.

In the fifth session, children watched simple dance routine videos online (with the help of the researcher), and searched for a simple dance for their production. After a dance routine was chosen, the children began to rehearse their productions. At the end of the rehearsal session, some of the children got together to create a poster and a story book for their production with the help of the researcher.

The sixth session began with a run through of the dance routine, followed by 'putting the production together.' The next-to-last session involved a run through of the production from beginning to the end. This session was the *illumination stage*, which required the children to see if the storylines and arts activities flowed well into one another. The last session was the performance of the production. This performance was audio-visually recorded for further analyses.

All materials needed for the production were made available to the children. Children selected whatever they wanted from the available materials when they were creating their own masks as well as choosing the instruments they wished to play for their instrumental pieces.

Field notes written and compiled by the researcher and two observers (present during all the sessions) were used to collect data. Field notes were written after each session, and constituted a major part of the data on which conclusions about the outcome of the study were based. The two observers were selected by the researcher because they are experts in the field of performing arts and because they have a good understanding of children of this age. One of the observers is a drama teacher in a junior primary school and the other observer has taught music to primary school children and is currently producing Sunday school theatrical drama performances at a local church.

The observational field notes of each session were recorded using the guide by Sunstein and Chiseri-Strater (2011) and included the following:

1. Date, time, and place of observation
2. Specific facts, numbers, details of what happened during the production process
3. Sensory impressions: sights, sounds, textures, smells, taste
4. Personal responses
5. Specific words, phrases and summaries of conversations
6. Questions about the children's choices and their behaviours for recommendations and reflections.

The researcher and the two observers were individually involved in providing information regarding the creativity of the children from observations of the production-process field notes and the audio-visual recorded footage of the musical arts performance. Creativity of the productions' originality, effectiveness, elegance, flexibility, emotional, integration, elaboration, and abstractness were rated on four levels; (1) very creative; (2) creative; (3) ordinary/routine; and, (4) imitative.

## Results

Observational field notes of the production process and the audio-visual recording of the performance were analyzed (i.e., qualitative results). A descriptive content analysis of the audio-visual recording of the production was completed. This method enabled clarity about the nature of the data and its interpretation (Nigatu, 2009). The criteria used to obtain information about the children's' creativity was adopted from various creativity assessment inventories by Besemer and O'Quin (1987) and Munro (2011). The results of the children's creativity were arranged in eight categories: (1) originality; (2) effectiveness; (3) elegance; (4) flexibility; (5) emotional; (6) integration; (7) elaboration; and (8) abstractness. Each category was rated according to the level

of creativity that was demonstrated: Four levels of creativity – *very creative*, *creative*, *ordinary/routine,* or *imitative* (as adopted from Brookhart, 2013).

**Results and analyses of the children's production and their performance.** The first activity engaged the children in rhythm improvisation on the drum. This activity raised self-esteem, evident in the first session where Observer A noted that the children who were tense at first loosened up as the drumming improvisation activity progressed. Observer B noticed confusion at the start of the activity which turned into success towards the end. In the second session, both observers revealed that some children from the other school were at first reluctant to participate in the creation of song lyrics for the melody of the song "Chumbara." Most children from School X were open to this new challenge and they volunteered their own ideas. Some of the children from School Y were reluctant to participate at first, but they later contributed their thoughts. All this evidence indicates that when children are supported and encouraged, they are capable of being creative even if they are not in their own physical environment (as was the case with children from School Y).

The next occurrence of creative thinking was observed during the children's original story build-up. Here, children continued to add new ideas to a story that had a relatively nice flow. The children's creativity in this regard is described by Boden (1998), who indicated that the ability to incorporate old ideas with new ideas is *combinational creativity,* one of the three types of creativity. Evidence of the children's creativity was also noted when the children were not satisfied with the outcome and wanted to improve and modify their story (e.g., as noted in Observer B's field notes of the first session). This self-criticism also occurred during the sixth session when the children mentioned that they were not satisfied with their preparations and required an extra session before they could perform for an audience. This indicated that children were able to criticize themselves constructively and come up with a solution that solved the issue at hand without any assistance.

The idea of one of the children to manipulate and merge the two existing stories (i.e., during the build-up of their stories) demonstrated that some children have high levels of creativity. This child boldly took a risk of taking ownership of the task with the support of other group members. Wilson (2015) asserts that the ability to manipulate ideas by changing, improving, adapting or elaborating an existing idea into a new concept is one of the characteristics of highly creative people.

*Combinational creativity* was again evident when the children were taught a traditional song in two different languages. Observer A noted this occurred when the children from School X associated the tune of *"Bana ba Sekolo"* to the English song "Brother John" (e.g., originally the French song "Frere Jacques").

The last stage of verification occurred during the actual performance of the two different stories by the two groups. It was after this performance that some children felt that their stories needed to be refined and re-worked. During the performance of the production, the researcher noticed that some children independently decided to include free style dancing. This act demonstrated their autonomous creativity as they wanted to be original and apply their imaginations and produce an outcome that was of value to them. Composing an original dance using elements and contexts of dance is regarded as creativity in the dance art form (Education Standards Authority, 2006).

In the current study, the children showed evidence of creativity throughout various activities of the production, and also exhibited some characteristics of highly creative people:

Divergent thinking, openness to new ideas, having strong imagery abilities, and being highly versatile and adaptable (Wilson, 2015).

**Results and analysis of the children's creativity.** In the analysis, the researcher participated as Analyser 1, Observer A as Analyser 2, and Observer B as Analyser 3. Results of the analysis of children's creativity by the researcher and the two observers are summarised in Table 1.

Table 1

*Analysis of Children's Creativity*

| Parameter | Analyser 1 | Analyser 2 | Analyser 3 |
|---|---|---|---|
| Originality | creative | creative | ordinary |
| Effectiveness | creative | ordinary | creative |
| Elegance | creative | ordinary | creative |
| Integration | very creative | creative | creative |
| Flexibility | ordinary | creative | creative |
| Emotionality | ordinary | creative | ordinary |
| Elaboration | creative | ordinary | creative |
| Abstractness | ordinary | ordinary | ordinary |

According to the results as presented in Table 1, there are six categories (of eight) with two or more ratings each that are 'creative' and/or 'very creative.' This indicates that the overall impression of the children's creativity according to the three assessors is positive.

## Discussion and Conclusion

During the course of the study, certain issues were raised by the participants of the study and the independent observers/analysers on how to maximize and improve the current study in order to archive greater outcomes. This section notes the researchers' own practical recommendations and they are as follows:

- As stated by Maxim (1985), removing time limits from activities stimulates creativity. The limited time that was available to the participants of the study during school time was not sufficient, and this was evident in the fact that the children had to have some extra sessions. The children took time after the sessions for additional

rehearsals, and some children have to take extra time to complete their masks, to design the posters, and to produce the storybooks. Having more time to complete these activities would have allowed the children to share, teach and inspire one another through their ideas and thoughts. Children (especially of this age) should, therefore, be given enough rehearsal time and production time for all their activities.

- The performance venue that was available was not practical, and it hindered some aspects of the children's creativity. Conducting rehearsals at the performance venue is also advised as this would help the children to familiarise themselves with the space available.
- The performance visual aspects of the production were hindered due to failure to have a full dress rehearsal with all the props. The researcher thus recommends that children have at least two dress rehearsals in order to assess what works and what doesn't work well in time to 'fix it' before the performance.

In conclusion, in this study, I explored how the participants originated and performed their musical arts productions. A qualitative approach was employed, that involved analysis of collected evidence (i.e., observational notes of the production process). Evidence of the children's creativity was apparent during the rehearsal sessions as the children originated their production through various activities. This evidence was noted by the two expert observers through their observational notes. The 'observers as analysts' also reported on the children's creativity in their analytical reflections on the production creativity. Original artistic elements were exhibited in the children's production performance. These elements were rated by the analysers according to 4 criteria, and six of eight categories were rated as 'creative.' Lastly, the benefits that the children gained were fruitful, positive and constructive to the participants of the study.

From the results, it is evident that children have some level of creativity irrespective of background or age. It is therefore recommended that children be encouraged to engage in various activities that will enable them to use their minds in creating new ideas. Performing original productions results, not only in children who are creative, but also in children who are confident and joyful.

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# Music Dynamics and Conducting Variances:

# Reliability and Assessments

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Abstract

This paper is part of research on conducting's and musical alterations' impact that has been going on for more than 10 years. Our study regards the effect that directors have on the perception of a performance and the quality that a piece's dynamic expression has on assessing the conductor. We also examined the reliability of some of the measurements that have been used in previous studies. The stimuli were video recordings from a previously published investigation (Morrison, Price, Smedley, & Meals, 2014). The recording we used had one conductor directing expressively or not and music with or without changes in dynamics. In addition to these four combinations, our subjects also assessed expressive and unexpressive conducting with no sound as well as music with and without dynamic contrast, that had a still picture. All eight stimuli appeared in different orders, along with the exact repetition of two randomly selected stimuli repeated twice, across the eight orders. Our participants were 111 undergraduate music and nonmusic majors at two universities. A Cronbach alpha assessment of the repeated item responses was reliable ($p < .05$) and a Scheffés post-hoc analysis of the eight orders found no difference between them. Significant assessment differences were found between music students and nonmajors in four responses: conductor (still picture) with dynamics, unexpressive conducting with dynamics, as well as music performance and conductor evaluations for unexpressive conducting with no dynamic contrast. Even though all 14 repeated assessments were reliable, some were between probabilities of .05 and .01. We may want to consider why they were not as strong, especially when recognizing one showed the conductor in a still picture with no dynamic contrast in the music performance. Interestingly, the highest Cronbach value was for the same still picture, but with dynamic contrast in the audio. We could suggest that while rating a still picture, the audio has a significant effect on conductor assessments. We also found some differences between the music majors. In one instance, the majors rated the still conductor picture higher for the dynamics performance, even though the music was not rated differently. Conversely, nonmajors rated the unexpressive conducting higher than did music majors when the performance was expressive. As usual, there are more questions

generated by these findings, regarding what affects assessments of conductors and ensembles, which we, and others will continue to examine.

*Keywords:* music conduction, perception, music dynamics, expressivity, assessment

Music Dynamics and Conducting Variances: Reliability and Assessments

We begin by stating, hearing a performance is different from seeing and hearing the performance, even on video recordings (e.g., Broughton & Stevens, 2009; Davidson, 2012; Thompson, Graham, & Russo, 2005; Vuoskoski, Thompson, Spence, & Clarke, 2016). Basically, experiencing musical performances is a multisensory phenomenon (Tsay, 2013, 2014). This is documented in research going back to 1993 (Davidson), if not before. With more than 25 years of data supporting this differential reaction to music performances, research has continued to become more focused regarding the many aspects of this response, whether it is the conductor, the ensemble, stage entrance behavior (e.g., Waddell & Fredrickson, 2017) or contextual information about the music (e.g., Vuoskoski & Eerola, 2015).

In the last 15 years, one area of focus, is conducting's physical gestures' affects. These studies examined several musical styles with many different instruments and ensembles, as well as the conducting itself (e.g., Broughton & Stevens, 2009; Connell, Cai, & Holler, 2013; Davidson, 2012; Thompson et al., 2005; Thompson & Luck, 2012; Thompson & Russo, 2007; Tsay, 2014). It appears that coupling visual and aural actions can alter reactions to music (Livingstone & Thompson, 2009). Responses can even be affected by the type of conductor (choral versus wind band) and the use of a baton (Nápoles & Silvey, 2017). This is a crossmodal experience that is consequential throughout music experiences.

The related data goes back 20 years in music education (e.g., Gillespie, 1997; Hamann, 2003; Hamann, Hamann, & Teachout, 2000) as well as in current studies (e.g., Price, Mann, & Morrison, 2016; Vuoskoski, Gatti, Spence, & Clarke, 2016; Vuoskoski, Thompson, Clarke, & Spence, 2014, 2016). The results continue to indicate that both visual and audible factors are impactful in assessments. This multisensory influence is present whether the music performance occurs live or on a video recording. However, reliability and function for some of the previously used measures, have not been examined intensely.

A foundational study completed in 2007 examined the effect of conducting on ensemble performance assessment (Morrison, Price, Geiger, & Cornacchio, 2009). Since then several studies have been carried out (e.g., Kumar & Morrison, 2016; Morrison, Price, Geiger, & Cornacchio, 2009; Napoles, 2014; Price & Mann, 2011; Silvey, 2011). One thing we have learned from these data, is that conducting, with or without expression, has a strong effect on ensemble performance evaluations (Morrison et al., 2009). This occurs, with a strong effect size (partial $\eta^2 = .57$) even when the music is identical. Going even further, Morrison, Price, Smedley, and Meals (2014) altered recordings of contrasting articulation and dynamics, with conducting that was either expressive or unexpressive. While there were other interesting results, once again, participants rated performances with high conducting expressivity better than unexpressive. This study also had a convincing effect size of partial $\eta^2 = 0.61$. A related study published in the same year by Morrison and Selvey (2014), using choir stimuli, found similar results of a higher rating for ensembles with expressive conductors and produced another consequential effect size (partial $\eta 2 = .78$). The present study is a continuation of research on conducting and performance effects.

Our goal is to examine the conductor's effect on assessments of altered dynamic contrasts. Additionally, we were particularly interested whether music (with still picture of director) or conducting alone (no sound) affected assessments of expressive or unexpressive conducting styles and musical performances with or without dynamic contrasts.

## Method

We used previously developed videos, from a published study that examined people's reactions to conductors' expressivity while listening to performance that varied different musical aspects (Morrison et al., 2014). The recordings used focused on the presence or absence of dynamic contrasts with an expressive or unexpressive conductor. In addition to these four video recordings viewed from the perspective of a performer in the ensemble, we also isolated audio and video aspects. There was no sound for the two conductor-only presentations (expressive and unexpressive) and the two audio-only segments (dynamic or no dynamic contrasts) that included a still picture of the conductor. This resulted in eight different presentations: Conductor (C) with high (e) and minimal (u) expressivity but no sound (Ce & Cu, 2 presentations); band (B) performances with (d) or without (n) dynamic contrasts that included a still picture of the conductor (C[still picture]Bd & C[still picture]Bn, 2 presentations); expressive conductor and band audio with or without dynamics contrasts (CeBd & CeBn, 2 presentations); and the unexpressive conductor directing the band, with and without dynamic changes (CuBd & CuBn, 2 presentations). Except for the expressive and unexpressive conductor (Ce or Cu) alone that had no sound, the remaining six presentations requested two assessments each, one for the conductor (C) and one for the band (B), including two of these with pictures.

Using the Latin square design, we had eight different orders. Each of the eight recording orders began with one of the eight different presentations. Additionally, each of the eight orders had two repeated items to examine reliability of these assessments. These stimuli were accessible online, with each student given a single URL to access one of the randomly assigned sequences. Individuals saw 10 presentations of about 30-seconds each, with a slight break between each stimulus, so they could rate the band (audio) and conductor, as well as the opportunity to write whatever they wished about each presentation.

The individuals in our study were university undergraduates in the United States of America. These participants were volunteers from two different universities. The resultant sample was 111, of which 44 (40%) were music students and 67 (60%) in other majors.

## Results

For all analyses of our study, the significance level we used was $p < .05$. The mean age of our students was 20.8 (20.0 majors & 21.3 nonmajors), with about two-thirds ($n = 73$) being underclassmen (38 upperclassmen). A Chi-Square analysis ($\chi^2$ [3, $N = 111$] = 3.66, $p = 0.30$), of the respondents' class levels (see Table 1), found no significant difference.

Table 1

*Student Class Level*

| Year | Music | Nonmusic | Total |
|---|---|---|---|
| 1 | 7 | 9 | 16 |
| 2 | 18 | 39 | 57 |
| 3 | 13 | 13 | 26 |
| 4 | 6 | 6 | 12 |
| Total | 44 | 67 | 111 |

To examine whether these measures of conductor and band performance are reliable, each of the eight stimuli occurred twice across the eight orders. One of the eight stimuli repetitions was assessed by 10 students and the remaining repetitions ranged from 16 to 40 students. Cronbach's alpha was used to examine the reliability of the 14 assessments used in this study; two for conductor only and six each for conductor and band. There was an acceptable level of agreement, with probability levels ranging from $p = .032$ to $< .001$. In order of the probability level, the results were BCuBn $\alpha = .493$ ($n = 32$; $p = .032$), Ce $\alpha = .565$ ($n = 26$; $p = .021$), CCeBn $\alpha = .559$ ($n = 28$; $p < .019$), C(still)Du $\alpha = .676$ ($n = 16$; $p = .018$), CCuBn $\alpha = .560$ ($n = 32$; $p = .013$), CCuBe $\alpha = 0.693$ ($n = 28$; $p = .002$), B(C still)Be $\alpha = 0.656$ ($n = 40$; $p = .001$), BCeBn $\alpha = 0.732$ ($n = 28$; $p = .001$), Cu $\alpha = 0.833$ ($n =29$; $p < .001$), BCeBe $\alpha = 0.864$ ($n = 23$; $p < .001$), BCuBe $\alpha = .737$ ($n = 28$; $p <.001$), C(Still)Be $\alpha = .929$ ($n = 40$; $p < .001$), B(C still)Bu $\alpha = .907$ ($n = 16$; $p < .001$), and CCeBd $\alpha = .887$ ($n = 23$; $p < .001$).

Scheffés post-hoc analysis of each item responses across the eight orders found no significant differences among them. The resultant significance level for the 14 responses ranged from .196 to .987. Again, while not significant, the .196 was for Ce with no sound, and the remainder ranged from .615 to .987.

Given that there was no difference found among responses to the eight presentation orders, a one-way ANOVA was used to assess differences between music and nonmusic majors' assessments for each of the 14 responses ($df = 109$). Significant differences were found for conductor (still picture) with dynamics (CC[still]Bd, $p = .045$), unexpressive conducting with dynamics (CCuBd, $p = .004$), as well as band and conductor evaluations for unexpressive conductor with no dynamic contrast ($p = .050$ and .014, respectively). These significantly different reactions were all for the unexpressive conductor or the one with a still photo. The remaining 10 assessments, across the eight video types (see Table 2) whether for conductor or band, were not significant. There was a lack of Homogeneity of Variance for Ce ($p = .044$) and CCeBn ($p = 0.001$); however, it is not a concern since neither one was found to be significantly different.

Table 2

*Means and Standard Deviations for Assessments of Excerpts by College Major*

| | Band | | | | Conductor | | | |
|---|---|---|---|---|---|---|---|---|
| | Music | | Nonmusic | | Music | | Nonmusic | |
| Stimulus | *M* | *SD* | *M* | *SD* | *M* | *SD* | *M* | *SD* |
| Ce (no sound) | | | | | 7.48 | 1.66 | 6.88 | 2.27 |
| Cu (no sound) | | | | | 5.52 | 1.86 | 6.07 | 2.40 |
| Bd (C still) | 7.86 | 1.66 | 7.79 | 1.94 | 5.43 | 3.00 | 4.22 | 3.10* |
| Bn (C still) | 7.43 | 1.34 | 7.67 | 1.51 | 4.93 | 2.70 | 3.85 | 2.97 |
| Ce/Bd | 8.00 | 1.26 | 7.78 | 1.46 | 7.98 | 1.58 | 7.55 | 1.85 |
| Ce/Bn | 7.61 | 1.40 | 7.55 | 1.49 | 7.66 | 1.51 | 7.19 | 2.19 |
| Cu/Bd | 7.30 | 1.88 | 7.55 | 1.75 | 5.27 | 2.04 | 6.40 | 1.97** |
| Cu/Bn | 6.93 | 1.50 | 7.52 | 1.56* | 5.16 | 2.03 | 6.18 | 2.16* |

*$p \leq .05$; **$p < .01$

## Discussion

In this study, we examined the effect of conducting expressivity and performance dynamics on each other, and the reliability of these assessments used in this and several previous studies. We found no significant difference between majors, ages, or university class levels represented. We also found no significant differences among the eight orders. This gives us some comfort in dealing with the results as reported.

An examination of the reliability of these assessments, using a Cronbach alpha analysis on the 14 items across the eight stimuli, is interesting. The results are all significantly related with nine having probability levels that were less than .01. The other five were also significant, but had probability levels above .01; they were, BCuBn, Ce (no audio), CCeBn, C(still)Bn, and CCuBn. Among these, the significance levels were for the band performance that had both an unexpressive conductor and lack of dynamic contrasts. The remaining four were for conductor's assessments that had unexpressive or no performances; an expressive conductor and no sound or no dynamic contrast, and no dynamic contrast with ether an unexpressive conductor or a still picture of the conductor. The strongest probabilities ($p < .001$) were for an unexpressive conductor with no sound (CCu), bands with dynamic contrast that had either an expressive (BCeBd) or unexpressive conductor (BCuBd), a still picture with dynamic contrast (C[still]Bd),

the band having no dynamic contrasts with a still conductor picture (EC[still]Bu), and the conductor who was expressive with dynamic contrast in the band performance (CCeBd).

It is curious that the still picture of the conductor was both among the lowest (C[still]Bn) and highest (C[still]Bd) reliability (Cronbach analysis of $p = .018$ & $< .001$, respectively). In this instance, one could argue that even though the students were asked to rate the conductor of a still picture, what we may have had were assessments of the recordings that were without or with dynamic contrasts. These two extreme values also had the smallest and largest sample sizes (16 & 40, respectively). Of course, expressive conductor with dynamic contrast is probably a goal for most peoples' performances. Again, all responses were reliable, using Cronbach's Alpha assessment.

The ANOVA had four interesting results regarding differences among music and the other majors. Two items with dynamic contrast were significantly different. One was for the still picture that had the music majors rating it higher (*M dif* = 1.21), and the other was of the unexpressive conductor having a higher rating by nonmajors (*M dif* = 1.13). We could argue that the music majors may have been rating the music, but in these two, there was no difference in the band rating. The second one, where the nonmajors rated the conductor higher, could have been affected by the performance with dynamic contrast, while the music majors were possibly better able to discriminate the assessments of the conductor and band performances separately.

The other two significantly different items, were for the stimulus of an unexpressive conductor and no dynamic contrast (CCuBn & BCuBn); both having higher assessments by nonmajors (*M dif* = .59 & 1.02, respectively). The higher values given by nonmajors could have resulted from majors being more aware of what they were hearing and less distracted by the conductor quality. In these instances, there really was nothing obvious to support higher assessments by people majoring in some discipline other than music, except for their lack of knowledge of these areas.

In short, we can say that the assessments were reliable, with a few questions about the weaker but still reliable probability levels. As for differences in assessments, one may be able to argue that music majors were typically less distracted by the conductor than were nonmajors. In other words, they were more focused on the music performance quality and less distracted by the conductors.

It does continue to appear that performance assessments are crossmodal, whether it is evaluations of performances (Kumar & Morrison, 2016; Thompson, Spence, & Clarke, 2016) or performers' preferences (Silvey & Koerner, 2016). We have some differences between assessments of the conductor with no sound, the band with no conductor, or seeing the conductor while hearing the performance. It has been stronger in other studies, but we still see that an unexpressive conductor may affect the band's assessment, as do performances lacking dynamics have an effect on conductor evaluations.

As we often suggest at the end of a research study, more investigation is required. We can say that the literature, for the most part, indicates the conductor has an influence regarding what we hear and the performance we hear affects what we see from the conductor. If we only use the results from this study, those statements may be too strong, especially considering the differences between the assessments of music and nonmusic majors. As usual, we may have more questions than answers from this study; so, we move on.

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# At the Heart of Musical Competence: Music as Affective Awareness

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Abstract

This paper is a theoretical postulation about how and why music can facilitate social-emotional competence. The paper combines research knowledge from general social-emotional competence models with recent music-specific literature from music cognition and psychology, music education and therapy, and music for health and wellbeing. Music is elaborated as an experience that allows integration of affective embodiment with self-reflective meaning making. This dialogical core between experience and meta-experience is discussed as the special feature of music as a medium for fostering social-emotional competence. The specific contribution of music to allow access to experiential-embodied yet self-reflective affective awareness is discussed as the special characteristic of music but also as a concept that resonates with the general understanding of social-emotional competence. The paper discusses this competence as a fundamental "building block" for other music-based competencies in the area of social emotional skills such as interaction and self-regulation, reflecting the relevance of this concept for research and practice.

*Keywords:* music, affective awareness, social-emotional competence

## At the Heart of Musical Competence: Music as Affective Awareness

Music is a powerful companion to our life's journey. It is the language of emotion (Sloboda & Juslin, 2001) and the language of embodied interaction (Leman, 2016). Recent literature on musical behavior holds an underlying consensus about affective embodiment being an essential feature of musical experience. Music is able to reach emotional experience at several levels of subjective feelings, physiology, and expression (Juslin & Sloboda, 2001) and further, music is able to communicate not only emotion (e.g., Lindström & Juslin, 2001) but also social intentions like being domineering, disdainful or conciliatory (Aucouturier & Canonne, 2017). Music effortlessly reaches the embodied level of experience (Leman, 2016) and operates through the nonverbal, affective forms of expression that are present already in infancy and allow access even to subconscious (Stern, 2012). We can thus argue that the key feature of music – regardless of whether we talk about music as a forum for daily entertainment, health-promotion, or learning and growth – is to allow deep access to emotional and bodily aspects of experience.

Therefore, it is somewhat puzzling that most research on music's impacts on non-musical learning mainly focuses on cognitive achievement (Miendlarzewska & Trost, 2014; Schellenberg, 2004), not on social-emotional transfer-effects. There are a few studies connecting music training to general emotion recognition skills (Petrides, Niven, & Mouskounti, 2006; Schellenberg & Mankarious, 2012; Theorell et al., 2014; Thompson, Schellenberg, & Husain, 2004), self-esteem (Costa-Giomi, 2004), social skills (Kawasi, 2015), cooperative behavior (Kirschner & Tomasello, 2012), and empathy (Rabinowitch, Cross, & Burnard, 2013), but the current research base still consists of relatively few studies, some with contradictory findings (e.g., Schellenberg & Mankarious, 2012). This paper argues that there is a need for a better theoretical conceptualization of music as a forum for social-emotional growth and learning. Through clarifying the conceptual understanding of music-related social emotional competence itself, we have a solid grounding for studying the impacts of music on the non-musical social-emotional outcomes that intuitively seem so fundamental to music.

**From experience to competence.** How does the acknowledgement of music as a fundamentally affective and embodied experience promote understanding of music as a forum for learning and developing social and emotional skills? This paper aims to elaborate such characteristics of musical experience that are particularly relevant for fostering general social-emotional competence.

The concept of social-emotional competence (SEC) refers to a set of psychological resources including social and emotional awareness, adaptive emotion regulation and coping, self-determination, resilience, and pro-social communication and interaction (Bar-On, 2006; Denham et al., 2003; Denham et al., 2011, 2012; Eisenberg & Fabes, 2000; Halberstadt, Denham, & Dunsmore, 2002; Mayer & Salovey, 1997; Rose-Krasnor, 1997; Rose-Krasnor & Denham, 2009; Saarni 1999). In music research, these very concepts are often described as the goals and uses of music engagement in the increasing number of studies currently targeting the health and wellbeing connections of music (e.g., MacDonald, Kreutz, & Mitchell, 2012). The general concept of SEC consists of several theoretical models that originate from different perspectives such as the study of emotional intelligence (e.g., Mayer & Salovey, 1997) or social skills (e.g., Rose-Krasnor, 1997). Therefore, the scope of these formulations varies, with some placing more focus on emotional knowledge, others emphasizing social interaction skills.

Overall, however, SEC provides a potent framework for guiding the conceptualization of music as a medium for fostering social-emotional skills.

**The core of musical competence as a dialogue between embodiment and awareness.** The general theories of SEC provide a framework for understanding the overall building blocks of this concept, but they do not offer a ready-made content solution for how to conceptualise music's contribution to this competence area. A music-based model should acknowledge and appreciate the specific nature of music as a form of experience, knowledge, and interaction, and general emotion theories do not necessarily grasp the essence of music as a special type of non-verbal, time-bound, symbolic, and artistic form of expression and experience.

As previously argued, music effortlessly operates at the level of affective embodiment, and this is indeed partly grounded in the particular, music-specific, features. For instance, one of the core features of music is periodicity, which allows joint interpersonal action and mutual synchronization (Keller, Novembre, & Hove, 2014; Knoblich, Butterfill, & Sebanz, 2011). Recent evidence shows that intersubjective synchrony effectively increases prosocial behavior among individuals (Cirelli, Wan, & Trainor, 2014; Rennung & Göritz, 2016). This is a good illustration of how music fosters psychological competence of social interaction through affective embodiment that is grounded in the rudimentary physical property of periodicity in music.

Another important characteristic of music is the ability to convey energy levels and moods, through musical features such as tempo or timbre, and also through personal associations (for further musical emotion induction mechanisms, see Juslin & Västfjäll, 2008). Ability to convey affect and arousal is a fundamental aspect for affective self-regulation, which indeed is a common use of music in daily life (e.g., Baltazar & Saarikallio, 2016; Saarikallio, 2016). Furthermore, affective self-regulation through music is not realized only through directly absorbing the energy level or mood of the music: Saarikallio and Erkkilä (2007) emphasize that music is not just physical regulation such as running to let steam off, but that it also essentially activates cognitive processing and mental contemplation, which is another critical element of affect regulation. Indeed, a recent model on musical affect regulation identified three integrated bipolar dimensions – cognition, feelings, and body (Baltazar & Saarikallio, 2017), highlighting a fluent co-existence of experiential components from deep embodiment to cognitive self-reflection. In relation to this, authors such as DeNora (1999) and Lehtonen (1993) have discussed music as a time-bound expression that provides an affective story line for the mental processing of emotional content (e.g., DeNora, 1999; Lehtonen, 1993). This ability of music to fluently combine non-verbal experiential processing with meaningful reflective thought is grounded in yet another musical characteristic, the symbolic nature of music as aesthetic expression, discussed already by philosophers like Langer (1942). This symbolic quality of music allows playful, safe, and self-distancing reach of deeply meaningful personal content.

We here arrive to the critical notion that music does not only operate at the level of affective-embodied experience but also as a *linkage* of that experience to self-reflective mental processing. Threvarthen (2013) argues that music fluently conveys intersubjectivity through embodiment and meaningful affect and connects the embodied experience to personal meaning. This resonates well with how emotional processing is conceptualized in a therapy context: optimal emotional processing should contain not only the activation of emotional arousal, but also the ability to emotionally tolerate that arousal, and further allow self-reflective meaning-making about the experience (Greenberg & Pascual-Leone, 2006). By evoking affective-

embodied experiences and simultaneously allowing safe and playful tolerance of such experiences, music builds grounds for a dialogue between affective-bodily knowledge and cognitive-reflective processing. In a music therapy context, music-making and music listening particularly serve as the trigger and the tolerable space for emotional experiences while the role of the verbal therapeutic discussion about the musical experience is to facilitate the client's meaning-making process (Erkkilä, Ala-Ruona, Punkanen, & Fachner, 2012). A similar dialogical process of experience and contemplative mental work, however, is typical also for young people's personal everyday life music listening experiences (Saarikallio & Erkkilä, 2007).

The ability of music to facilitate the interplay of embodiment and cognitive processing has also been considered by some theorists in music and emotion research. Even Ruud (1997) uses the concept of *awareness of feelings* to argue that music has a capacity to foster the ability to experience various emotional nuances or express various degrees of intensity of emotions. Ruud further postulates that this experiential knowledge may help to formulate and maintain precise concepts about feelings. Similarly, Frijda & Sundararajan (2007) write about *refined emotions* and propose that musical emotions (as art experiences in general) are characterized by self-reflection, detachment, and elaborative awareness of the experience, which allows self-reflective understanding and experience of emotional nuances. Garrido and Schubert (2010; 2011) further argue that music allows simultaneous absorption and dissociation, a possibility to affectively merge, yet appropriately dissociate oneself from the affective content, to enable enjoyment and appreciation also of sad music and difficult emotions. All of these accounts stress the potential of music to facilitate access to affective experience through deeply personal, experiential, and meaningful, yet reflection-allowing, self-distancing manner.

Figure 1 summarizes this affordance of music as a dialogical space between affective-embodied experience and self-reflective-cognitive awareness as the fundamental characteristic underlying music's contribution to social-emotional competence. Music is able to create deeply meaningful experiences that are fluently experienced at the non-verbal affective-embodied level, safely embraced and accepted due the symbolic quality of "this is just a song," and further meta-experienced at the level of cognitive awareness and meaning-making, particularly if supported by possibilities for reflection.

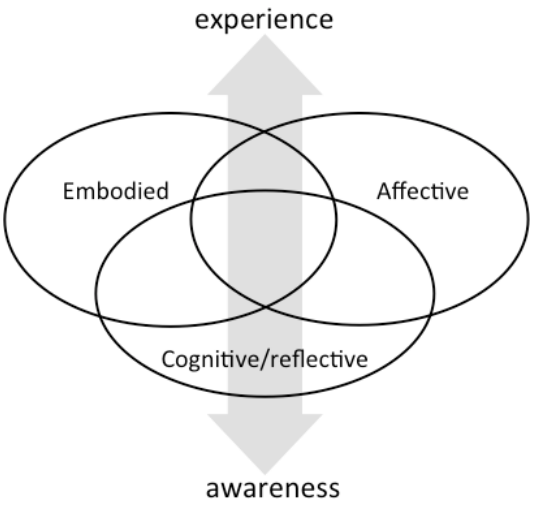


*Figure 1*. The interplay of experience and awareness as the dialogical core of music as a contributor to social-emotional competence.

**The relevance of this conceptualization for social-emotional competence research and related educational practice.** The fundamental ability of music to operate as a dialogue between experience and meta-experience (i.e., the awareness of the experience), resonates to some extent with general emotion research. Affective awareness has been recently proposed to consist of at least two facets (Boden & Thompson, 2015; 2016): *Attention to* emotion and *comprehension of* emotion, the latter of which can further be separated into emotion *differentiation* (e.g., this is fear, not anger), and emotional *clarity,* the meta-knowledge and understanding of the affective experience (Boden, Thompson, Dizen, Berenbaum, & Baker, 2013). The conceptualization of music as dialogical forum between the experience and the meta-experience – and the potential of music to foster such dialogue – provides novel understanding about the particular potential of music as a forum for this type of competence.

Many of the general SEC models consider social and emotional awareness (e.g., ability of identifying and labeling emotions in self and others) as the fundamental building block that serves as a foundation for higher-order competencies (Salovey et al., 1999; 2000), further relating to health-relevant skills and outcomes like emotion regulation (Barrett, Gross, Christensen, & Benvenuto, 2001), empathy, prosocial behavior, adaptive coping (Gohm, 2003), positive emotions, self-esteem, and satisfaction with social support (Swinkels & Giuliano, 1995). The ability of music to allow affective-embodied yet cognitive-reflective awareness of experience might thus also foster other, 'higher-order' music-based competencies in the field of social-emotional use of music. Indeed, Saarikallio (2016) recently proposed the following: (1) that competence in recognizing emotion expressed in music serves as a building block for emotional communication and social interaction through music; and, (2) that competence in recognizing emotions that music induces in self particularly holds relevance for competent affective self-regulation through music.

Affective awareness has been connected to health-outcomes such as lowered levels of depression, social anxiety, physical symptoms, and cortisol release (Salovey, Stroud, Woolery, & Epel, 2002). Also in music, recent research with vulnerable young people evidenced that adolescents who were receiving support for depression, anxiety, or emotional and behavioral

problems were relatively unable, in comparison to their healthy peers, to identify and acknowledge their maladaptive music engagement patterns (McFerran & Saarikallio, 2013). A subsequent music-based intervention particularly aiming to raise the young people's own awareness about their healthy and unhealthy music engagement patterns resulted in positive health outcomes (Gold, Crooke, Saarikallio, & McFerran, 2017).

Theoretical understanding about how and why music potentially functions as a tool for supporting social and emotional skills is relevant for developing both research and practice. The existing and validated measures for emotional attention and comprehension offer a potentially relevant reference base for developing the measurement of the related music-based competence (e.g., Difficulties in Emotion Regulation Scale [DERS], Gratz & Roemer, 2004; Trait Meta-Mood Scale [TMMS], Salovey et al., 1995; Toronto Alexithymia Scale [TAS], Bagby, Parker, & Taylor, 1994).

In terms of educational and social practice, musical activities are actually quite often used as a part of different intervention programmes that aim to support children and adolescents' social-emotional skills in schools or daycare settings. However, these programmes have been particularly criticized for not being clear about their theoretical grounding of the expected impact mechanisms and for their lack of rigorous measurement of the outcomes (Clarke, Morreale, Field, Hussean, & Barry, 2015). Practices can be developed more easily if there is a clear conceptual framework, on which such development work can be grounded, such as aiming for a mutual facilitation of the two dialogical affordances of music: Accessing the experience and supporting its reflection. Conceptual clarification about what music in particular is good for is also the key for grounding the impact studies on relevant theoretical frames and measures.

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# Interpreting Music Education in Brazilian Popular Culture: Challenges for Ethnographic Research

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Abstract

This work presents results of a research project conducted in the context of a Brazilian musical genre, *Embolada*, between the years of 2003 and 2015. *Embolada* is a genre of sung poetry, generally performed by two singers, characteristic of Brazil's northeast region and commonly practiced in the popular culture of the state of *Paraíba*. It is within this cultural context throughout this manuscript that we discuss, analyze, and reflect on ethnographic research in music education currently, reflecting how this research approach enabled us to investigate and comprehend the subjects, concepts, processes, situations, knowledge and skills that configure the musical transmission of *Paraiba's Embolada*. This study, grounded on the epistemological perspectives of music education and ethnomusicology, was conducted from an ethnographic approach that allowed intensive interaction within the *Embolada*'s context and its performers. Findings show traits of the musical transmission in this context, demonstrating that its characterization defines fundamental elements of the musical performance in this culture. These distinctive elements, shared and transmitted by *Embolada*'s performers, keep the *Embolada* genre alive and dynamic within the landscape of contemporary performance.

*Keywords:* music education; ethnomusicology; *embolada*; popular culture

# Interpreting Music Education in Brazilian Popular Culture:

# Challenges for Ethnographic Research

This paper presents outcomes from ethnographic research conducted in the context of the popular culture of Brazil. Specifically, the study investigated processes and situations of music education associated with *Embolada*, a traditional musical expression of northeastern Brazil.

The *Embolada* is a musical genre that encompasses a set of particular aspects such as melody, rhythm, vocal aesthetic and poetry. These characteristics express a broad diversity of cultural elements of the Brazilian northeast – evidencing values, features and daily life situations of the *Embolada*'s practitioners[3].

Considering the complex musical context of the *Embolada* and the findings of the research, we also identify some singularities of the ethnographic research process by describing new challenges that characterize this research approach in contemporary music education. The analyses are based on theoretical perspectives of different areas in ethnographic research. However, the main epistemological framework emerges from an inter-relation between music education and ethnomusicology, and considers contributions of these fields to current ethnographic research in music.

**Ethnography in the contemporaneity.** Many researchers feel ethnography has become one of the most overused research strategies in several research areas, among them music. As stressed by Ingold (2014) "it is hard to say exactly when the term broke loose from its moorings, or what the reasons were for its subsequent proliferation" (p. 383). From some points of view, this proliferation was essential to enable researchers to inquire about several cultures around the world and widen our knowledge of diversity, intangible heritage and other important cultural aspects. On the other hand, this reseach paradigm creates some problems. For example, Ingold (2014) states the following:

> How many research proposals have we read, coming from several fields, in which the applicant explains that he or she will conduct "ethnographic interviews" with a sample of randomly selected informants, the data from which will then be processed by means of a recommended software package in order to yield "results"? (p. 384).

This approach is not considered true ethnography by many as it lacks a real and deep immersion into cultural context. While we can find many examples such as this in ethnographic music literature, we do not believe as Ingold (2014) states, "That's enough about ethnography!" (p. 383). However, we do suggest it is time to rethink some new challenges and perspectives of ethnography in music and music education in the 21st century. This paper focuses on an ethnographic study about the *Embolada* and will also discuss and reflect upon some new challenges of ethnographic research from this specific reality studied in Brazil.

From our perspective, ethnography is not just a method to produce results, but a profound concept of immersion, comprehension, interpretation, and understanding of a culture. It requires, as highlighted by Geerts (1973), a "dense description" and a large capacity to interpret the reality

[3] For more information about the music genre *Embolada* see the following website: https://www.youtube.com/results?search_query=embolada+cachimbinho

researched. To achieve this, researchers need a high level of knowledge, obtained from a deep relationship of the research, the people studied, situated within the authentic cultural context.

**Ethnographic research in music: Dialogues end interactions between music education and ethnomusicology.** Since at least the early 1950s, ethnographic research has become an important methodological approach in the field of music. According to Barz and Cooley (2008):

> The power of music resides in its liminality, and this is best understood through engaging in the experimental method imperfectly called 'fieldwork,' a process that positions scholars as social actors within the very cultural phenomena they study. Ethnographic fieldwork requires meaningful face-to-face interaction with other individuals, and therein lie both the promise and challenge of our endeavors (p. 3-4).

Historically, in the area of music, ethnomusicology deepened the study and practice of ethnographic research, and is considered to be a fundamental methodology in many areas of musical study. According to ethnomusicologists, through ethnographic research we were able to discover the music beyond western classical music traditions – other musical concepts, systems, values, performances, behaviors, and ways to teach and learn music (Aubert, 2007).

This emergent conception, mainly from the 1950s, led Blacking (1973) to emphasize in his classical book, *How Musical is Man*: "Ethnomusicology has the power to create a revolution in the world of music and education if it follows the implication of its discoveries and develops as a method and not merely an area of study" (p. 4).

In Blacking's conception, ethnomusicology has been enlarging our knowledge about the musical cultures of the world. However, to promote what this author called a "revolution" in the field of music, it is necessary that knowledge produced by ethnomusicology – as well as its research strategies – be cognizant of other dimensions of music and music research, among them music education. If ethnomusicology is "merely an area of study," restricted from other other areas of music teaching and learning the knowledge produced will likely have a more limited impact on on the field as a whole.

In recent years, contemporary music education has incorporated ethnography as a fundamental research strategy to study process, situations, research, and contexts of teaching and learning music in different cultures (Arroyo, 1999; Bresler, 2003; Krueger, 2014). Such approaches promoted by ethnomusicology have enlarged our 'music concepts.'

In association with ethnomusicology, music education has expanded our knowledge and comprehension about music transmission in different cultures. In this sense, it has permitted us to understand the complex nature of music education, and reflect on the many strategies that people use in teaching and learning music (Campbell, 2003; Nettl, 2010; Queiroz, 2010; Queiroz & Marinho, 2017). As stressed by Bruno Nettl (2010):

> Today, it seems to me that understanding the way a culture transmits itself, if I can put it that way, is really central to an understanding of the music. What is transmitted – tunes, rhythms, the need to be consistent, or the need to always vary, and the way such pieces are broken up for teaching, special exercises – it seems to me that these are all part of the essence of music. Until the 1970s, most ethnomusicologists were satisfied with saying that people learned their music simply by rote. Well, here is an area in which music

> educators, music education researchers, in their detailed study of how people in their own culture learn and teach, were, it seems to me, thoroughly ahead of ethnomusicology (p. 4).

If on the one hand ethnomusicology has been responsible for enlarging our knowledge about music, mainly from its consolidated strategies to work on ethnographies, on the other hand music education has itself been transformed in the last four decades from this knowledge. Given that each culture has its strategies to teach music, music education is a broad field that produces knowledge related to music teaching and learning in many cultures around the world. Thus, ethnographic research in music is a research strategy that can be used to study musical practices as well as music education of various cultures. It is a dynamic research process that requires constant transformation as the people and societies being studied transform over time.

**New challenges for ethnographic research in music education.** While ethnographic research is now a common investigative approach in music education, it is also vital to reflect on some singularities that must be considered when doing ethnographic research in the contemporary world. Classical perspectives of music ethnography have changed due to transformation in societies as a whole in the age of post-globalization. According to contemporary perspectives on ethnographic research, there are new challenges and possibilities associated with ethnographic research in music education:

- *A new conception of "field" and "context"* - If in the past it was traditional to carry out an ethnographic study in a physical place such as a community, currently this universe is much larger. In these days, the community still encompasses the physical contexts, but also includes virtual worlds such as websites, social networks, virtual interviews, live streaming of musical performances and music classes, among others. This scenario establishes a new basis for ethnography, and connects this research approach to new tendencies and resources of virtual fieldworks (Cooley, Katherine, & Syed, 2008).
- *Understanding the concepts of music in the studied phenomenon.* As we consider that 'knowing' about music is a large concept that is built contextually, one great challenge in ethnographic research is to comprehend what music means for the specific cultural context that is being studied. This complex task is enlarged by the variety of perspectives that characterize a musical practice in collective contexts. Because details of music teaching and learning in many contexts are not explicated verbally by people, researchers must be able to perceive, comprehend, and understand aesthetic, symbolic and many other subjective musical aspects.
- *Dealing with interactions between groups of popular culture and new technologies.* It is currently common practice (in several musical contexts) for researchers to produce data using technological resources. For this reason, ethnographers incorporate sources that include field notes, photos, video, and other types of records – including materials produced by studied people and not necessarily by the researcher. Beyond this, it is usual in popular-music-group contexts to use websites, social media, and other digital vehicles to spread information about performances and musical activities as a whole. Furthermore, many native people (i.e., in the context of popular cultures) have produced papers, books, magazines and other materials about their music. Such 'expanded' resources and sources

are currently very important for ethnographic research study, but they are different from classical materials and traditional approaches to carrying out ethnographic research.

These are just some of the many challenges that characterize an ethnographic study in music education now – especially when considering the reality of Brazilian popular culture. Research on the *Embolada* was accomplished from the singularities of this context, using the best strategies to live, know and comprehend the particular ways that people use to teach and learn music in this culture.

**Music education in popular culture: Interpreting the *Embolada's* musical context**. The perception of different processes, strategies, situations, and subjects that compose musical transmission in the *Embolada* required an idiosyncratic and interpretative way to look at this musical context. It was possible from an intensive immersion in the field (i.e., considering the nature of this musical universe), as well as using guidelines grounded in the epistemological basis of ethnographic musical research (Barz & Cooley, 2008; Bresler, 2006; Myers, 1992).

Our findings showed that in the *Embolada*'s musical context, similar to some common features in traditional oral cultures, the dimensions that characterize music education are not explicit and systematically organized as they are many times in consolidated paradigms of institutional schools where music is taught. Thus, musical aspects in this context have their own "logic" and "patterns," and they don't feature a systematic way to teach and learn music (i.e., as in a formal institutions of music). Other researchers have reported similar approaches to the learning of music in Brazilian popular culture (Stein, 1998; Arroyo, 1999; Prass, 2004; Queiroz, 2005; Marinho, 2016). Following are some of the 'singularities' of approaches to music education in the *Embolada*'s musical context found from this study.

**The "talent" to play *Embolada.*** Practitioners of this musical expression believe that those with a natural "talent" are able to play this kind of music well. This talent is something "divine," given by God, that the person has at birth. Without the natural "talent," it is impossible to be a good musician in the *Embolada* reality. According to Cachimbinho (2006), a famous musician in this context, *Embolada* is a music that is "just play[ed by those] who have the talent."

**Immersion in the *Embolada* world.** Even though all musicians in this context stress that natural "talent" is essential to play *Embolada*, all of them also agree that a deep immersion in the cultural context of this music permits someone to become a performer of *Embolada*. In this environment, "observation" is an essential learning strategy, built from a contextual, lived experience in the *Embolada* reality. This aspect is evidenced by several musicians in our study who asserted: "I was to look . . . so I started to exercise my mind . . . and I learned to sing. All we know we improve with the others . . . but who teach is God!" (Cachimbinho, 2006). "The singers were singing . . . and I was to pay attention . . . so I learned" (Lindalva, 2006).

**The musical transmission in practice.** Musical practices in different types of context such as performances on streets, squares, bars, public parties (see Figure 1), among other cultural spaces, are considered by most all Brazilain musicians as a vital aspect to enhance the "talent" received by God to play *Embolada*. In this context, according to the *Embolada*'s players, there is not any traditional class or other traditional music education settings to develop this necessary music learning. So, to learn *Embolada*, it is necessary to immerse oneself in the performances of other accomplished musicians. As learners practice, it is recommended that they listen and pay attention . . . , learners try to 'make

*Embolada* music' until the time that they actually make it suitably (i.e., with regard to singular aspects of the context). As stated by Geraldo Mouzinho (2006): "The practice, you know . . . the practice is all."

*Figure 1.* Mousinho, Vanildo Marinho; Queiroz, Luis Ricardo Silva. *Embolada's* performance in a public party. João Pessoa City, Brazil, 2007.

**The educators of *Embolada*'s musicians.** Again, in the *Embolada*'s universe there aren't classes or similar formal situations for teaching the music. Furthermore, the musicians believe that they have learned because of innate "talent." Both of these aspects lead to the general conception that an *Embolada*'s performers learn without anyone teaching them. However, when these musicians talk about the ways they learned, references are made to people that were important to their musical learning. These *Embolada* 'experts' were, therefore, educators of these musicians – educators who used different ways, several strategies and informal knowledge and experience to teach the *Embolada's* performers who were the 'subjects' of this study.

This aspect can be realized in the speech of Cachimbinho (2006): "I started to sing when I was 13 years old . . . I learned with others . . . at that time there were a lot of poets here." In another report, the musician highlighted his story saying: "So I traveled with an *Embolada* singer called Manoel Batista. . . He already passed away . . . He was a very good musician . . . Then I traveled with him for 12 years . . . I started to sing with him . . . He was so great . . . " (Cachimbinho, 2006).

**The essential elements to *Embolada*'s performance.** The aspects mentioned previously allowed the *Embolada* performers studied in this research to get the competencies and skills needed to play *Embolada* (i.e., according to the values and the overall features of this musical culture). The research findings provide evidence that the main elements needed to be a great *Embolada* performer are the following:

a) *Skills to sing virtuously within the features of this music*. The *Embolada* is sung very fast using many 'tongue twisters.' To perform this music, a singer needs great vocal technique and knowledge of the musical structure of this genre.
b) *Capacity to create and improvise*. All musicians emphasized that an *Embolada* performer needs to be able to continuously create music. In addition, the ability to improvise is essential for one to be a great musician in this context.
c) *Playing and having command of the Pandeiro rhythm*. *Pandeiro* is a typical Brazilian percussion instrument often used in traditional practices of Brazilian popular culture (see Figure 2). It is the only instrument used in the *Embolada.* For that reason, being an accomplished performer on *Pandeiro* is essential for an *Embolada*'s performer.



*Figure 2.* Mousinho, Vanildo Marinho; Queiroz, Luis Ricardo Silva. Historical Picture of Cachimbinho and Geraldo Mousinho. João Pessoa City, Brazil, 2007.

d) *Knowing the Repertoire.* In addition to creating and improvising, good *Embolada* performers have to know the large repertoire of this genre. It is important for a performer to have many options in order to choose the best music for the particular performance venue. Thus, it is very important for an *Embolada* player to be able to perform and improvise with both fluency and spontaneity using the standard repertoire.
e) *Poetic structures skills.* The *Embolada's* poetic structure is very complex and quite varied. So, an *Embolada* musician must have command of the prosody as well as the ability to sing well. Abilities that are as important as all of the main elements of this music.

## Conclusion

In conducting this ethnographic research, I had intense contact with people making and learning *Embolada* music in several musical contexts. The ethnographic research methodology was an effective methodology to comprehend singularities that constitute music education within a different music culture. Using this research approach, I was able to immerse myself in the world of the popular culture of the *Embolada* – and was able to learn about the subjects, conceptions, processes and situations that characterize the musical transmission and, consequently, the music in that context.

It was our goal to use the lenses of both music education and ethnomusicology. We conceived of this research approach as a way of seeing and perceiving this unique musical phenomenon, without any concern with the disciplinary limits of each area. In so doing, we captured the nuances of the musical dimensions of the *Embolad*a – nuances that allowed us to understand the "fundamental elements" that are interwoven in the networks of this musical culture . . . the aesthetic and symbolic dimensions that make up the musical performance of the *Embolada*.

The *Embolada* is considered by its practitioners a "gift" – a gift granted by God and nature that must be valued by the subject who receives it. But this "gift" – one that must be developed and perfected – requires the experience and training that takes place in the practice of 'doing the work' . . . learning to perform *Embolada* requires immersion of someone in this universe of music. Despite the inclusion of any innate talent, to become an *Embolada* performer, one must immerse themselves within the culture and actively participate in the music making.

Thus, a performer needs to master the performance and rhythm of the *pandeiro*, to sing appropriately within the logic of the genre, to know the repertoire, to understand how to create and to improvise, and correctly to use the rhythmic and structural organization of the musical verses. This knowledge can only be developed from the dialogue between the "endowment" and experience. This experience encompasses participating in the *Embolada*'s world, but it is amplified by the critical role of education by the master *Embolada* performers.

In this *Embolada* universe, even while acknowledging that "there is nothing to teach in the blitz," everyone makes references to the fundamental guidelines and tips they have received from the most experienced singers and poets. These guidelines and tips, for those who are awarded the gift of the *Embolada*, are transformed into knowledge that, work and experienced in the act of performing this genre, make up the identity of each professional musician.

Finally, it is possible to affirm that *musical transmission*, in this context, as highlighted by scholars in music education and ethnomusicology, is essential for learning the 'vital elements' that make the musical performance pulsate so strongly within *Embolada's* cultural context. Importantly, mastery of these elements comprise the 'pillars of music training' for this universe. In this musical world, the knowledge shared and transmitted by the musicians is the mainstay needed to keep this "tradition" alive, dynamic and blossoming in the contemporaneity.

This study shows it is essential to reflect on how researchers can insert themselves within a culture and understand the nuances of a diverse and complex musical world such as *Embolada*. Our experience shows the knowledge and understanding that can be produced from intense and profound ethnographic research in music education. It shows the necessity of deep immersion in order to yield results that genuinely contextulize the music culture being investigated. An ethnographic approach for studying music education that involves commitment and the capacity to undertake a profound immersion to learn and interpret the authentic cultural context.

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# Statistical Practices of Music Education Researchers: Preliminary Results Regarding Analyses of Variance

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Abstract

The purpose of the current study was to describe the statistical practices of researchers across three prominent music education research journals regarding analyses of variance. The current paper has included information specific to *JRME* and *CRME* from 2000–2015; information specific to *Psychology of Music*, and 2016 data from *JRME* and *CRME* is currently in progress. Research components of ANOVA, MANOVA, and ANCOVA analyses included power analysis, assumptions, descriptive statistics, coefficients, effect sizes, post-hoc analyses, validity, and reliability. Overall, the majority of articles published in *JRME* and *CRME* during the past 15 years have been quantitative in nature; 56% (*JRME*) and 47% (*CRME*) of the quantitative articles used analysis of variance procedures. Preliminary findings indicated research strengths including controlling for validity issues and reporting sample size and selection. Several weaknesses were also highlighted. Implications have been discussed for future research and research pedagogy.

*Keywords:* research, effect size, assumptions

# Statistical Practices of Music Education Researchers: Preliminary Results Regarding Analyses of Variance

Content analyses within music education research journals may be illustrative of previous and current methodological or pedagogical practices. These investigations might also encourage future rigor with regard to analyses, data reporting, and interpretation. Various topics have been investigated across journals including, but not limited to, theoretical frameworks (Miksza & Johnson, 2012), student teaching (Silveira & Diaz, 2014), research paradigms (Jorgensen & Ward-Steinman, 2015), eminence (Standley, 1984; Hamann & Lucas, 1998), qualitative research trends (Lane, 2011), and national music organization conferences (Orman & Price, 2007).

Multiple content analyses have included information specific to quantitative research. Several found that survey research has been a highly represented method across the field (Diaz & Silveira, 2014; Killian, Liu, & Reid, 2012). Killian, Liu, and Reid (2012) found an increase in quantitative research articles from 1991-2011 in the *Journal of Music Teacher Education*; however, research practices were mentioned fewer times than other topics. Silveira and Diaz (2014) labeled the majority of the research as descriptive or experimental. Schmidt and Zdzinski (1993) analyzed *JRME*, *CRME*, and *Psychology of Music* quantitative articles for content and and citation frequencies. Although analyses have discussed quantitative research, very few have discussed research practices.

Studies outside of music education have investigated statistical practices (Armstrong & Henson, 2005; Keselman, Algina, & Kowalchuk, 2001; Keselman et al., 1998). There have been very few articles investigating the pieces of statistical analyses within music education research journals. Given the breadth of current content analyses and the call for increased rigor within music education research journals (Morrison, 2015), a need exists to examine statistical practices within the field.

One article provided the inspiration and framework for which to base the current study. Keselman et al. (1998) investigated statistical practices within three education research journals, specifically regarding "between-subjects univariate designs, between-subjects multivariate designs, repeated measures designs, and covariance designs" (p. 350). Items coded included sample details, methodological details, and the results that were (or were not) reported. Implications included pedagogical suggestions for graduate research courses as well as best practice for in-service researchers.

Therefore, the purpose of the current study was to describe the statistical practices of researchers across three prominent music education research journals regarding analyses of variance. Data collected included all articles published between 2000 and 2016 within the *Journal of Research in Music Education* (*JRME*), the *Bulletin of the Council for Research in Music Education* (*CRME*), and *Psychology of Music*. Research components of ANOVA, MANOVA, and ANCOVA analyses included power analysis, assumptions, descriptive statistics, coefficients, effect sizes, post-hoc analyses, validity, and reliability.

The current paper has included information specific to *JRME* and *CRME* from 2000–2015; information specific to *Psychology of Music*, and 2016 data from *JRME* and *CRME* is currently in progress. *Psychology of Music* data has been coded and is currently being checked for inter-coder reliability.

**Preliminary Results**

From 2000-2015, analyses of variance have been used in 43% ($n$ = 159) of the total number of research articles published in *JRME* ($N$ = 372) and 54% of the articles that are quantitative ($n$ = 286). In *CRME,* analyses of variance have been used in 27% ($n$ = 100) of the total number of research articles published ($N$ = 369) and 47% of the articles that are quantitative ($n$ = 211). Refer to Table 1 for frequencies of studies and type that used variance analyses by year of both journals. Given the frequency of use, it may be imperative to the integrity of music education research that there is exploration into how the field is using these analyses for the purpose of rigor development and/or maintenance.

Table 1

*Overall Frequency of Use from 2000 – 2015: CRME and JRME*

| Year | Total Articles | | Exp/ Descript | | Variance Analyses | | % Total[1] | | % Exp/ Descript[2] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *JRME* | *CRME* | *JRME* | *CRME* | *JRME* | *CRME* | *JRME* | *CRME* | *JRME* | *CRME* |
| 2000 | 23 | 44 | 19 | 16 | 13 | 11 | 56 | 25 | 68 | 69 |
| 2001 | 24 | 27 | 20 | 19 | 8 | 9 | 33 | 33 | 40 | 47 |
| 2002 | 24 | 28 | 19 | 18 | 11 | 10 | 46 | 36 | 58 | 56 |
| 2003 | 24 | 23 | 17 | 12 | 8 | 7 | 38 | 30 | 53 | 58 |
| 2004 | 22 | 32 | 19 | 18 | 10 | 8 | 45 | 25 | 53 | 44 |
| 2005 | 24 | 24 | 21 | 16 | 11 | 10 | 46 | 42 | 52 | 63 |
| 2006 | 21 | 21 | 18 | 15 | 11 | 3 | 52 | 14 | 61 | 20 |
| 2007 | 22 | 17 | 15 | 12 | 8 | 5 | 36 | 29 | 53 | 42 |
| 2008 | 17 | 26 | 12 | 16 | 7 | 8 | 41 | 31 | 58 | 50 |
| 2009 | 23 | 22 | 19 | 12 | 12 | 5 | 52 | 23 | 63 | 42 |
| 2010 | 22 | 22 | 16 | 11 | 10 | 1 | 45 | 5 | 63 | 9 |
| 2011 | 21 | 15 | 17 | 10 | 11 | 5 | 52 | 33 | 65 | 50 |
| 2012 | 22 | 19 | 16 | 16 | 7 | 6 | 32 | 32 | 44 | 38 |
| 2013 | 27 | 16 | 17 | 7 | 11 | 6 | 41 | 38 | 65 | 86 |
| 2014 | 26 | 17 | 20 | 7 | 11 | 3 | 42 | 18 | 55 | 43 |
| 2015 | 30 | 16 | 21 | 6 | 9 | 3 | 30 | 19 | 43 | 50 |
| Total | 372 | 369 | 286 | 211 | 159 | 100 | 43 | 27 | 56 | 47 |

*Note[1]* Total percentage of articles that include analysis of variance procedures within the given volume.
*Note[2]* Percentage of experimental/descriptive articles that include analysis of variance procedures.

Regarding assumptions, 30% ($n$ = 47) of the *JRME* articles reported assumptions. Eighteen (18%) *CRME* articles reported assumptions. Normality, homogeneity of variance, and sphericity were cited most often in both journals across analyses of variance. Refer to Table 2 for frequencies of assumptions by analysis. Refer to Table 2 for frequencies of post-hoc procedures and corrections.

Table 2

*Frequency of Analyses and Reported Methodological Components*

| | | *n* | |
|---|---|---|---|
| Analysis | Type | *JRME* | *CRME* |
| ANOVA | One-way | 39 | 31 |
| | Factorial | 37 | 17 |
| | Repeated Measures | 23 | 31 |
| | Mixed | 57 | 9 |
| | Not Stated | 2 | 4 |
| | Total | 158 | 92 |
| MANOVA | One-way | 2 | 2 |
| | Factorial | 8 | 4 |
| | Repeated Measures | 1 | 4 |
| | Mixed | 18 | 7 |
| | Not Stated | 5 | 3 |
| | Total | 34 | 22 |
| ANCOVA | One-way | 4 | - |
| | Repeated Measures | 1 | 1 |
| | Not Stated | - | 5 |
| | Total | 5 | 6 |
| MANCOVA | Factorial | 2 | - |
| | Mixed | 1 | - |
| | Total | 3 | - |

| | | *n* | |
|---|---|---|---|
| Analysis | Assumption | *JRME* | *CRME* |
| ANOVA | Homogeneity of variance | 8 | 5 |
| | Normality | 6 | 4 |
| | Assumtions met | 1 | 2 |
| MANOVA | Normality | 6 | 2 |
| | Homogeneity of variance | 5 | 1 |
| | Homogeneity of covariance | 6 | 1 |
| | Linearity | 3 | - |
| | Homoscedasticity | 1 | - |

| | | | |
|---|---|---|---|
| ANCOVA | Homogeneity of variance | 1 | 1 |
| | Normality | 2 | 1 |
| Repeated Measures | Normality | 4 | 1 |
| | Homogeneity | 7 | - |
| | Sphericity | 10 | 6 |
| | Homogeneity of regression | 1 | - |

| | *n* | | | *n* | |
|---|---|---|---|---|---|
| Procedure | *JRME* | *CRME* | Corrections | *JRME* | *CRME* |
| Follow-up univariate | 17 | 5 | Bonferroni | 17 | 6 |
| *t*-test | 16 | 3 | Greenhouse-Geisser | 7 | 4 |
| Scheffe | 15 | 7 | Bonferroni-Holm | 1 | - |
| Tukey's HSD | 14 | 11 | Data transformation | 1 | - |
| Bonferroni | 10 | 5 | Harwell | 1 | - |
| Fisher's LSD | 10 | 6 | Huynh-Feldt | 1 | 1 |
| Pairwise comparisons | 8 | - | Macmillan and Creelman (1991) | 1 | - |
| Follow-up ANOVAs | 7 | 2 | Missing variables analysis | 1 | - |
| Post-hoc contrasts | 4 | 9 | Not labeled | 1 | 2 |
| Bonferroni/Dunn | 3 | 1 | Pillai's trace | 1 | - |
| Chi-square | 3 | - | Log 10 transformation | - | 1 |
| Tests of simple effects | 2 | - | | | |
| Tukey-Kramer HSD | 2 | - | | | |
| Univariate ANCOVA | 2 | - | | | |
| Dunnet T3 | 1 | - | | | |
| Dunnet's C | 1 | - | | | |
| W/in participants' contrasts | 1 | - | | | |
| Polynomial contrasts | 1 | - | | | |
| Friedman ANOVA | 1 | - | | | |
| Newman-Keuls | 1 | 3 | | | |
| Games-Howell | - | 1 | | | |
| Duncan multiple range | - | 1 | | | |
| *z*-tests | - | 1 | | | |
| Sidak adjusted paired | - | 1 | | | |
| Total | 119 | 56 | Total | 32 | 16 |

| | *N* | | Interpreted | |
|---|---|---|---|---|
| Effect Size | *JRME* | *CRME* | *JRME* | *CRME* |
| $\eta^2$ | 28 | 13 | 14 | 6 |
| Partial $\eta^2$ | 43 | 13 | 13 | 5 |
| Cohen's *d* | 6 | 3 | 3 | 3 |
| $h^2$ | 2 | - | 2 | - |
| $\omega^2$ | 1 | - | 1 | - |

| | | | | |
|---|---|---|---|---|
| $r^2$ | - | 2 | - | 1 |

*Notes.* Repeat measures were omitted from other groups and grouped together due to similarities across analyses.
*n* = the number of articles that included each type of analysis. Many articles used more than one type of analysis; therefore, the total is greater than the total number of articles.

Issues concerning validity and reliability included group equality, threats to internal validity, sampling, and tests of reliability. Of the 159 coded *JRME* articles, 43% (*n* = 68) reported equal group sizes throughout the study. Of the 100 coded *CRME* articles, 71% indicated unequal group sizes, and 13 of the 71 indicated group sizes fewer than 20 participants. The most frequently reported control for internal validity across the two journals was selection. The most frequently reported control for external validity across the two journals was controlling for order effects.

Data collected regarding reliability included measure reliability and scoring reliability. Within the 159 *JRME* articles, the most frequently reported reliability procedures included interjudge/inter-rator reliability (*n* = 60) and internal consistency (*n* = 49). Within the 100 *CRME* articles, the most frequently reported reliability procedures included citations for previously used instruments (*n* = 21) and interjudge reliability (*n* = 6). Overall, 34% of *JRME* articles and 35% of *CRME* articles did not report reliability for measures, scoring, or both.

**Effect Size Interpretations**

***Journal of Research in Music Education.*** Effect sizes were reported in 77 (48%) of the articles and were only interpreted in 33 (21%) of the articles. In other words, group differences were interpreted based on statistical significance in 79% of the articles using analysis of variance procedures. Refer to Table 2 for effect size type and frequency. Examples of interpreted effect sizes included the following: "The effect size for years since attending college was considerably smaller" (Elpus, 2015, p. 328). "The small effect size indicates that the independent variable of facial expression accounted for very little of the total variance in participants' ratings of ensemble expressivity . . . given this small effect size, these results must be approached with caution" (Silvey, 2013, p. 426). "It is also important to note that for all tests in this study resulting in statistically significant differences, partial eta squared ranged from .009 to .016, indicating weak relationships" (Campbell & Thompson, 2007, p. 170).

***Bulletin of the Council for Research in Music Education*.** Effect sizes were reported in 33% and interpreted in 17% of the articles. In other words, overall group differences were interpreted based on statistical significance in 83% analysis of variance procedures. Refer to Table 2 for effect size type and frequency. Examples of interpreted effect sizes included the following:

> "The 3.1 mean difference that separates the attitudinal scores of men and women remains a statistically significant finding in this research. However, the small effect size (*d* = .26) suggests this finding has little practical significance. This prompted a deeper investigation into the data. In doing so, the researchers uncovered that 67.9% of the choral educators participating in the study were female while only 32.1% were male . . . the significance of this finding may ultimately be attributed to teacher specialization rather than gender" (Gerber & Garrity, 2007, p. 83).

"It should be noted that the eta-squared values for significant main effects and interactions were relatively low, varying from .02 to .07, suggesting modest practical significance" (Zdzinski, 2013, p. 81). "There was a significant main effect for order, though the effect size was negligible (partial $\eta^2 = .08$)" (Morrison & Selvey, 2014).

> "While pitch had a significant main effect on the results, the smaller effect size implies that the register difference of a perfect fourth between the F and B-flat excerpts may not be different enough to result in any type of effect due to potential frequency sensitivity for these older adults" (Napoles, 2009, p. 30).

**Implications.** The majority of articles published in *JRME* and *CRME* during the past 15 years have been quantitative in nature; 56% (*JRME*) and 47% (*CRME*) of the quantitative articles used analysis of variance procedures. Music education research may benefit from more attention to detail and more training regarding analyses of variance reporting practices. Several specific recommendations can be made for future research and researchers:

1. Report (and check) all assumptions appropriate to an analysis in order to decrease sensitivity to Type I and Type II errors
2. Report all post-hoc procedures and corrections

With regard to effect size:

1. Adhere to APA guidelines regarding research rigor. Report and interpret effect sizes.

With regard to research pedagogy:

1. Maximize time with descriptive statistics. Assumptions may be best understood when raw data and descriptive statistics can be observed with understanding.
2. Calculate as much as possible by hand before turning to a computer program. When using a statistics program, train students to use syntax so that they may understand what they are asking of the program.

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# Cultural Attitudes to Authority and Preferences for Decision-making Systems in the Amateur Choir Rehearsal

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Abstract

This study explores whether broad cultural attitudes to authority manifest in the group-dynamics of musical rehearsals and are reflected in attitudes towards conductor authority. Five hundred and nine amateur choristers from Great Britain and Australia completed a survey of ten statements designed to elicit their preference for one of two common systems of musical decision-making adopted in rehearsals – a widely accepted part of conductor authority: conductor-only or group-input. A summated-ratings methodology using a Likert-type scale was used. Based on literature accounts of Australian cultural traits and values such as "egalitarianism," "anti-authority sentiment" and "tall poppy syndrome," I predicted Australian choristers would have a significantly higher preference for group-input decision-making. However, findings showed that Australians leaned more towards an autocratic, conductor-only system than the British. An argument is made that a considered approach to the decision-making process by the conductor of a non-professional group is of high importance and something that should not be assumed or taken for granted. Existing research in this area is scant, and it is argued that more is needed to more fully educate and prepare choral conductors seeking to pursue international careers across a range of cultures and demographics.

*Keywords:* culture, authority, leadership, conducting, choirs, decision-making

## Cultural Attitudes to Authority and Preference for Decision-making Systems in the Amateur Choir Rehearsal

Whilst there has been much written on the role of musical conductor as leader (Armstrong & Armstrong, 1996; Atik, 1994; Boerner, Krause, & Gebert, 2004; Boerner & von Streit, 2005; Jansson, 2013, 2015, 2018; Rowold & Rohmann, 2009; Wis, 2007), only a small number of studies have addressed the nature of "authority" in the role directly (Adenot, 2015; Faulkner, 1973; Jansson, 2018). Often, leadership and authority are used interchangeably (Aigner & Skelton, 2013). At the very least, they appear in some way related or interconnected. Boerner et al. (2004) claim that "The leadership of musicians by the conductor of an orchestra is a combination of authority and charisma" (p. 465) and Iotti (1994) concedes that the authority of conductors is directly related to leadership style and how musical decisions are made.

In one study that tackles authority specifically, Faulkner (1973) concludes the system of authority in a musical group is "a network of interacting human beings, each transmitting information to the other, sifting their transactions through an evaluative screen of beliefs and standards" (p. 156). In addition, Inkeles and Levinson (1954) point out that the way in which authority is received or responded to is an important defining feature of a culture, meaning attitudes towards authority are influenced by cultural values and context (Chase, 1997; Dalton & Ong, 2005; Damaska, 1986; Tyler, Lind, & Huo, 2000; Yoon, 1990). So, is it reasonable to expect that unique values and cultural characteristics might emerge in situations such as musical rehearsals? This would have important cross-cultural implications for any study of organisational leadership, including musical organisations and their rehearsals, yet empirical evidence for the effect of cultural-specific attitudes to authority on leadership style remains negligible: Walumbwa and Lawler (2003) note that "although there is a theoretical basis for expecting followers' cultural orientation to moderate the relationship between leadership style and work-related behaviours, . . . relatively little is known regarding such processes" (p. 1088). Furthermore, in a study that looked specifically at the role of leadership style in the context of nonprofessional orchestras, Rowold and Rohmann (2009) could only emphasise the *possibility* that "cultural contexts moderate the relationship between leadership and outcome criteria" (p. 42).

The current research investigates these possibilities empirically. In doing so it focuses on one element of the conductor's authority – decision-making during rehearsals. Younker (2003) describes two broad systems: the traditional approach whereby the conductor's role is to make all musical and artistic decisions; and the less common whereby all members are involved in the process of musical decision-making and problem solving. Do choristers from amateur choirs in Great Britain and Australia display different preferences for each system and do these preferences reflect any established, unique cultural attitudes to authority? Before those questions can be answered, it is important to first briefly outline what some of these cultural attitudes are.

Hofstede (1980) obtained and analysed cultural profiling data from 40 countries and formulated four dimensions along which each country's prevailing cultural 'mental programming' could be plotted. One dimension - individualism and collectivism – looks at the degree of interdependence a society maintains among its members (Hofstede, 1997). According to Hofstede's research, both Australia and Britain rated highly on the side of individualism (90 and 89 points respectively). Hofstede (1984) states: "In individualist societies the norm is universalist, treating everybody alike. Preferential treatment of one customer over others is

considered bad business practice" (p. 238). Building on this, Singelis, Triandis, Bhawuk, and Gelfand (1995) introduced the theoretical idea of different types of individualism and collectivism. Horizontal individualism refers to a greater sense of autonomous individuality whilst still maintaining an emphasis on equality, whereas vertical individualism conceives greater individuality coupled with an acceptance of inequality. The authors state: "Horizontal individualism is a cultural pattern where an autonomous self is postulated, but the individual is more or less equal in status with others" (p. 245). This, they further claim, is the cultural pattern found in Australia; something confirmed empirically in a study by Noordin and Jusoff (2010) and where Australia differs from the UK; Britain is a society that exhibits higher levels of vertical individualism (Shavitt, Torelli, & Riemer, 2010). The idea of Horizontal individualism also resonates with two other Australian cultural traits: Australian Egalitarianism; and tall poppy syndrome. Australian Egalitarianism is the notion that all Australians were or are the same "insofar as they treated each other 'on their merits' and refused to accord deference simply on the basis of a person's class power or social standing" (Thompson, 1994, p. ix) and has its roots deep in Australia's history. Yet even today the Australian Government, on its website for international relations, states "Our society is characterized by a sense of egalitarianism" (Department of Foreign Affairs and Trade, 2016). Whether Australia is egalitarian or not today (many would argue not [Hiller, 1981]), it is evident that as an *ideal* – or something sought or desired – it has had an influence on the shaping of modern Australian society, and this fact is well documented. Thompson writes: "Egalitarianism has shaped our [Australia's] democratic institutions, our definition of democracy and our definition of ourselves" (Thompson, 1994, p. 290). Feather (1989) propounds that egalitarianism "went hand in hand with anti-intellectualism" and harboured a distrust of special excellence. This distrust is also often considered to extend to anyone that elevates themselves above the majority or, historically, against social homogeneity and "sameness" witnessed at its peak by Hancock in the 1930s (Hancock, 1945: cited in Grieg et al., 2003, p. 177) and is widely known as tall poppy syndrome. By this definition, musical conductors would appear to be prime candidates for tall poppies.

Therefore, this paper asks do these prevailing cultural attitudes towards authority emerge in preferences for broad decision-making systems during rehearsals? The following hypothesis was formed: Australian choristers will have a significantly stronger attitude in favour of inclusive (democratic) decision-making than British. In other words, Australian choirs, due to the cultural traits mentioned above, will display a greater desire to participate in the way things are done musically.

## Method

To address the above questions and test the hypothesis, a summated ratings methodology was adopted using a Likert-type scale to collect data on chorister opinions of conductor authority and decision-making. An online survey was created to gauge participants' level of agreement to ten statements:

1. The conductor should be responsible for all musical decisions.
2. It is important that individuals are able to have input into musical decisions and that their opinion is heard.
3. It annoys me when other choristers offer suggestions regarding musical matters during the rehearsal.

4. New members of the choir should be allowed to contribute to the way things are done musically and artistically.
5. When I'm at rehearsals, I just like to be told what to do.
6. I think rehearsals are more enjoyable when we can all have a say.
7. I think it's OK to have a discussion during rehearsals about how something should be performed.
8. It's disrespectful to the director/conductor for choristers to offer suggestions about how something should be performed.
9. How much input the choristers have should depend on the amount of experience the director/conductor has.
10. Senior members (i.e., the longest standing) of the choir should be allowed to contribute to the way things are done musically and artistically.

A five-point scale was used: strongly disagree, disagree, no opinion, agree, strongly agree and each of these responses were assigned a score 1-5. Statements 1, 3, 5, and 8 were considered to be more in favour of a conductor-only approach and were assigned higher scores for stronger agreement. Statements 2, 4, 6, 7, 9 and 10 were considered to be unfavourable (more in favour of group-input) and were given higher scores for stronger disagreement.

**Participants.** An invitation to participate in the survey was circulated to choristers by means of a flyer. The flyer was sent to major amateur choirs and choral organisations both in Australia and Britain. It was also posted on closed-group social media pages. Access to the actual online survey was made through the use of a unique web address, provided on the flyer. Five hundred and nine individuals responded and completed the survey. Due to the nature of the call for participants via social media and flyers it was not possible to calculate a response rate. However, anonymous IP addresses were logged for each participant and checked for multiple entries (it is possible that if a participant did wish to complete the survey multiple times a different access point could have been used, but this seems unlikely). Seventeen percent of respondents were aged between 15-24, 36% between 25-44, 35% between 45-65 and 11% were over 65 (total equals 99% due to rounding). Sixty-eight percent were female whilst 32% were male. Ninety-five percent of respondents (485 in total) had gained the majority of their singing experience in either Australia or Great Britain, 5% had gained it elsewhere. Thirty-one percent said that their experience was less than 10 years. Twenty-nine percent said their experience raged from between 10 and 20 years. But the highest number of respondents (39%) claimed to have over 20 years experience (total equals 99% due to rounding). The highest level of formal musical training was also recorded for each.

## Results

The hypothesis stated that Australian choristers will have a significantly stronger attitude in favour of inclusive (democratic) decision-making than British. To confirm this hypothesis, significantly lower Likert-scale scores would need to be seen from participants who had gained most of their experience in Australia and *vice versa* for those whose experience was largely gained in Britain. The summated scores for each country on each statement were calculated (see Table 1). The only statement for which the Australian score was lower than the British was number 10.

Table 1

*Summated Scores for Each Country with the Difference Between Each*

| | Statement | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | #1 | #2 | #3 | #4 | #5 | #6 | #7 | #8 | #9 | #10 |
| Australia | 847 | 603 | 811 | 688 | 858 | 857 | 699 | 701 | 815 | 748 |
| Britain | 828 | 576 | 705 | 617 | 773 | 783 | 629 | 613 | 744 | 749 |
| *df* | 19 | 27 | 106 | 71 | 85 | 74 | 70 | 88 | 71 | -1 |

A Pearson's *r* test revealed a strong, highly significant positive correlation ($r = 0.92$, $p < 0.001$, see Figure 1).

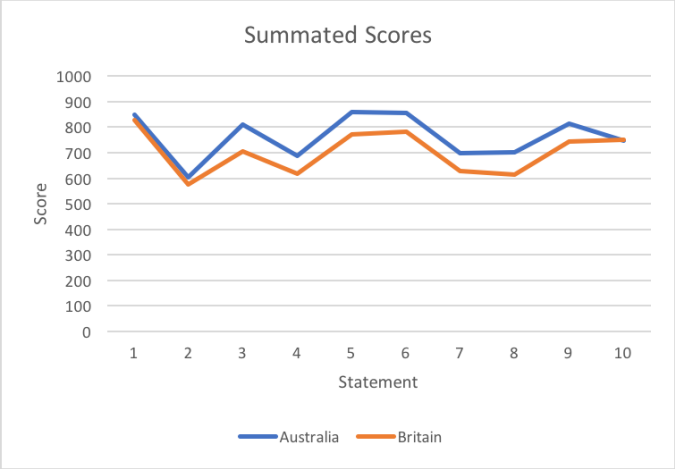


*Figure 1.* Correlated summated scores of both countries.

Secondly, in order to see whether individual differences between the summated scores for each country on each statement were significant, a two-tailed Mann-Whitney *U* test was performed. The Australian scores were significantly higher than the British for Statements 3-9 (see Table 2).

Table 2

*Mann-Whitney U Test Results and Significance*

| | Statement | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | #1 | #2 | #3 | #4 | #5 | #6 | #7 | #8 | #9 | #10 |
| *U* | 27249 | 27364 | 22160 | 23100 | 22679 | 22647 | 23874 | 22271 | 23222 | 26177 |
| *z* | -1.095 | 0.559 | 3.905 | 2.710 | 3.280 | 3.023 | 2.102 | 3.072 | 2.189 | 0.030 |
| *p* | 0.271 | 0.575 | **0.000** | **0.006** | **0.001** | **0.002** | **0.035** | **0.002** | **0.028** | 0.976 |

*Note.* Values in bold are significant at $p < .05$

## Conclusions

Two things immediately stand out from the findings. Firstly, participants from each country as groups responded to the statements remarkably similarly – the correlation was extremely strong. Based on this, there would seem no significant difference in attitude between choristers of each country. Secondly, the summated response scores from the Australians was higher than the British for every statement but one (even then the difference was only one), meaning that in general, they were *more* in favour of conductor autocracy than the British. Contrary to confirming the hypothesis that Australians, with the nation's cultural leaning towards egalitarianism, would prefer more inclusion and group-oriented decision-making, the findings suggest the opposite.

The reasons for this are not clear, and a number of confounding factors might have influenced the findings: the wide degree of possible interpretation of each statement, or terms within them, may have been an issue; the main division between countries being made based on the answer to "In which country did you gain the majority of your choral experience?" may have been unwise; and lastly, unfavourable attitudes towards a behaviour might be stronger among certain populations simply because it happens more - Australian respondents indicated that other choristers offering input annoyed them more than it did British (statement 3). Again, because this might *occur more* in Australian society, it may be more of an annoyance; something, taken in general, is likely to annoy you less if it seldom happens. Lastly, and perhaps more interestingly, it might be that the lines of egalitarianism lie not between singers/conductor, but the singers themselves – singer/singer. The dislike of tall poppies, if it exists at all, might project onto other singers offering suggestions, raising themselves above the group, not necessarily the conductor. Taking this interpretation, the findings might still *support* the theoretical framework, i.e., that in showing a greater preference for a conductor-only system, Australians are actually manifesting a dislike for other choristers displaying nonegalitarian behaviour.

At the very least, that there were significant differences at all is interesting and warrants further investigation. Currently, choral conductor pedagogy largely assumes that training in one country is immediately transplantable to another (notwithstanding linguistic barriers). Whilst this may be true for musical matters, these findings would suggest that such an assumption relating to

the group-dynamics and actual running of the rehearsal would be unwise. They suggest that conductors seeking international careers should consider cultural attitudes towards the authority they hold, and how these might manifest in preferences to the way in which, and the degree to which, they are included in decision-making.

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# *Sounding Out:* A Research-Based Evaluation of a Specially Designed Music Programme For Young Hearing Impaired (HI) Adolescents

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Abstract

The focus for the paper is a research evaluation of the opening two years of a specially designed three-year music programme for older Hearing Impaired (HI) children. The music programme *Sounding Out* is based in two London special secondary schools for HI pupils and involves adolescents in school Years 7 and 8 (pupils aged 12-13 years). Data for the evaluation were collected through systematic longitudinal observation, with individual pupil's musical behaviours being tracked using the *Sounds of Intent* musical development framework for children and young people with special needs and disabilities. Overall, musical behaviour

assessments were available for $n$ = 16 HI pupils at five different points across the programme's second year. Previously, in the opening year of the programme, the research team had focused on an in-depth induction into the two schools, including getting to know the participant HI pupils and observing their reactions to the music programme. Subsequent data analyses from the second year's structured observations suggest that there was a significant trend for musical behaviours to become more advanced over time for the cohort as a whole and also within each participant school. Pupils exhibited a range of musical behaviours and demonstrated musical engagement and musical development. Opportunity was also taken to note the pedagogical and contextual features of the *Sounding Out* music programme that were observed to be most effective in supporting HI pupils' musical development.

*Keywords:* hearing impaired, music, Sounds of Intent

## *Sounding Out:* A Research-Based Evaluation of a Specially Designed Music Programme For Young Hearing Impaired (HI) Adolescents

This paper reports on a research-based impact evaluation of the first two years of a specially designed three-year music programme (2015-2018) for older Hearing Impaired (HI) children. The programme, *Sounding Out*, is funded by the *National Foundation for Youth Music* (https://www.youthmusic.org.uk) and managed and coordinated by the London-based charity *Creative Futures* (CF) (https://www.creativefuturesuk.com). The musical activities have been based for its opening two years (2015-2017) in two Secondary special schools for the hearing impaired (HI) in London, England. In the current third and final year, data will compare pupils in one Primary and one Secondary school (2017-2018). The design of the music intervention embraces a weekly programme of one to one-and-a-half hours of essentially instrumental (and some vocal) music that is led by visiting teams of specialist musicians who are employed by the CF charity. The target participants are HI pupils in their initial two years at Secondary school (School Years 7 and 8), that is, pupils aged 12-13 years of age. A music education research team from the University College London (UCL) Institute of Education (UCL IoE) were appointed to undertake a systematic evaluation of the musical aspects of the programme, particularly in relation to young people's musical development[4].

The underlying rationale for the design of the *Sounding Out* programme drew on an earlier related (and on-going) joint UCL-CF initiative in a London Primary school where there is evidence that specialist singing activities can improve aspects of young HI children's singing, including pitch perception and pitch production, and also their speech perception (Welch et al., 2015 – see below).

According to the World Health Organisation, in 2012 a disabling hearing loss was reported to effect 5.3% of the world's population, estimated at 360 million people. A larger group of around 15% of the world's population (approximately 1 billion people) had some degree of hearing loss (The Lancet, June 11th, 2016). Sharing a similar concern, the American National Academies of Sciences, Engineering, and Medicine issued a report on hearing impairment in 2016 (Blazer et al.). The report suggested that an estimated 30 million Americans have hearing loss (12.7% of the population), whilst acknowledging that evidence on the effectiveness of interventions on hearing loss, hearing health care and outcome evaluation were strikingly absent.

With regards to the existing literature on children with hearing impairment and music, there is evidence that HI children using hearing aids (HAs) or cochlear implants (CIs) have poorer pitch perception and are likely to use a narrower vocal pitch range than their normal hearing (NH) counterparts (Edwards, 2013; Looi & Radford, 2011). Also, it would be expected that children with CIs would perform more poorly than children with HAs due to the fact that CI processing removes temporal fine structure cues and has low spectral resolution, although there is very little evidence to date to indicate poorer pitch perception in children with CIs than those with HAs. In addition, HI children, both with HAs and CIs also tend to have a marked deficit in vocal singing ability, either in pitch or rhythm accuracy (Mao et al., 2013).

[4] Colleagues from UCL's Ear Institute and Department of Psychology and Language Sciences have been undertaking a parallel investigation using video analyses of the music programme's possible impact on participants' attention and engagement, as well as their communication skills.

Nevertheless, one reason for exploring the possible benefits of music with HI children—apart from an enjoyment of music (cf. Driscoll et al., 2015) and positive social functioning— is that there is evidence that learning music enhances both sound perception (Schlaug et al., 2005) and phonological processing (Verney, 2013), not least because 'the human brain recruits similar cortical mechanisms for processing sound in both domains' (Strait & Kraus, 2011, p. 133), i.e., sound processing for both music and speech (cf. Kraus & Slater, 2015; Patel, 2010, 2011; Sammler et al., 2009). One recent HI study reported that music training can lead to improvements in the perception of music and emotional speech prosody, and thus may be an effective supplementary technique for supporting auditory rehabilitation following cochlear implantation (Good et al., 2017).

Furthermore, recent research suggests that there is a bi-directionality between the domains of language and speech, such that development in one can support the other (Bidelman et al., 2013). With regards to the HI population, there are examples of CI users who report an enjoyment of familiar music (after repeated listenings; Gfeller et al., 2000) and evidence of significantly improved music discrimination after computer-assisted training (Galvin et al., 2007). Other research (Petersen et al., 2015) suggests that, despite pre-lingual deafness, adolescent CI users can engage with and find enjoyment from music, although their general discrimination abilities are likely to be characterised by significantly weaker auditory brain responses and poorer behavioural performance compared to normally hearing (NH) controls.

Petersen et al.'s (2015) findings followed a two-week, twenty-hour music programme that was designed to strength the adolescent CI participants' perception of key components of music (pitch, rhythm and timbre) through music-making, singing and computer-based listening exercises. The authors suggested that future research should examine the possible effects of longitudinal music training. Such extended training and its impact have been reported elsewhere in a related study (Welch et al., 2015) concerning a twenty-week pilot music programme with young hearing-impaired children. There was evidence of improvements in measures of sung vocal range and singing competency for these HI children, including those with CIs, and also a noticeable improvement in children's accuracy on a piano chord pitch perception task.

These findings, and those from earlier studies (e.g., Edwards, 2013; Rocca, 2012; Torppa et al., 2014; Good et al., 2017) imply that extended musical experience may support augmented auditory perception and attention in HI children. On this premise, the London-based charity *Creative Futures* were successful in their application for funding to provide a three-year music programme in two special schools for HI young people in London. The current article reports an evaluation of aspects of participants' musical development across the opening two years of the programme (2015-2017).

## Methodology

Opportunity was taken to visit both participating secondary special schools at five points across the school year from October 2016 to July 2017. In the previous (opening) year of the programme (2015-2016), the researchers also undertook regular visits to the two participant schools in order to familiarise themselves with the context and to undertake structured observations of the music curriculum and the HI pupils' engagement with its musical activities. Another core focus during the opening year was to decide on the most appropriate tools for the assessment of musical behaviour and development in this hearing-impaired school context.

Across both research years, the music sessions happened towards the end of the school day. On each visit, data were collected concerning the young people's engagement in the specially designed Creative Futures music programme and on the nature of their musical behaviours. The latter were tracked using the *Sounds of Intent* (SoI) musical development framework for children and young people with special needs and disabilities (see http://soundsofintent.org and related sources, e.g., Ockelford & Welch, 2012; Ockelford & Welch, 2018; Welch et al., 2009).

Members of the research team placed themselves around the music classroom in each school such that individual pupils were monitored from the moment that they entered the music session until they left at its conclusion. Multiple observations of each participant were made as the sessions unfolded and these were notated onto specially prepared *SoI* multidimensional framework record sheets.

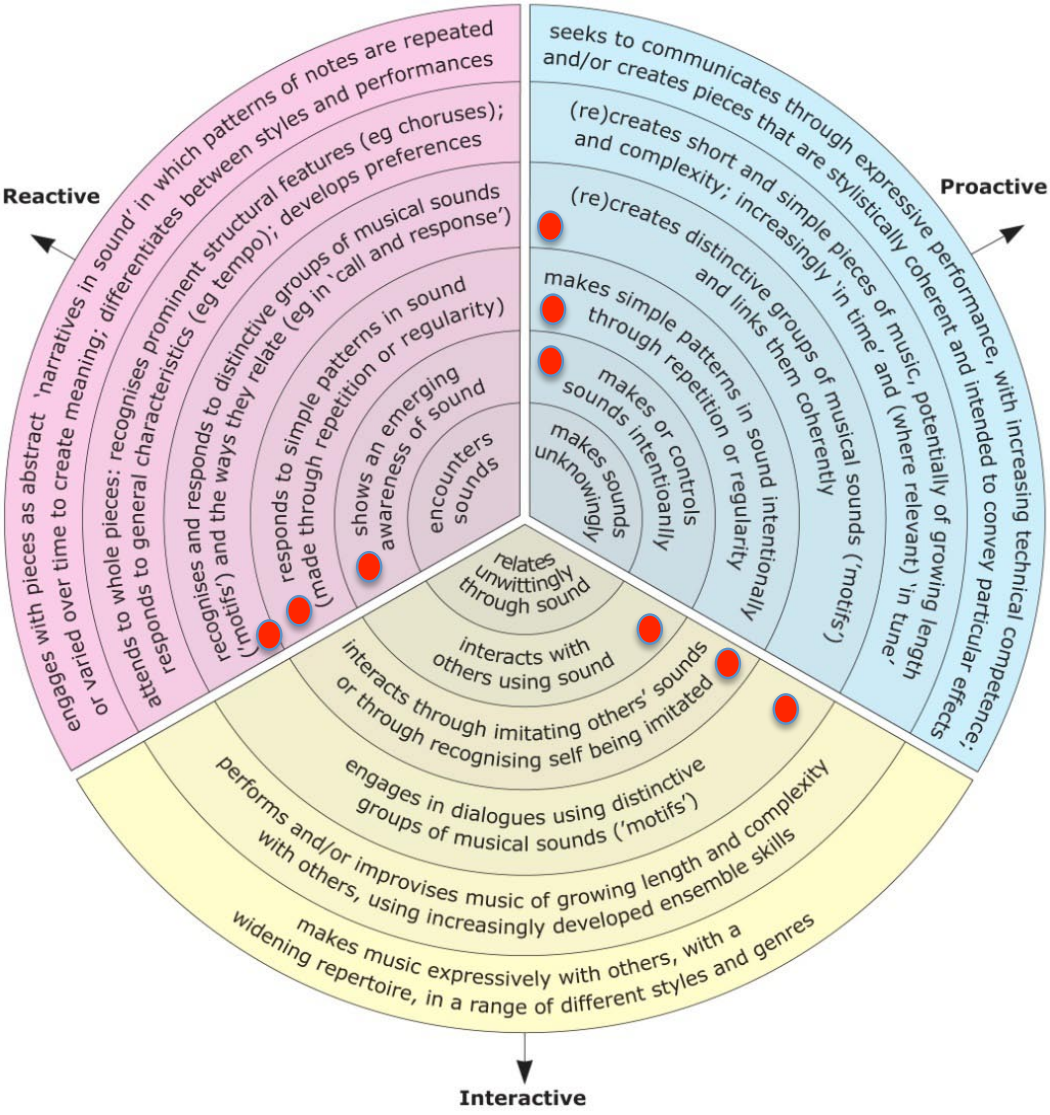


*Figure 1*. Examples of observed musical behaviours, as evidenced by *Sounding Out* participants mapped against the *Sounds of Intent* (SoI) framework (Ockelford & Welch, 2018). The inserted red circles provide an overview of the different types of musical behaviours that were observed across participants over one school year (2016-2017).

Subsequent Excel spreadsheet analyses allowed summative judgements to be made as to participants' developmental status and the nature of their engagement. Overall, participants exhibited a wide range of musical behaviours across the three main SoI dimensions. These embraced:

- *Reactive* behaviours – where participants were listening and responding musically;

- *Proactive* behaviours – where participants were causing, creating and controlling musical sounds; and
- *Interactive* behaviours – where participants are making music in the context of engagement with others (see Ockelford & Welch, 2018).

The three dimensions, although conceptually discrete, recognise that there may be overlaps between behaviours at different moments in the musical activity. In each instance, all aspects of the observed behaviour were mapped against the SoI framework and a reflective judgement was then made of the majority bias towards a particular dimension or dimensions and of related level or levels.

Notwithstanding the nature of local organisation of the music programme at each school and occasional children's absences, there are longitudinal data available for the majority of participating children in each school, $n = 7$ pupils in School 1 and $n = 9$ in School 2, a total of $n = 16$ pupils, although there were occasional individual pupil absences on the day of the research visit. However, in both schools, the final data collections in July 2017 were limited due to pupil absences on the scheduled days of the research visits for $n = 9$ of the $n = 16$ participating pupils across the two schools.

**Main findings.** Taking the averaged SoI data for each participant for each of the five school visits, it is possible to map any changes longitudinally across SoI dimensions and levels over time for individuals and across the cohort, as well as in each school. In aggregate across the school year, each SoI dimension (Reactive, Proactive, Interactive) was evidenced, although not always in each session for each individual. The general tendency was for observed musical behaviours to embrace Levels 2, 3 and 4 (see Figure 1) within each dimension, sometimes higher. No Level 4 behaviours were observed during the first sessions (October 2016), whereas there were 71% Level 4 ratings later in the academic year (May 2017). In general, Interactive behaviours were often rated at one level lower than Reactive and Proactive.

There were also examples of group music making that demonstrated participants' abilities to rehearse music across several sessions and then perform in front of an audience, both in school and externally (such as the Festival Hall in London, March 2017 as part of a large music festival). Within these instances, a few participants were observed to achieve SoI Level 5, e.g., performing pieces of improvised music with others, and attending to when and what to play from a set of selected instruments.

Plotting the average rating for each of the five research visits suggests that there was a generally moderate but significant trend for increasingly advanced musical behaviours being observed over time (see Table 1). Using a Friedman test (a non-parametric equivalent to a one-way ANOVA with repeated measures), there was a statistically significant difference in *Sounds of Intent* ratings over time, $\chi^2(5) = 9.512$, $p = 0.049$. However, the final data collections in July 2017 were limited due to pupil absences for half of the $n = 16$ pupils across the two schools. Thus, a more reliable mapping of longitudinal change is likely to be evidenced from October 2016 to May 2017 (with four rather than five sets of data points, i.e., October, December, February and May). Using these data with the same Friedman test, there was a highly statistically significant positive change in musical behaviours, $\chi^2(9) = 18.649$, $p < 0.001$.

In order to understand the nature of the reported differences, post hoc analyses with Wilcoxon signed-rank tests were conducted with a Bonferroni correction applied, resulting in a significance level set at $p < 0.017$. Median SoI ratings for each observation point 50th percentile

were 3.5, 3.0, 4.0 and 4.0 respectively (see Table 1). The post-hoc analyses demonstrated that, although there was no statistically significant difference between the baseline (October) and the second observation point (December), there were statistically significant increases in SoI ratings between the October 2016 (baseline) and the two final observation points (February 2017, $Z = -2.598$, $p = 0.009$; May 2017, $Z = -2.859$, $p = 0.004$).

This trend for musical development across participants was evidenced overall and for each school separately (see Figure 2), being slightly more marked for School 1 as they began with a lower mean baseline.

Table 1

*Pupils'* Sounds of Intent (SoI) *Assessment Descriptive Statistics for 2016-2017*

| | | | | | | Percentiles | | |
|---|---|---|---|---|---|---|---|---|
| Date | *N* | *M* | *SD* | Minimum | Maximum | 25th | 50th (*Mdn*) | 75th |
| Oct 2016 | 15 | 3.03 | .48058 | 2.00 | 3.50 | 3.00 | 3.00 | 3.50 |
| Dec 2016 | 15 | 3.03 | .63994 | 1.50 | 4.00 | 3.00 | 3.00 | 3.50 |
| Feb 2017 | 11 | 3.82 | .46221 | 3.00 | 4.50 | 3.50 | 4.00 | 4.00 |
| May 2017 | 15 | 3.70 | .49281 | 2.50 | 4.00 | 3.50 | 4.00 | 4.00 |

Of the $n = 16$ total number of participants, data were available for a maximum of $n = 15$ at any given data collection point, with $n = 11$ participants having data for each assessment. The SoI framework levels range from 1 to 6 in each domain (see Figure 1).

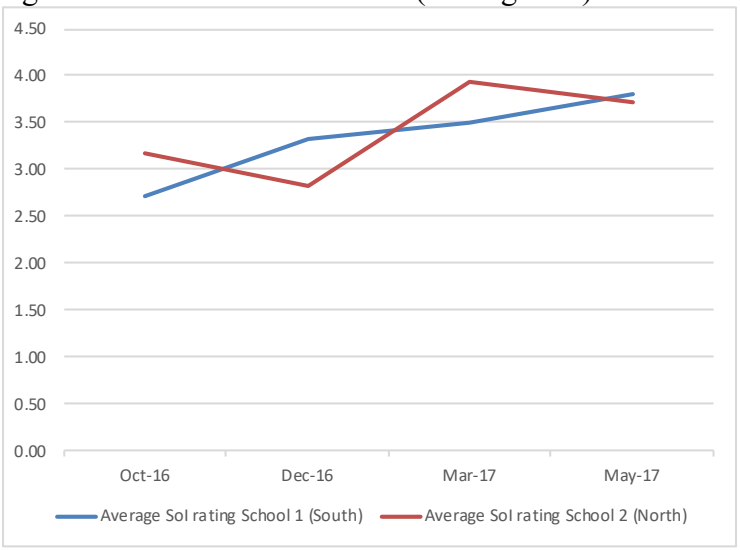


*Figure 2*. Mean SoI ratings for each school over 2016-2017

Overall, the mapping of the observed musical behaviours against the *Sounds of Intent* framework (Ockelford & Welch, 2012; Ockelford & Welch, 2018; Welch et al., 2009) suggests that, despite their hearing loss, participants were capable of successful engagement in music making, related to their particular profile of special needs and disabilities, and the school contexts.

However, there are some caveats. The evidence of musical behaviours from the individual participants was closely related to the socio-musical contexts in which the observations took place. Constraints on possible musical achievement were both pedagogical and organisational. In some instances, there was a need to differentiate more, pedagogically, to support individual development, offer greater musical challenges, as well as opportunities for consolidation. In other instances, the local school organisation appeared to mitigate against sustained musical engagement for the same individuals by having music as one of a weekly carousel of arts activities. This multi-arts organisational context is worthwhile in itself, in that pupils are exposed to a wider variety of art forms, but it can mean that individual engagement and development in music can be more limited by the nature of the school's arts 'project' that drives the choice of musical content and musical opportunities.

Nevertheless, looking across the two project years and both school locations, there were many instances of positive engagement and musical behaviour. Examples included:

- pupils enjoying clapping and stamping patterns, such as based on the inherent rhythmic nature of their Christian names, first as a collective, plenary session, then with pupils working in pairs;
- pupils exploring invented notations to shape collective music making, introduce a variety of expression and focus attention on specific sonic features of the sounds (such as pitch, loudness, timing, pulse, dynamics);
- teacher-directed behaviour being interwoven with opportunities for others to take a lead, such as individual pupils acting as ensemble conductors for the rest of the group;
- children exploring their allocated/chosen instrument informally whilst others were being tutored; these opportunities for musical play often generated high levels of engagement; and
- technology-mediated music making, such as improvising against a visual stimulus, often created by a group of their peers in a related arts session.

In conclusion, the data analyses from the research evaluation of the opening two years of the *Sounding Out* music programme in these two Secondary special schools for hearing impaired pupils offer many positive messages for music education (cf. Schraer-Joiner, 2014*)*. There is evidence of a range of musical behaviours being exhibited, of musical engagement and also musical development. There were no individual participant instances of developmental regression over time from baseline observations in October 2016 using the SoI framework data. In contrast, 75% (12:16) of participants were achieving approximately one or more higher SoI levels in their observed musical behaviours by the summer term 2017.

Given that these adolescent pupils were in the opening two years of their Secondary school careers, it is hypothesised that their engagement with music could and should be sustained, notwithstanding their disabilities, if the participant schools ensure that appropriate effective music curricula are in place.

It is also heartening to have empirical longitudinal evidence that hearing impairment need not be a barrier for young adolescents to engage with music successfully and develop musically. At the beginning of the *Sounding Out* programme, such musical outcomes were somewhat uncertain, as it was acknowledged that these young people had lived with their hearing loss—and additional needs in some cases—throughout their lives. It was unclear as to whether, given this background, measureable progress would be achievable, or whether it might be better to prioritise music education for HI pupils on the early years of schooling, where there might be a greater possibility of neuroplasticity-related change and development. However, the research evidence presented above does not support such a hypothesis: all children, including those with special needs, should have the opportunity to have their lives enriched with and through music.

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# Novice Music Conductors' Perceptions of Cybersickness While Immersed in Spherical Video Virtual Environments

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Abstract

This study examined novice conductors' perceptions of spherical video virtual environments. Specifically, we focused on participants' perceptions of cybersickness symptoms. Thirty-four undergraduate music majors, who served as conductors, each experienced two virtual reality sessions; one in which they conducted a faster work and one in which they conducted a slower work. After each session, they completed the Simulator Sickness Questionnaire (SSQ; Kennedy et al., 1993). We calculated scores for Nausea, Oculomotor, and Disorientation subscales and Total Severity for each session as well as an overall mean total score. We found no statistical differences ($p > .05$) between our sample and those published for the SSQ. Additionally, there were no significant differences ($p > .05$) based on presentation order, gender, or tempo. Results from this study show novice conductors' perceptions of cybersickness generally aligned or were less than those reported in previous research outside of music. Based on these findings, we conclude that spherical video virtual environments may be useful in future music conducting research.

*Keywords:* virtual reality, cybersickness, conducting, spherical video environments, perception

# Novice Music Conductors' Perceptions of Cybersickness While Immersed in Spherical Video Virtual Environments

Virtual reality (VR) is becoming more commonplace within educational settings. Liu et al. (2016) examined the increasingly common uses of immersive virtual reality environments in several educational disciplines and found much of the recent focus on VR technologies for widespread educational use is due to decreasing costs of hardware and associated equipment. Instructional applications of this technology have allowed users to experience virtual field trips and virtual training (Walsh, 2017). These experiences immerse the user in the virtual environment and given certain conditions, produce a sense of truly being in the virtual space. This sense is referred to as presence (Lee, 2004).

Presence is an integral component of the virtual experience. Results of early studies indicate factors that contribute to presence include vividness, interactivity, and various user characteristics (Schuemie, Van der Straaten, Krijn, & Van der Mast, 2001). In a more recent review of VR literature related to emotional experience, Diemer, Alpers, Peperkorn, Shiban, and Mühlberger (2015) found that in general, immersion in environments that contain enhanced graphics, and are more multi-modally integrated and interactive tend to result in increased presence. It seems the more vivid the environment and active the user is, the stronger the sense of presence.

Research in music indicates musicians immersed in virtual music environments such as a practice room or performance hall experience presence (Bissonnette, Dubé, Provencher, & Sala, 2016; Crawford, 2011; Orman 2003, 2004, 2010, 2016; Orman, Price, & Russell, 2017; Williamon, Aufegger, & Eiholzer, 2014). Researchers explored immersive VR as a means to lessen music performance anxiety (Bissonnette et al., 2011, 2016; Crawford, 2011; Orman, 2003, 2004; Williamon et al., 2014) and as a tool to enhance novice wind band conductors' skills (e.g., eye contact, body movement; Orman 2010, 2016; Orman et al., 2017; Orman, Whitaker, Price, & Confredo, 2017).

In addition to presence, a somewhat common issue users experience when immersed in a virtual environment is cybersickness. Rebenitsch and Owen (2016) define cybersickness as "the onset of nausea, oculomotor, and/or disorientation while experiencing virtual environments in head-mounted displays, large screens, and curved screen systems" (p. 102). Some researchers posit cybersickness to be magnified by the amount of participant motion or by less realistic environments, and severity may be related to gender as some studies have found females to experience more symptoms (see Rebenitsch & Owen, 2016 for a thorough review of cybersickness research since 1995). Others believe cybersickness is caused by differences between what motion is experienced in the environment and what the brain expects to experience (e.g., Groen & Bos, 2008) and that instances of cybersickness increase when video or moving images are viewed with head tracking devices (Lin, Duh, Parker, Abi-Rached, & Furness, 2002).

Because of the increasing popularity of virtual reality in education and gaming, researchers developed questionnaires that are now considered standard protocols for examining this phenomenon. Identified by Rebenitsch and Owen (2016) as the primary measurement tool for examining cybersickness, the Simulator Sickness Questionnaire (SSQ) developed by Kennedy, Lane, Berbaum, and Lilienthal (1993) has over two decades of use by researchers. Kennedy et al. (1993) developed the SSQ using data from 10 United States Navy simulators and more than 1,100 questionnaires. Their study provides a detailed description of using, scoring,

and interpreting SSQ scores including descriptive statistics and percentile points from their calibration sample. The SSQ lists several cybersickness symptoms for which users rate their perceptions of on a four-point scale. In addition to overall cybersickness scores, three subscale scores (i.e., nausea, oculomotor, and disorientation) may be calculated. They defined nausea as stomach awareness, increased salivation, and burping; oculomotor as eyestrain, difficulty focusing, blurred vision, and headache; and disorientation as dizziness and vertigo. In the calibration sample, oculomotor symptoms began at the 50$^{th}$ percentile point while nausea symptoms began at the 65$^{th}$, and disorientation at the 80$^{th}$. The SSQ has been well established and validated in VR research (e.g., Bouchard, St. Jacques, Renaud, & Wiederhold, 2009; Bouchard, Robillard, Renaud, & Bernier, 2011).

Even though music researchers used immersive VR in several studies, none examined the occurrence of cybersickness among participants. This may not have been necessary because immersive environments used in many of the previous studies were generated from still pictures rather than video and therefore, the only movement within the virtual environment occurred when participants with head tracking moved. Given that research outside of music indicates instances of cybersickness increases when video is viewed with head tracking devices (Lin et al., 2002), it would be beneficial to examine this phenomenon in the music ensemble environment. The purpose of the current study is to examine participant experience, specifically in terms of cybersickness, when conducting while immersed in a spherical video virtual music ensemble environment. The following research questions guided the study:

1. To what extent do participants experience cybersickness symptoms when actively immersed in a spherical video virtual music ensemble environment?
2. How do participants' perceptions of cybersickness symptoms change when using a slower versus faster conducting pattern?
3. Are there differences in perceptions of cybersickness symptoms based on gender?

## Methodology

### Participants

Thirty-four undergraduate music education majors ($n$ = 4 freshmen, 17 sophomores, 10 juniors, and 3 seniors; $n$ = 21 males and 13 females) at a university in the Southeastern United States voluntarily participated in the study. Each participant completed an IRB approved consent form and provided demographic information including year in school, principal instrument, and conducting experience, if any. Participants had an average of 9.37 years of musical experience on their principal instruments, which included six voice, two violin, two viola, two flute, six clarinet, two saxophone, one bassoon, three trumpet, two horn, two euphonium, two trombone, and four percussion. Participants' conducting experience varied; five had completed two semesters of conducting classes and nine were enrolled in a beginning conducting class; twelve had no conducting class experience but had served as a conductor in various capacities (e.g., drum major, church choir); and eight participants had no conducting experience.

**Spherical Virtual Environments.** A volunteer group of musicians served as the ensemble for the virtual environments. We recorded spherical video (i.e., 360-degree video) using a Ricoh Theta S video camera while the ensemble performed two musical works, *Air for Band* (Erickson, 1966) and *Soldiers' Procession and Sword Dance* (Margolis, 1992). *Air for*

*Band* is a Grade 2 work that our ensemble performed at a tempo marking of quarter note equals 60. *Soldiers' Procession and Sword Dance* is a Grade 1 selection that our ensemble performed at a tempo marking of quarter note equals 84. Both works use 4/4 meter throughout. We selected these pieces so that conductors with little to no experience could maintain a pattern with relative ease as neither work contained fermatas or drastic tempo changes. However, *Air for Band* required a slower conducting pattern while *Soldiers' Procession and Sword Dance* required a 40% faster conducting pattern. Participants viewed spherical video environments using Motoraux IMAX Movie Visor 3D Virtual Reality Glasses containing a smartphone running the Ricoh Theta S Main Application while audio of the ensemble sounded through a Polk Boom Bluetooth Wireless Speaker.

## Procedures

Virtual reality immersion in the spherical video environments took place in a booth, made of PVC pipe with black curtains, used specifically for virtual reality music research. Participants completed a brief still-picture VR acclimation session. They then completed two VR conducting sessions, one for each musical selection. Participants served as conductor of the virtual ensemble during both sessions. All sessions were video recorded and none occurred on consecutive days. For one session, participants conducted a spherical video including audio of the volunteer ensemble playing *Soldiers' Procession and Sword Dance* (Margolis, 1992), which functioned as the faster musical work requiring quicker conducting gestures. For the other session, participants conducted a spherical video including audio of the ensemble playing *Air for Band* (Erickson, 1966), which served as the slower musical work and therefore, required slower conducting gestures. Presentation order of musical works was varied in order to control for order effects.

Immediately after each VR session, participants completed the SSQ (Kennedy et al., 1993). The questionnaire contains 16 symptoms such as headache, difficulty focusing, and dizziness. Each symptom is rated on a four-point scale (i.e., 0 = none, 1 = slight, 2 = moderate, 3 = severe). Analysis of the questionnaire renders four weighted scores: a total simulator sickness score and scores for nausea, oculomotor, and disorientation subscales.

### *Data Analysis*

We calculated subscale and total scores from the SSQ for participants' questionnaire responses for both the slower and faster musical works following procedures outlined by Kennedy et al. (1993). Total scores for both works were also averaged. This process resulted in nine scores used for subsequent analysis including comparison to normed results from previous simulator sickness research (Kennedy et al., 1993).

Additionally, one researcher viewed all in-session videos and evaluated each for observable physical manifestations of cybersickness (e.g., unsteady behaviors; awkward and sudden tilting, stumbling or swaying). The researcher examined videos for two categories related to observable behaviors: stability and conducting. If any unstable body posture occurred, the researcher notated a "no" for the stability category. Likewise, if participants stopped conducting at any point while the virtual ensemble continued performing, a "no" was notated for the conducting category. Analysis of in-session videos allowed for comparison to participants' questionnaire responses.

**Reliability.** The other researcher served as a reliability observer by analyzing 20% of the in-session videos for conducting and stability behaviors. We calculated reliability using the formula: (agreements/agreements + disagreements) X 100, which equaled 92% for conducting and 100% for stability.

## Results

Our first research question for this investigation is the extent to which participants experience cybersickness when immersed in a spherical video virtual music ensemble environment. Table 1 contains the average results of the SSQ for both musical pieces conducted in the spherical video environment. Participant SSQ total scores for the fast piece ranged from 0 to 44.90 with scores for the slow piece ranging from 0 to 48.62. Mean total scores from both works ranged from 0 to 39.27. Descriptive statistics from this study are similar to those previously found with the calibration sample from Kennedy et al. (1993), although no participants in the current study experienced symptoms as severe. Calculated *Z*-scores showed no statistical differences between our sample of music students and the published calibration sample of the SSQ for any of the measures. In addition, the largest severity range for our sample (0 to 48.62) was less than half (45%) of that of the SSQ calibration sample (0 to 108.6).

Table 1.

*Mean SSQ Categories for Total* (*Mean of Slower and Faster Work*) *VR Exposure* (*N = 34*) *with Z-scores*

| | Music Participants | | Calibration Sample* | | | |
|---|---|---|---|---|---|---|
| Variable | *M* | *SD* | *M* | *SD* | *Z*-score | *p* |
| Nausea | 6.31 | 8.34 | 7.70 | 15.00 | -0.540 | .59 |
| Oculomotor | 9.25 | 11.99 | 10.60 | 15.00 | -0.525 | .60 |
| Disorientation | 10.85 | 17.32 | 6.40 | 15.00 | 1.730 | .08 |
| Total | 9.96 | 12.39 | 9.80 | 15.00 | 0.062 | .95 |

*Note.* *Kennedy et al. (1993)

In order to determine any observable physical manifestations of cybersickness we analyzed in-session videos for stability and conducting. Analysis of these videos indicated all participants were physically stable while immersed in the VR video environments and all but one participant maintained their conducting throughout the duration of their sessions. While some participants reported experiencing cybersickness symptoms to some degree, there were no observable physical manifestations for all but one participant who briefly stopped conducting in the middle of the slower musical selection.

We addressed our final two research questions by calculating a Mixed Factorial Repeated Measures ANOVA to determine the statistical extent of participants' cybersickness, how participants' perceptions of cybersickness symptoms change when using a slower versus faster conducting pattern as well as how these perceptions may have differed based on gender and presentation order. Results indicated differences in participants' perceptions of cybersickness did not significantly change when using a slower versus faster conducting pattern as reported by the total SSQ measure $F(1, 30) = .186$, $p > .05$, $\eta_p^2 = .006$. There were also no significant differences in participants perceptions of cybersickness when conducting the slower versus the faster musical selection as measured by each of the three subscales: nausea $F(1, 30) = .037$, $p > .05$, $\eta_p^2 = .001$, oculomotor $F(1, 30) = .220$, $p > .05$, $\eta_p^2 = .007$ and disorientation $F(1, 30) = .014$, $p > .05$, $\eta_p^2 = .014$. Gender did not significantly affect participants' perceptions of cybersickness reported for the total SSQ measure $F(1, 30) = .611$, $p > .05$, $\eta_p^2 = .020$ or the three subscale measures: nausea $F(1, 30) = .099$, $p > .05$, $\eta_p^2 = .003$, oculomotor $F(1, 30) = .587$, $p > .05$, $\eta_p^2 = .019$, or disorientation $F(1, 30) = .802$, $p > .05$, $\eta_p^2 = .026$. Finally, we found no significant difference in participants' perceptions of cybersickness reported for the total SSQ measure $F(1, 30) = 1.471$, $p > .05$, $\eta_p^2 = .047$ or for the subscales of nausea $F(1, 30) = .207$, $p > .05$, $\eta_p^2 = .007$, oculomotor $F(1, 30) = 2.142$, $p > .05$, $\eta_p^2 = .067$, or disorientation $F(1, 30) = 1.136$, $p > .05$, $\eta_p^2 = .036$ based on presentation order. There were no significant interaction effects ($p > .05$) for any of the variables.

## Discussion

Of the 34 participants, eight (24%) reported experiencing no cybersickness symptoms when conducting either musical work. Twenty-three (68%) experienced symptoms when conducting the faster work and 19 (56%) experienced symptoms when conducting the slower work. When conducting the faster work, 16 (47%) reported experiencing nausea symptoms, 20 (59%) experienced oculomotor symptoms, and 14 (41%) experienced disorientation symptoms. When conducting the slower work, 14 (41%) experienced nausea and/or disorientation symptoms and 18 (53%) experienced oculomotor symptoms. In both conducting conditions, more participants reported experiencing oculomotor symptoms (i.e., eyestrain, difficulty focusing, blurred vision, and headache) than nausea or disorientation symptoms. This is not surprising given that calibration sample results from Kennedy et al. (1993) indicated that more people immersed in virtual environments experience oculomotor symptoms than nausea or disorientation.

While the total means for the nausea and oculomotor subscales from both the slower and faster conducting sessions are very similar to the calibration sample subscale means (Kennedy et al., 1993), it is interesting that the disorientation subscale mean is more than four points higher in this study (10.85) than the disorientation calibration sample mean (6.40). Perhaps the constant motion of conducting helped produced these reported disorientation symptoms. However, there is a large difference in range as the highest individual disorientation score in the calibration sample was 97.40, while the highest disorientation score in the current study was only 55.68.

While researchers in other disciplines have found an increase in instances of cybersickness symptoms when participant movement is higher (Rebenitsch & Owen, 2016), results of our study showed no significant differences in cybersickness symptoms when conducting slower versus faster works. More research is certainly needed, but in this study the difference in speed of conducting gestures was not related to changes in symptoms of

cybersickness. Future research may wish to examine the possibility of a difference between magnitude and speed of movement during musical conducting.

Gender has been related to differences in cybersickness symptoms with females tending to experience symptoms at higher levels than males (Rebenitsch & Owen, 2016). We found no significant differences between male and female participants in terms of cybersickness symptoms in this study. It may be that virtual music ensemble settings do not cause differences in experience based on gender characteristics. Because this is the first investigation of cybersickness in a virtual music ensemble setting, more research is warranted.

Our results show novice conductors' perceptions of cybersickness generally aligned or were less than those reported in previous research outside of music. Based on these results, it seems using spherical video environments in future VR studies would pose no greater risk to participants in terms of experiencing cybersickness symptoms than virtual environments used in other disciplines. However, music researchers should be cautious when designing future studies. While ensemble movement within the video environments was limited to the natural movement of ensemble members while playing their instruments, all environments are different. Therefore, an increase in motion within the ensemble itself could trigger more cybersickness symptoms in conductors. Likewise, different musical works have different characteristics such as tempo and nuances that invoke different conducting gestures. It is possible that even faster tempo works or those in which the magnitude of conducting gestures drastically changes could increase cybersickness tendencies.

Continued enhancements to VR technologies have the potential to allow virtual music ensemble environments to be even more multi-modally integrated and interactive. When this is realized, immersion in virtual ensemble settings will likely allow novice conductors to feel an enhanced sense of presence (Diemer et al., 2015) and therefore potentially strengthen their teaching and conducting abilities if applied thoughtfully. As can be seen from the findings of this study, continued research into discipline specific VR applications is both warranted and needed as we continue to study how this technology can be effectively used in music teaching and learning situations.

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# Education In and Through Music for Children and Young People with ADHD

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Abstract

There is a substantial body of research to indicate the wider benefits of sustained musical activity on children's intellectual, social and emotional development, including children with special needs. However, there is limited research evidence concerning music education and young people diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), whose symptoms can negatively affect development at both home and school.

In this respect, the intention of the multiple case study research reported here was to investigate how and to what extent ADHD behaviour is evidenced in the context of children and young people's music making. The methodology included structured observations and sequenced practical music making. Real-time observational data were gathered, supported by video and audio recordings, in a variety of settings related to individual ADHD cases. The contexts embraced small group music-making, group instrumental lessons and orchestra rehearsals for pupils with a formal assessment of ADHD, and with observations across several school terms.

Overall, despite the three core attributes of ADHD (inattention, hyperactivity and impulsivity) being evidenced at different moments in participants' music making, these were not persistent, nor exhibited in ways that prevented successful musical engagement. Furthermore, analyses of the data suggest that the teacher's perception of ADHD in music is related to the pedagogical approach adopted and the ways that the educational experience is set up. In particular, evidence suggests that an effective inclusive musical strategy can integrate ADHD behaviour into successful music making. Conversely, negative attitudes towards ADHD behaviour can hinder teachers' effective practices, enhance an adverse perception of such behaviour and decrease the likelihood of musical success.

Consequently, the findings suggest that, in spite of ADHD's impairing symptoms, it is possible for an individual with ADHD to engage successfully in music and acquire musical skills, particularly when the pedagogy is effective.

*Keywords:* Music Education, ADHD

Education In and Through Music for Children and Young People with ADHD

This paper reports a multiple case study of the musical engagement of children and young people diagnosed with Attention Hyperactivity Disorder (ADHD). Given the current high profile debates with regard to educating children with ADHD, it seems quite surprising that there is limited research evidence to provide an understanding of ADHD in the context of music education. Although this disorder is defined by specific behaviour, its exact manifestation can vary depending on the subtype, which is defined by the particular constitution of a set of symptoms attributed to ADHD's core features of inattention, hyperactivity and impulsivity. Due to the characteristically problematic behaviour, ADHD adversely affects young individuals both at home and school. Normally, such individuals are impeded by their challenging behaviour and are at risk of academic failure and social exclusion. This poses a matter of serious concern for parents, carers, teachers and other educators involved in these young individuals' lives.

The interest in conducting research on the various aspects of ADHD and music education derived from a general lack of research literature in this field. Although there is evidence of widespread concern related to the needs and experiences of children and young people diagnosed with ADHD (Gaynes et al., 2014), little to no attention has been devoted to their musical behaviours and development, nor on the impact of music education on their intellectual, social and emotional development. Likewise, there is hardly any literature on the provision of musical training or best practice, i.e., effective teaching strategies, for such individuals in order for them to be able to develop to their fullest potential, notwithstanding their behavioural difficulties.

Drawing upon existing literature in the fields of music education and music psychology, there is a wealth of research evidence to indicate the potential wider benefits of music on individuals' wellbeing. In this regard, there is evidence to indicate that successful engagement in musical activities has the ability to improve personal development, promote self-regulation and enhance cognitive and social skills, as well as aspects of academic performance (Creech, 2016; Cross et al., 2012; Eerola and Eerola, 2013; Hallam & McDonald, 2008; Macdonald, 2013; Ockelford, 2012; Rabinowitch, Cross, & Burnard, 2013; Welch & McPherson, 2012; Welch et al., 2014; Wetter et al., 2009). Moreover, musical experiences can trigger the release of (neuro)transmitter substances like dopamine (Altenmüller, 2004) and, therefore, can support emotional wellbeing (Keitz et al., 2003, cited in Altenmüller and Schlaug, 2013; Salimpoor et al., 2011).

Against this backdrop, the wider evidence base seems to speak for a formal education in music that could be of benefit for those with special needs, including those diagnosed with ADHD, because 'engaging in appropriate musical activity means that the benefits of education in music are intertwined with an education through music' (Welch & Ockelford, 2015, p.2).

**The under-represented area of research in music education for children with Attention Deficit Hyperactivity Disorder.** At present, there is little research literature concerning music education with children and young people diagnosed with ADHD. Nor is there much literature describing individual music education experiences (Hansen, 2012), nor any agreed guidelines on how to educate these young people in music and what effective pedagogical practices might look like in the context of ADHD (Melago, 2014: Savage, 2012: McAllister, 2012; Tabb, 2011). Furthermore, it is not known how ADHD behaviour is perceived in general

in terms of music (Kelly, 2016), nor how any potential benefits of music education may manifest themselves.

Although several studies have proposed the means to enhance academic performance in children and young people with ADHD (Adkins, 2012; Maloy and Peterson, 2014), these have been confined to either a clinical setting, or a design that builds on experimental testing of performance. These studies have investigated how distractions such as music effect children with ADHD and indicate that listening to music can help with focusing and completing tasks (Adkins, 2012, op. cit.; Maloy and Peterson, 2014, op. cit.). However, there is very little evidence of how ADHD might present in a music education context.

One exception was the European Community-funded study the Usability of Music for the Social Inclusion of Children (UMSIC) that included observations of ADHD pupils using specially designed software on mobile phones. Main foci were self-regulation, attentiveness and impulsivity. The data analyses revealed that 'no clear difference in self-regulation is evident between the ADHD and non-ADHD children' in the mobile music-focused sessions (Purves et al., 2011, p. 59). In addition, teachers reported a positive effect of this kind of music making and music sharing on social interactions between children with ADHD and their non-ADHD peers. In particular, children with moderate learning difficulties, such as those diagnosed with ADHD, were considered to benefit from their engagement with mobile music technology (Myllykoski, Paananen, & Saarikallio, 2010; Purves et al., 2011).

Overall, there are a small number of studies to indicate the effects of music education on individuals with ADHD. As a consequence, the author sought to investigate any interrelationship between ADHD behaviour and engagement in music education in real life contexts, such as in school music programmes and community-based music projects. Moreover, the intention was to gain an insight into examples of the various kinds of music provision available for this target group.

**The multiple case study regarding ADHD and music education.** The prime focus for the research was to understand how ADHD might present itself in real life music education contexts, how ADHD is perceived and managed, to gain insight on any effective pedagogical practice with this client group and also to consider any possible wider benefits of successful music education for ADHD pupils. In other words, the intention was to explore ADHD *in* music as well as *through* music. In this respect, the study sought to uncover (a) how ADHD individuals engage in sustained music education and learn music, given their reported challenging behaviour and often socio-emotional difficulties, and (b) whether their ADHD profiles might change and be perceived differently in the context of a music lesson and also through their engagement with music. Furthermore, the research aimed to investigate how particular music provisions were presented, and the nature of any relationship between particular teaching strategies and approaches and the relative success of music programmes where pupils diagnosed with were present.

## Framework and Method

**Location and participants.** The research was conducted in four educational locations in Greater London, UK, of which one was a mainstream school, two were settings in special needs schools, and one was a community arts centre. In total, there were $n = 22$ children and young people who participated in the study, among whom there were $n = 19$ pupils displaying various

forms of special needs, including $n = 8$ individuals with official statements of ADHD, plus $n = 3$ pupils without special needs as part of one music group setting. Among all these individuals, $n = 4$ boys were observed in more detail and were considered as the main case study subjects. The age-span of the participants was from 9 to 16 years. The number of tutors varied across the programmes. Two programmes were led by one tutor only, in another setting there were two tutors present in each lesson, whilst the community arts centre project involved up to eight tutors, of whom one or two were leading at any given moment, and others were assisting or participating as performers.

**Contexts of music making.** The nature of the musical settings and provision varied. In one of the special needs schools, group keyboard lessons were provided. This school's aim was—via the music programme—to enable their pupils to engage in music, learn musical skills and develop to their fullest potential possible as individuals. The musical actions comprised clapping games, learning names of notes and chords, and playing short pieces on a keyboard with/without backing track/chords. Two visiting tutors (one leading tutor and one supervisor) were providing the music education service. The weekly sessions lasted for approximately 45 min each and continued over one school year. The group consisted of five boys and one girl in school Year 6 (age 10+), each diagnosed with ADHD.

The other special needs school employed a visiting teacher to provide either piano, guitar, percussion or singing lessons, and one-to-one drumming lessons for one participant. The programme consisted of teaching/playing two musical pieces and learning new techniques and learning about different genres. Weekly sessions were 25-35 minutes long and were observed by the researcher across one term.

The mainstream school setting offered various kinds of musical activities and input. One young boy with a formal assessment of ADHD, along with three school class peers, were chosen to form a small music group, designed and enacted by the researcher (an experienced musician and music teacher). Each music session took place once a week on the same day and at the same time in a specially selected group space over a period of 8 weeks. Furthermore, members of the group were observed in their normal classroom environment both before and after the music sessions in order to contextualise their group music behaviour.

The fourth observed music project was a community-based mixed special needs music ensemble that includes percussion instruments, piano, guitar, violin and iPads. The instrumental work was interwoven with clapping games for attention purposes, as well as improvisation games. The overall intention was to empower pupils with special educational needs (SEN) to engage in music. Over the span of several weeks, up to eight tutors (working under the umbrella of the local regional music organisation) taught and assisted these individuals.

**Observation and analysis.** The multiple case study of ADHD and music was approached holistically through classroom-based observations and, in one instance, researcher-led sequenced small group musical activities. In order to create an in-depth understanding of each case, as well as across cases, methodological triangulation was applied. Hence, several forms of qualitative data were collected. In order to provide the best possible quality of gathered data, audio and video recordings alongside classroom observation field notes were employed in order that findings could be seen as valid and reliable. With regards to the field notes, multiple observations of each participant were made as the session unfolded concerning musical and other-than-musical behaviours. Additionally, the researcher was granted access to the four main

case individuals' school reports relating to their ADHD behaviour and also the medical statements regarding the ADHD diagnosis. Where possible, the researcher also met with the participants' parents/carers and, in all cases, appropriate ethical permissions were obtained in line with university requirements and BERA (British Educational Research Association) guidance.

## Results

**ADHD perception and manifestation.** Overall, all participants in this study, whether diagnosed with ADHD, another form of special needs, or comparison non-SEN peers, were able to engage actively in music and were observed to have positive musical experiences. Despite their disorder, ADHD participants were able to be attentive, remain on-task, engage in learning about music and take part in all the musical activities being offered. In addition, most individuals—when provided with the opportunity—were very creative and keen to perform, as well as to show their acquired musical skills. Each participant demonstrated a good sense of rhythm and melody when playing, creating and performing musical pieces. In addition, the majority of individuals illustrated a keen understanding of music and musical expressions, such as by moving and gesturing appropriately to the music, together with singing along.

Furthermore, one noteworthy observation was that all participants occasionally showed typical behaviours and symptoms related to ADHD. The most frequent symptoms or behavioural traits were in not paying sustained attention, being distracted, being unable to sit still for a long time, fidgeting, and not following instructions or rules. However, perhaps the most remarkable finding was that, although the three elements of ADHD were displayed at different moments, they were not evident in the moments of musical performance, nor when being creatively engaged with musical materials.

Moreover, when involved in musical activities that required more active participation and, therefore, overall more physical movement, any ADHD-type behaviour was modified by the required musical behaviour, as seen from a music education lens. However, the various adults involved (tutors and teachers) did not perceive participants' ADHD behaviours uniformly. Perceptions appeared to be strongly influenced by their individual expectations of appropriate behaviour when young people make music. In this respect, the exact same behaviour was seen differently in two separate settings. In one, the ADHD-type behaviour was appreciated and even encouraged as an integral part of being immersed in the musical act; whereas—in the other context—the same observed behaviour was not always tolerated and was seen as being inappropriate and disruptive, including, in one case, the ADHD individual being asked to leave the music classroom. In other words, effective music pedagogy for ADHD individuals is likely to be related to the extent to which the teacher's *a priori* expectations are positive.

Furthermore, disruptive behaviour was caused on a number of occasions by (often preceding) arguments among particular participants. In such instances, ADHD-like impulsive behaviour was more likely to be evident. In contrast, where interpersonal communication was observed to be positive amongst pupils, ADHD-type behaviour was much less evidenced.

**Provision, teaching strategies and approaches.** Another salient aspect concerning ADHD and music was the significantly varying quality of the observed pedagogical approaches. This was even more evident when matching observational data against an established published framework theorising what constitutes successful music education and effective practice

(Inspire-Music Working Group, 2016). Data analyses revealed that, for example, there seems to be a clear inverse relationship between the amount of actual music making within a session and the nature of the pupil's non-musical ADHD behaviour. In general, there seemed to be less ADHD behaviour evident the more that the pupils were observed to be engaged in active music making, and the more they were empowered to express themselves musically. Conversely, where individual teachers expressed negative emotions towards ADHD-type behaviour, this seemed to hinder effective pedagogical practice and did little to reduce such behaviour, perversely often making it more evident. In these instances, tutors did not notice or even acknowledge any spontaneous musiking features, nor the evident engagement of their pupils. On the contrary, in the less effective music contexts (where there appeared to be no particular strategy or lesson structure evident), pupils were rather reprimanded for any unexpected and perceived to be uncalled-for behaviour, rather than seeing such behaviours as arising in the moment from their relative non-engagement with music, perhaps because what they were doing was not valued.

In terms of social interactions, it was observed that opportunities to work collaboratively with peers were uneven between locations and sessions. In the least effective music programme, there were almost no observed instances of pupils being encouraged to engage musically with their classmates.

Furthermore, in one instance, an ongoing positive wider impact of participation in the musical programme could be observed occasionally. Whereas the ADHD pupil was reported to be consistently challenging in his behaviour in class prior to the music sessions, his post-music class social behaviour was often reported as exemplary once back in his classroom.

## Conclusions

Overall, the case study data suggest that neither a diagnosis of ADHD, nor evidence of ADHD behaviour need be an impediment to successful participation in musical activities, particularly when the provision was of high quality in terms of effective engagement and appropriate musical content. Findings from this study are in line with research literature to suggest that every individual is musical and possesses an ability to engage in music and experience success in music education (Welch & McPherson, 2012; Ockelford, 2015). Individuals diagnosed with ADHD are able to acquire musical skills and apply these when involved in creative work such as improvising, composing and performing. Hence, there should be no reason not to provide these young people with education in music.

Moreover, as well as the pedagogical design of the programme, the attitude of the teacher also appears to be a critical variable in the promotion of musical behaviour and development of ADHD individuals. This is not to suggest that challenging behaviour should be ignored, but rather to note that, in a moment of performance, ADHD seems to be less evident or even not evident at all. Where teachers overly focused on the perceived challenging rather than the musical behaviours, the latter appeared not to flourish and the former became more exaggerated and disruptive. Consequently, in the context of music education, it would be useful to conceptualise ADHD as being a more continuously changing, fluid mode of behaviour, rather than a static overriding condition. Using a music education lens suggests that behaviour attributed to ADHD can be channelled into musical behaviour that can enable the affected individuals to act on their feelings and express these musically.

Additionally, as noted earlier, effective practice including teachers' perceptions and expectations seem to determine the success of the ADHD children's and young people's music

experience and musical development. The implication is that music educators need to understand that their approaches and strategies can impact both positively or negatively on their ADHD pupils and, therefore, should ensure that their practice adopts a role that includes being a music facilitator as well as an expert resource. Music educators should seek to empower these particular individuals in learning music, as well as in exploring their musical identities. Musical environments should be created to enable children and young people with ADHD to act on their feelings, to explore music and become expressive musicians, irrespective of their perceived impediments and special educational needs.

In conclusion, these findings suggest that, despite ADHD pupils' considerable impediments, it is possible for them to engage in music and acquire musical skills. Hence, ADHD can be accommodated in music education and need not pose a barrier to participation, nor success. Furthermore, dynamic musical experiences can promote positive behaviour and enable communication and self-expression through music, which is very valuable from a music education perspective.

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# Music Teacher Motivation and Satisfaction:

# Cross-Cultural Comparison of Australia and the United States

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Abstract

The purpose of this research was to compare perspectives on motivation and satisfaction in teaching music between in-service music teachers from Australia and the United States. Music teachers currently teaching in preschool through 12th grade (P-12) public and private schools in Australia ($n$ = 88) and the United States ($n$ = 476) completed a web-based survey following an emailed invitation. Results indicate that music teachers from both countries described similar motivation, satisfaction, and commitment to the profession. Few differences were noted between the two groups of teachers despite distinctions in their culture and music education systems. Most respondents expressed satisfaction in their decision to become a music teacher, and most plan to continue teaching until retirement. Most respondents chose "enjoyment of music and teaching" as the primary reason for their decision to teach music, and "student growth and success" as the primary reason they continue to teach music. Most respondents decided to become a music teacher during high school and their career choice was most influenced by their school music teachers. Challenges in teaching music were prioritized similarly by respondents from both countries. Most respondents indicated positive perceptions of their teaching abilities as rated by students, administration, and self. Differences between Australian and USA respondents were revealed in their perception of student ratings and the characteristics perceived to be most important to student success in future music experiences. Findings revealed that music teachers in this study were more comparable than different, and showed that music education was a meaningful, rewarding, and enjoyable career for most Australian and USA respondents.

*Keywords:* music education, music teachers, motivation, satisfaction, cultural differences, career choice

# Music Teacher Motivation and Satisfaction: Cross-Cultural Comparison of Australia and the United States

Music teachers are motivated to enter the profession for many reasons: out of love for music and music-making, enthusiasm for teaching and working with youth, emulation of an inspirational role model, or the desire to make a tangible difference in other people's lives (e.g., Ballantyne, Kerchner, & Aróstegui, 2012; Hellman, 2008; Madsen & Kelly, 2002; Parkes & Jones, 2012; Rickels et al., 2013; Thornton & Bergee, 2008). This decision is generally made during high school, primarily influenced by ensemble experiences, and high school music teachers (e.g., Jones & Parkes, 2010; Madsen & Kelly, 2002; Rickels et al., 2013; Thornton & Bergee, 2008).

Motivation to become a teacher propels pre-service teachers through intense preparation (e.g., Madsen & Hancock, 2002), and sustains in-service teachers in remaining committed to the profession by continuously outweighing many challenges encountered throughout their career (e.g., Fresko, Kir, & Nasser, 1997; Gardner, 2010).

On the other hand, motivation abates and dissatisfaction manifests with increased tension between music teacher expectation and reality (e.g., Gardner, 2010; Russell, 2012; Scheib, 2003, 2006). Researchers have identified factors that contribute to music teacher dissatisfaction. Some of the most prominent are unsupportive administration (Madson & Hancock, 2002; Scheib, 2003, 2006), non-instructional responsibilities (e.g., Gordon, 2000; Johnson & Birkeland, 2003; Krueger, 2000; McLain, 2005; Scheib, 2003; Sindberg & Lipscomb, 2005), and salary concerns (Gardner, 2010; Hancock, 2008; Madson & Hancock, 2002). Conversely, music teacher satisfaction correlates with perception of administrative support (Baker, 2007; Gardner, 2010), and capacity to find purpose and experience success (Heston, Dedrick, Raschke, & Whitehead, 1996; Johnson & Birkeland, 2003). Perceptions of student abilities and motivations influence teaching efforts and success (Gottfredson, Birdseye, & Gottfredson, 1995; Legette, 2012). Music teachers tend to prioritize teaching skills, personal characteristics, and teaching approach over music skills when characterizing successful music teaching (Fredrickson & Hackworth, 2005; Mills & Smith, 2003; Miksza, Roeder, & Biggs, 2010; Rohwer & Henry, 2004; Teachout, 1997).

Are the sources of music teacher motivation and satisfaction different in various countries? The present study addressed this question by asking teachers in 45 countries to complete an online survey. The present manuscript focuses on the comparison of the responses of music teachers from Australia and the United States.

Australia and the United States are alike in that educational policies are implemented by each state, resulting in diverse music education programs nation-wide, although both countries have recently sanctioned national curricular standards. In 2015, the Australian Curriculum Assessment and Reporting Authority endorsed the Australian Curriculum, setting expectations for music education that students should be taught in schools across the nation. A year earlier in the United States, the National Coalition for Core Arts Standards released revised national voluntary arts education standards that define expected student knowledge and behaviors in quality arts education programs, and serve as a framework for music curricular development in all fifty states.

Despite these similarities, music education differs greatly between these countries. Music education in Australia is characterized by an integrated-arts or a concept-specific

approach in primary school (Cosaitis, 2011; Petrova, 2012; Stevens, 2004), and mostly conceptually-based classroom instruction in secondary school, with opportunity for participation in private instruction and ensemble experiences (Cosaitis, 2011; Lowe, 2010; Pascoe et al., 2005; Petrova, 2012; Stevens, 2004). Music education in the United Sates is generally characterized by exposure to general music concepts and skills in elementary classroom settings (e.g., Gardner, 2010; Royse, Addo, Klinger, Dunbar-Hall, & Campbell, 1999), and primarily performance-based ensemble experiences in rehearsal settings with opportunity for classroom instruction in secondary school (Gardner, 2010).

With perspectives from different cultures and music education programs, will music teachers from Australia and the United States differ in their motivation to teach or in their satisfaction with their careers? The purpose of this research was to compare perspectives on motivation and satisfaction in teaching music between music teachers from these countries.

## Method

Data were collected via a web-based survey of music teachers currently teaching in public and private schools in Australia and United States as part of a larger study examining characteristics of successful music teaching. Questions were derived from related studies on motivation and successful teaching practices (Miksza et al., 2010; Teachout, 1997), and job satisfaction (Gardner, 2010; Russell, 2012), and required various types of responses: rating scale, multiple choice, forced-choice, and open-ended (the last omitted here in deference to space).

Two pilot studies were completed. The revised survey was emailed to leading figures from local and national music associations (e.g., Australian Society for Music Education; National Association for Music Education), who were asked to invite colleagues to participate in the survey through a link powered by Google Forms (https://docs.google.com/forms). Instructions were included in the invitation and the survey's opening paragraph.

## Results

Participants completing the survey ($N = 564$) identified themselves as currently employed P-12 school music teachers. Australian responses ($n = 88$) represented all six states and both territories, and USA responses ($n = 476$), hereafter referred in the vernacular as Americans, represented 47 of the 50 states. Demographic characteristics of the respondents are reported in Table 1.

Table 1

*Demographics of Respondents from Australia and the United States*

| | Percentage per Country | |
|---|---|---|
| Attribute | AU | USA |
| Gender | | |
| Female | 57 | 46 |
| Male | 14 | 20 |

| | | |
|---|---|---|
| Declined to answer | 29 | 34 |
| | | |
| Level of Education | | |
| Bachelor's | 64 | 35 |
| Master's | 34 | 59 |
| Doctorate | 2 | 5 |
| No traditional degree | 2 | 0.4 |
| | | |
| Years of teaching experience | | |
| < 4 | 42 | 30 |
| 4-9 | 32 | 28 |
| 10-19 | 19 | 26 |
| 20-29 | 6 | 12 |
| 30+ | 0 | 3 |
| | | |
| Type of School | | |
| Public/government | 55 | 83 |
| Private/independent/religious | 45 | 17 |
| | | |
| Work hours per week | | |
| <30 | 39 | 9 |
| 30+ | 61 | 91 |
| | | |
| Grade level assignments | | |
| Preschool | 19 | 13 |
| Elementary | 61 | 66 |
| Middle School | 40 | 34 |
| High School | 45 | 20 |
| | | |
| Course Assignments | | |
| General music | 91 | 70 |
| Chorale ensembles | 58 | 52 |
| Band/wind ensembles | 52 | 32 |
| Orchestral ensembles | 14 | 14 |
| Theory | 40 | 16 |
| History/appreciation | 28 | 14 |
| Technology | 18 | 4 |
| Composition | 11 | 7 |
| Piano/keyboard | 28 | 14 |
| Guitar/ukulele | 13 | 12 |
| Instrumental lessons | 44 | 32 |
| Musicals/drama/theatre | 44 | 22 |
| Jazz band | 15 | 13 |
| Special education music classes | 9 | 14 |
| Chamber music | 11 | 8 |
| World drumming | 11 | 7 |

| | | |
|---|---|---|
| Marching band | 1 | 14 |
| Alternative ensembles | 3 | 7 |
| Dance | 9 | 4 |
| Nonmusic courses | 8 | 6 |

**Motivation.** Respondents answered questions about their motivation to become and remain working as a school music teacher by selecting from a list of reasons. Most respondents chose *enjoyment of music and teaching* when prompted to select the primary reason for their decision to teach music (AU = 43%; USA = 40%); followed by *desire to help others* (AU = 33%; USA = 35%), *inspired by others* (AU = 18%; USA = 23%), and *financial reasons* (AU = 6%; USA = 1%). Chi-square test results revealed that Australians and Americans did not differ significantly in their selection of a primary reason for becoming a music teacher, $\chi^2$ (2, 780) = 80.42, $p < .001$, $v = .32$ ($\chi^2$ (3) = 7.4, $p = 0.061$).

Respondents from both countries selected *student growth and success* most frequently when asked to select three primary reasons why they continue to teach music (AU = 61%; USA = 57%), followed by *relationships with students* (AU = 41%; USA = 54%), *enjoyment* (AU = 40%; USA = 40%), *personal development, success, and accomplishment* (AU = 30%; USA = 29%), *financial security* (AU = 24%; USA = 25%), *creative and artistic opportunities* (AU = 20%; USA = 21%), *working conditions and environment* (AU = 9%; USA = 10%), *convenient schedule* (AU = 2%; USA = 11%), and *colleagues* (AU = 6%; USA = 6%). Overall, the responses of Australians and Americans were very similar.

More respondents (AU = 33%; USA = 49%) decided to become music teachers during high school than during any other time. Post-college/university was a close second for Australians (31%), although not for Americans (9%), followed by college/university years (AU = 16%; USA = 21%), and years prior to high school (AU = 20%; USA = 20%). Chi-square test results revealed that Australians and Americans differ significantly in when they made their career decision ($\chi^2$ (3) = 32.8, $p < 0.001$). Australians were more likely to decide during high school and post-college/university; Americans were more likely to decide during high school and college/university.

Most respondents identified school music teachers as most influential in their career choice (AU = 30%; USA = 53%) more frequently than family/friends (AU = 24%; USA = 17%), college/university professors (AU = 13%; USA = 7%), private music teachers (AU = 10%; USA = 10%), or non-music teachers and administrators (AU = 13%; USA = 7%). Chi-square test results revealed that Australian and American music teachers differ significantly when selecting the most influential person in their career decision ($\chi^2$ (5) = 17.255. $p = 0.004$). Australians were more likely to be influenced by various individuals; Americans were more likely to be influenced by school music teachers.

**Satisfaction.** The vast majority (AU = 90%; USA = 93%) of respondents indicated satisfaction with their career choice. Respondents rated satisfaction using a 5-point scale: very satisfied (AU = 60%; USA = 63%); satisfied (AU = 30%; USA = 30%); not sure (AU = 6%; USA = 6%); dissatisfied (AU = 5%; USA = 2%); very dissatisfied (AU = 0%; USA = 0%). Asked to select how long they were likely to remain teaching school music, most respondents selected until retirement (AU = 52%; USA = 60%), followed by 10-20 years (AU = 19%; USA = 14%), 5-10 years (AU = 16%; USA = 13%), less than 5 years (AU = 8%; USA = 7%), and 20-30

years (AU = 5%; USA = 6%). Chi-square test results revealed that Australians and Americans reported similar levels of satisfaction with their career choice ($\chi^2$ (3) = 3.71, $p$ = 0.294), and years likely to remain teaching music ($\chi^2$ (5) = 3.233, $p$ = 0.664). Asked about their greatest challenges in teaching, respondents selected *lack of time* most frequently (AU = 58%; USA = 50%). Except for *inadequate salary* (AU = 10%; USA = 27%), Australians and Americans prioritized challenges similarly; all options differed within 8% (see Table 2).

Table 2

*Greatest Challenges in Teaching Selected by Respondents from Austalia and the United States*

| | Percentage per Country | |
|---|---|---|
| Greatest Challenges | AU | USA |
| Lack of time | 58 | 50 |
| Distraction of non-musical tasks | 40 | 48 |
| School schedule conflicts | 40 | 45 |
| Transcending mediocrity | 36 | 29 |
| School administration | 34 | 29 |
| Developing music literacy in all students | 27 | 26 |
| Making material meaningful | 28 | 24 |
| Lack of resources and materials | 22 | 30 |
| Poor facilities | 23 | 25 |
| Classroom management | 19 | 20 |
| Inadequate salary | 10 | 27 |
| Student retention | 16 | 20 |
| Building relationships with every student | 11 | 18 |
| Teaching unfamiliar topics and genres | 10 | 8 |
| Lack of organizational skills | 2 | 6 |
| Colleagues | 3 | 2 |
| Other | 5 | 5 |

Respondents described their perceptions of student and administration ratings of their teaching by using a 5-point scale: student ratings were perceived to be excellent (AU = 17%; USA = 32%); very good (AU = 68%; USA = 53%); good (AU = 15%; USA = 13%); fair/poor (AU = 0%; USA = 1%); administration ratings were perceived to be excellent (AU = 47%; USA = 42%); very good (AU = 41%; USA = 44%); good (AU = 8%; USA = 13%); fair/poor (AU = 3%; USA = 2%). Likewise, respondents rated their own teaching: excellent (AU = 18%; USA = 22%); very good (AU = 56%; USA = 47%); good (AU = 24%; USA = 26%); fair/poor (AU = 2%; USA = 6%). Chi-square test results revealed significant differences in perceptions of student ratings ($\chi^2$ (3) = 10.071, $p$ = 0.018). Australians were more likely to indicate that their students would rate them as very good teachers while Americans were more likely to indicate that their students would rate them as excellent. Chi-square test results revealed no differences between Australians and Americans in their perceptions of administration ratings ($\chi^2$ (3) = 4.156 $p$ = 0.245) or self-ratings ($\chi^2$ (3) = 3.349, $p$ = 0.341). Respondents selected the most important

characteristic of successful music teaching from among the following options: *teaching skills and knowledge* (AU = 34%; USA = 40%); *personal skills and qualities* (AU = 28%; USA = 27%); *music skills and knowledge* (AU = 24%; USA = 17%); and *teaching perspective and philosophy* (AU = 15%; USA = 15%). Chi-square test results revealed that Australians and Americans did not differ significantly in their selection of the most important characteristic of successful music teaching ($\chi^2$ (3) = 2.524, $p$ = 0.471).

Respondents selected among four options as most important for student success in school music: *quality of instruction and training student receives* (AU = 47%; USA = 49%); *student's persistence* (AU = 35%; USA = 39%); *student's passion* (AU = 18%; USA = 12%); and *student's natural talent* (AU = 0%; USA = 0.6%). Chi-square test results revealed that Australians and Americans did not differ significantly in their selection of the most important characteristic for student success in school music ($\chi^2$ (3) = 2.725, $p$ = 0.436).

Respondents selected among the same options as most important for student success in future music experiences: *quality of instruction and training the student receives* (AU = 41%; USA = 26%); *student's persistence* (AU = 40%; USA = 45%); *student's passion* (AU = 19%; USA = 29%); and *student's natural talent* (AU = 0%; USA = 0%). Chi-square test results revealed significant differences: Australians were more likely to select *quality of instruction*; Americans were more likely to select *student's passion* ($\chi^2$ (2) = 7.949, $p$ = 0.019).

## Discussion

Results indicate Australians and Americans report similar motivations for choosing to teach music. The selection of *love of music and teaching* by respondents from both countries as the primary reason for deciding to teach music agrees with previous research (e.g., Ballantyne et al., 2012; Hellman, 2008; Henry, 2015; Jones & Parkes, 2010; Parkes & Jones, 2012; Rickles et al., 2013; Thornton & Bergee, 2008). Motivation for teaching music seems to transcend cultural differences.

Also in agreement with previous research, respondents selected high school as the most common time and school music teachers as most influential in their career choice (e.g., Jones & Parkes, 2010; Madsen & Kelly, 2002; Thornton & Bergee, 2008). More Australians decided to become music teachers after graduating college/university than while they were college/university students, contrasting with the Americans who decided as college/university students more than as college/university graduates. Varied teacher training options and certification requirements in Australia may account for this (Petrova, 2012; Royse et al., 1999; Stevens, 2004). Additionally, Australians may not necessarily or consistently experience the powerful ensemble experiences in high school typical for Americans, and consequently, have more diverse experiences affecting when they decide and who influenced them in their decision (Royse et al., 1999; Stevens, 2004).

Music teachers from both countries responded positively in describing satisfaction in their decision to become music teachers and in their commitment to remain in the profession, supporting previous studies (Fresko et al., 1997; Gardner, 2010; Madsen & Hancock, 2002). Music teachers are satisfied with their decision to teach music and most plan to remain in the profession until retirement. Even though the decision to teach music is made at relatively young ages, satisfaction with career choice and commitment to the profession continues for many years regardless of cultural background and experience (Madsen & Hancock, 2002).

Australians and Americans shared similar challenges in their teaching careers. Lack of time, school schedule conflicts, and distraction of non-musical tasks were selected most frequently by all respondents, as found in previous research (Johnson & Birkeland, 2003; Krueger, 2000; McLain, 2005; Sindberg & Lipscomb, 2005). Regardless of educational systems and culture, music teachers face equivalent challenges and prioritize these similarly. Salary concerns of American respondents echo previous studies (Hancock, 2008; Gardner, 2010). More Americans selected this challenge than Australians. Additional research is needed to explain this disproportion, although group demographic differences in education level, experience, and work hours may be responsible.

The majority of respondents report perceptions of positive ratings from their administrators, students, and self. This is expected with the high percentage of reported satisfaction and commitment to the profession, and supports previous research (Baker, 2007; Gardner, 2010). Americans were more likely to indicate that students would rate them as excellent while Australians were more likely to indicate that students would rate them as very good. Both perceptions are positive, and the discrepancy may be considered inconsequential. Differences between cultural values, and available music experiences could explain this, but results also align with the powerful influence of American school music experiences and music teacher relationships reported in other research (e.g., Madsen & Kelly, 2002; Rickels et al., 2013).

Australians and Americans prioritized characteristics of successful music teaching similarly, identifying both teaching skills and personal skills as more important than music skills; these findings are also in agreement with previous studies (Fredrickson & Hackworth, 2005; Mills & Smith, 2003; Miksza et al., 2010; Rohwer & Henry, 2004; Teachout, 1997). Australians and Americans agree that quality of instruction and training is most important to student success in school music classes. By attributing responsibility for student success to the quality of instruction, respondents assert that the teacher has more effect on student success than student persistence, passion, and natural talent. This aligns with another aspect of job satisfaction: finding purpose and experiencing success (Heston et al., 1996; Johnson & Birkeland, 2003).

When considering student success in future music experiences, Australians maintained the importance of the *quality of instruction,* but Americans selected *student's passion.* The American perspective is not surprising because previous research has indicated that while music teachers tend to attribute ability and effort as leading causes for musical success (Legette, 2012), student motivation is critical in the learning process (Hardre, Davis, & Sullivan, 2008; Legette, 2012). The contrast between the Australian and American perspectives may be understood in light of cultural values, in addition to dissimilar music experiences in their education systems. Australian music teachers may experience more opportunity to promote individual development through classroom and private instruction (Petrova, 2012; Royse et al., 1999; Stevens, 2004), while Americans may experience more opportunity to promote student passion resulting from ensemble performance experiences (e.g., Madsen & Kelly, 2002; Rickels et al., 2013).

Australians and Americans perceive most aspects of motivation and satisfaction of teaching music comparably and positively. From the vantage point of this study, music education is a meaningful, rewarding, and enjoyable career in Australia and the United States. Most respondents are satisfied with their career choice and plan to remain in the profession until retirement.

Results of this study can serve to promote music education advocacy, recruit music education majors, and inspire pre-service and in-service teachers. Motivating factors and

suggestions for meeting common challenges could be important topics in teacher training programs and professional development workshops to help sustain passion for music teaching throughout a lifetime of service.

Further research should expand comparisons to other cultures to provide understanding of global perspectives of music teachers. Comparing perspectives of music teachers from various countries advances insight into aspects of music teaching that reflect or transcend cultural boundaries and encourages greater awareness of the universal experiences of music teachers.

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# The Seeds of the "International Seminar on Experimental Research in Music Education, Reading, UK, July 1968"

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Abstract

In this poster, based on documented evidence and personal memories, the author refers to events occurred during the 7th ISME World Conference in Interlochen, Michigan, in 1966, that generated the realization of the first International Seminar mentioned in the title. From then on, the ISME Research Commission was created and 27 international seminars have taken place to date.

On that occasion, Dr. Bengt Frazen's address, "The place of research in music education," presented in plenary, established some vital points to improve music education at the time, and looking toward the future, for all and all over: (a) thematic orientations of applied research for the daily classroom practices of music teachers working in diverse levels on different music subjects, and (b) pertinent questions, "which perhaps are ardent for the Swedish music teachers but also for colleagues in other countries" (BF paper, 1966).

"Through a close collaboration between teachers and investigators the adaptation of the music education to the situation of today and tomorrow will be improved. And in this connection, I wish to pay homage to the *Journal of Research in Music Education* (…) a valuable publication…" (BF op. cit.). Thus, the international relevance of the *ISME* and *JRME* for improving applied research, and the importance of dissemination were explicitly proposed.

The author will also call attention to:

(c) the works presented by Arnold Bentley and James C. Carlsen in 1966, as speakers on applied research in individual conferences, focusing on specific methodologies for studying specific topics in the field of perception,

(d) the thematic and methodological correspondence between Dr. Franzen's orientations and questions,

(e) the works of Desmond Sargeant, Rosamund Schuter, and Arnold Bentley, discussed at the 1968 International Seminar, as evidence of the aforementioned connection (1966/1968), and example of the historical consistency of this approach.

As a result and continuation of the action promoted and started in 1966 (personal reports of AB & John Ritchie), the creation in situ of the ISME Research Commission and the adoption of this standardized meeting model (structure) over time favored a scientific and systematic improvement of research-based music education.

Good seeds, good start, long life.

# Perceptions of Transgender Individuals by Students Enrolled in United States University Music Programs: A Pilot Study

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Abstract

Caitlyn Jenner's feature in *Vanity Fair* catapulted transgender individuals and their issues into the spotlight of the United States news. However, the United States Trans Survey (2016) reported that fifty-four percent (54%) of K-12 transgender students indicated they were verbally harassed, and 24% physically attacked. Twenty-four percent of transgender college or vocational school students were verbally, physically, or sexually harassed. Findings also show positive educational climate and support from peers and faculty in the university setting; however, these are not broken down by discipline. The pilot study, reported in this poster presentation, sought to determine perceptions by and toward transgender students in music programs in higher education with regard to support and marginalization.

Three transgendered and 205 non-transgender individuals voluntarily responded to an online survey that contained adaptations of the US National Trans Survey (James et al., 2016) and the Attitudes Towards Transgender Individuals Scale (Walch, Ngamake, Francisco, Stitt, & Shingler, 2012). Participants also provided demographic data including level of musical study, race/ethnicity, sexual identity, gender identity, year in college, and level of musical study.

Overall, non-transgender participants ($n$ = 205) indicated favorable attitudes towards transgender individuals; however, Krusal-Wallis tests revealed significant differences on six responses of cisgender males and females. Responses from males showed agreement that transgenderism endangers the family [$H(1) = 7.217$, $p = .007$], they would avoid transgender individuals [$H(1) = 10.061$, $p = .002$] and they would be uncomfortable if a family member were to become romantically involved with a transgender individual [$H(1) = 5.726$, $p = .016$]. Females indicated they welcome transgender friends [$H(1) = 6.759$, $p = .009$], are more comfortable attending social functions that include transgender individuals [$H(1) = 5.606$, $p = .018$], and would be comfortable with a transgender neighbor [$H(1) = 5.950$, $p = .015$].

Results from this study indicate college-age cisgender females enrolled as music majors may be more accepting of transgender individuals than their cisgender male counterparts. Given these findings more research is warranted. If further research continues to show these same results, it seems useful for music teacher trainers to be aware of these biases, so they can provide learning experiences that would allow students to further explore and possibly question the negative assumptions.

References

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