The Effect of Middle School Music Ensemble Participation on the Relationship between
Perceived School Connectedness, Self-Reported Bullying Behaviors, and Peer Victimization

by

Jared R. Rawlings

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Music Education)
in the University of Michigan
2015

Doctoral Committee:

  Associate Professor Kate R. Fitzpatrick, Chair
  Associate Professor Michael T. Hopkins
  Associate Professor Allison M. Ryan
  Associate Professor Julie A. Skadsem
  Assistant Professor Sarah A. Stoddard

ACKNOWLEDGEMENTS

Sir Isaac Newton said, "If I have seen farther than others, it is because I was standing on the shoulders of giants." Truer words could not be more appropriate given the breadth and depth of experiences I have been afforded during my life and I must acknowledge the 'giants' who have allowed me to stand on their shoulders. There are many mentors, colleagues and friends that have encouraged and guided me through the journey of completing this dissertation study. First, I would like to thank my family for their love and support throughout my education in formal and informal settings - their passion and work ethic have formed my values and beliefs.

Second, I would like to thank my dissertation chair, mentor, and friend, Dr. Kate Fitzpatrick. Over the years, Dr. Fitzpatrick has provided me with countless opportunities to grow as an academician. Her support throughout my coursework, coaching my teaching in undergraduate classes, and guidance during the document writing stage has been transformative.

Third, I would like to thank many professors at the University of Michigan for their continued support throughout my doctoral program. Dr. Marie McCarthy has served as the Director of Graduate Studies and guided me throughout coursework. Her advice has been immeasurable, and she believed in me even when I didn't believe in myself (Onward!). Dr. Colleen Conway has served as a mentor, teacher, and colleague always preparing me for the next step. She showed patience with me as her co-investigator, challenged my conceptions of music teacher education, and shaped my work ethic for a research-rich career in higher education. Professor Michael Haithcock guided me through my cognate in wind band conducting and

furthered my understanding of musical hearing and movement, modeled impeccable administration overseeing a thriving multi-level program, and displayed the utmost professionalism with collegial communication and ethical interactions. Next, I was fortunate to have Dr. Carlos Rodriguez serve as my instructor for the history and philosophy of music education, as well as his mentorship. His advice has been remarkable. Dr. Michael Hopkins has served as my mentor and teacher throughout the degree program. His encouragement to pursue my interest in psychology and quantitative research designs motivated me to seek out additional course work in these areas. Dr. Julie Skadsem has served as my mentor in quantitative research studies. Her innovative teaching afforded me the opportunity to develop a solid foundation for reading, understanding, and designing quantitative empirical studies.

Fourth, I would like to recognize four scholars outside of the School of Music, Theatre & Dance. I would like to thank Dr. Sarah Stoddard for her support and guidance throughout my coursework, opportunities for co-authoring, and serving during the dissertation stage. I was truly blessed to have such a brilliant mind guide my statistical analysis and assist with interpretations during this study. Dr. Allison Ryan's expertise in adolescent behavior and motivation was invaluable in shaping this study and I am sincerely grateful for her guidance throughout this project. I am indebted to Dr. Dorothy Espelage, University of Illinois, Urbana-Champaign, for her willingness and vision to include not only additional variables on her federally-funded study, but continued mentoring in the field of bullying and large scale research. Lastly, I would like to recognize Missy Plegue, Senior Statistician at the Center for Statistical Consultation & Research, University of Michigan, for her technical assistance with navigating Stata software.

I would also like to thank a number of peers at the University of Michigan who have supported me throughout this dissertation. Sommer Forrester, Shannan Hibbard, Dustin Barr,

Eric Laprade, Joshua Roach, and Joel Bein: Thank you for putting up with my "DEFCON 1"

moments and helping me understand perspective. Also, special thanks to the alumni of the

University of Michigan Ryan Hourigan, Ann Marie Stanley, John Eros, Kristen Pellegrino, Chad

West, Lisa Furman, Scott Edgar, Michael Palmer, and Jonathan Caldwell for their continued

support and cheerleading throughout this journey.

Finally, I would like to recognize my former teacher, colleague, mentor, and friend,

Laura Joss who unknowingly embarked on this journey with me. Her work and teaching with

preservice music teachers inspires me everyday and taught me the importance of my research.

Although the stressors associated with doctoral student life were intense, I always knew that I

had someone in my corner motivating me to become a music teacher educator.

Acknowledgements for Sources Used

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABSTRACT

The Effect of Middle School Music Ensemble Participation on the Relationship between

Perceived Connectedness, Self-Reported Bullying Behaviors, and Peer Victimization

Jared R. Rawlings

The purpose of this study was to examine the relationship between school connectedness and youth aggression with middle school students enrolled and not enrolled in a school-based music ensemble. The four research questions guiding this investigation were: (a) what is the frequency of bullying behaviors and peer victimization as self-reported by middle school students both enrolled in music ensemble classes and not enrolled in music ensemble classes?; (b) what is the level of school connectedness as self-reported by middle school students both enrolled in music ensemble classes and not enrolled in music ensemble classes?; (c) to what extent, if any, does music ensemble participation affect the relationship between connectedness and bullying perpetration/victimization for middle school students?; and (d) does school connectedness mediate the relationship between school-based music ensemble participation and self-reported bullying behaviors and peer victimization? Data were secured from a large-scale, two-year randomized trial funded by the Centers for Disease Control & Prevention (# CE3240). Participants ($N = 470$) selected for this study attended two middle schools located in central Illinois and voluntarily responded to the questionnaire by self-reporting demographic information, including their enrollment in a music course, and their behaviors relating to aggression, victimization, and Internet Harassment.

Results indicated that, on average, relatively few instances of bullying perpetration and peer victimization were reported to have occurred in the 30 days prior to data collection. A statistically significant difference was found between music ensemble and non-ensemble participants according to their mean Bullying Scale scores, which revealed that non-ensemble students in this sample perpetrate aggressive behaviors, on average, more frequently than do music ensemble students. Although all participants reported relatively few instances of bullying perpetration, instances of peer victimization were reported more frequently in the past 30 days prior to data collection than were experiences perpetrating these behaviors. Non-ensemble students also reported slightly higher mean scores on the Internet Harassment Perpetration and Victimization Scales than music ensemble students; however, no statistical difference between ensemble and non-ensemble students was found. While participant self-reports of bullying behaviors were relatively low, their perceptions of school connectedness were relatively high. However, no significant difference was found between School Connectedness Scale scores for adolescents enrolled in a school-based music ensemble and not enrolled in a music ensemble.

Multiple-group Structural Equation Modeling analyses demonstrated that the level of associations between school connectedness and bully perpetration/victimization did not significantly differ for the current sample regardless of enrollment in a school-based music ensemble. Alternatively, the level of associations between school connectedness and Internet Harassment perpetration (cyberbullying) were significantly associated with adolescents enrolled in a music ensemble course during middle school; however, these associations were not found to be significant for non-ensemble youth. The results also displayed a stronger negative association between perceptions of school connectedness and Internet harassment perpetration for music ensemble students than for adolescents not enrolled in a school-based music ensemble. Based on

this result, mediation analyses were used to ascertain to what extent, if any, do adolescent perceptions of school connectedness explain the relatively low frequencies of bullying and peer victimization with music ensemble and non-ensemble populations. No indirect effects reached statistical significance ($p < .05$), and, therefore, adolescent perceptions of school connectedness did not mediate the relationship between a participant's ensemble enrollment status and their self-reported frequencies of bullying, peer victimization, cyberbullying, and cyber victimization. Included are implications for the better support of preservice and in-service music teachers with regard to bullying in schools, alongside recommendations for music teacher education and suggestions for future research.

Chapter I

INTRODUCTION

Large music ensembles such as band, orchestra, and choir have played a historically

important role in American society (Abril, 2013; Humphreys, 2011, 2012; Hoffer, 2008; Vance,

2014). In modern society, these music ensembles are frequently portrayed in American movies,

television programs, and novels performing within concert halls or appearing at sporting and

civic events. Furthermore, large music ensembles are often offered as curricular courses in

American schools, typically labeled by the musical genre most often performed by the students

(e.g., marching band, show choir, concert band, symphony orchestra). Since music ensemble

courses typically consist of a group rather than individual experience (Adderley, 2009; Morrison,

2001), students often feel connected to one another because of their shared musical interests and

the number of hours they share with the class outside of the school day (Adderley, Kennedy, &

Berz, 2003). Indeed, Adderley and colleagues (2003) reported that adolescents feel that one

specific ensemble, the school band, is considered by students to be a "…home away from home"

(p. 190), making this particular curricular and social context a rich one for study.

The School Music Ensemble Classroom

Large performing ensembles located within the praxis of formal schooling have played an

important role in the history of American music education (See Labuta & Smith, 1997; Mark &

Gary, 2007). These school-based performing ensembles include both vocal and instrumental

ensembles. American school-based vocal ensembles, such as choir, have a historical connection

1

to the Singing Schools of New England. Britton (1961) explains that, historically, a Singing

School in the United States served both musical and social purposes. While it prepared citizens

to be effective singers of sacred music for church congregations, it also created a space for

socializing and community. The history and traditions of American instrumental ensembles also

promote musical and social purposes. With historical roots in municipal, military, and university

instrumental performing ensembles (Humphreys, 1995; Lee & Worthy, 2012), American school

instrumental ensembles such as bands and orchestras are associated with many rich traditions,

beliefs, and values. Public school band and orchestras ensembles began to form during the last

30 years of the 19th century (Rugg, 1969), and have since become prominent.

The traditions, beliefs, and values of school music ensembles classes differ in a number

of ways from those of other academic classes. For example, the physical classroom space and

required instructional resources (e.g., sheet music library, classroom instruments, music stands)

demonstrate the uniqueness of school music ensemble classes. Additionally, in school music

ensemble classes, students are typically organized into cohorts or sections, which perform on the

same instrument or instrument family (e.g., trumpet section, soprano section, viola section).

These sections typically function as connected groups within the larger ensemble structure both

musically and socially. Music ensemble courses are also unique when compared to other

academic core subjects because of additional required class time that may be scheduled outside

of the school day. Justification for additional preparation and extended rehearsal outside the of

the curricular school day is frequently made in order to prepare for performing opportunities

such as concerts, sporting and civic events, and music competitions. Music competitions or

adjudicated events are highlighted as a valued experience of most school music ensembles,

which include additional time traveling to and from competitions (Abril, 2013; Morrison, 2001; Rawlings, 2015).

Traditions from the historical military band and professional orchestra are the foundation of school instrumental music culture in the United States (Mantie, 2012; Whitwell & Dabelstein, 2011). One legacy of the military past is the hierarchical structure often found within the school band, which generally includes both age-related as well as performance ability-level hierarchies. Ability level is typically determined by judged auditions, placing certain students ahead of others in the hierarchal structure. Where a student is placed in this hierarchy may affect the quality of their musical experience as traditionally, the musical content, technical challenge of the notation, and focus on musical learning differs according to the part a student plays (i.e., a student playing the first clarinet part may play a more interesting and challenging part, and also be asked to exhibit leadership qualities within the clarinet section). The implications for chair placement examinations may affect a student's long-term musical experience because of the perceived hierarchical structure of the repertoire. To address this issue, there are modern conceptions of chair placement examinations, which focus on the rotation of the students through the different parts based on the areas of achievement and need for individual growth (Thompson, 2015). However, these are used infrequently.

In addition to the musical hierarchies often present in school music ensembles, social hierarchies can be found as well (Abril, 2013). Many positions of student leadership are typically present in the school music ensembles, mirroring a historically military model (e.g., drum major, leaders, officers, librarians). These systems are often developed through systems of peer voting and teacher nomination. Also, unofficial social systems of student-regulated hierarchies are often found in American school music ensemble, frequently based on musical talent and/or level of

dedication to the musical ensemble (Adderley, 2009). Typically, role structure within a school music ensemble allows students who demonstrate advanced technical ability, leadership qualities, and interpersonal skill to be placed into positions of power over students who do not possess these characteristics (Abril, 2013). This dominant tradition of a music ensemble's socio-musical hierarchy may be important to the group's (or individual's) perceived well-being (Adderley et al., 2003).

Traditional instructional methodology in school music ensembles requires the teacher to transmit the knowledge to the student in a large group setting (Morrison & Demorest, 2012). Historically, ensemble teachers have been viewed as musical leaders in schools and communities who espouse teacher-directed instruction. This type of teacher-directed instruction is supported by the hierarchical role structure perpetuated by the societal culture of school music ensembles. As class sizes grow, the opportunity for individualized instruction diminishes because of the increased complexity inherent with ensemble teaching.

Tensions with the Traditions of the School Musical Ensemble

There are many complexities found when considering the historical school music ensemble traditions of hierarchical roles and large group pedagogical practices alongside the possible tensions created for student musical learning. The role structures within musical ensembles may be delicate for music teachers to negotiate because of the sustained and historical nature of the hierarchy associated with music ensembles. Likewise, large group pedagogical practice is privileged over individualized instructional models because ensemble courses are a group musical and social experience in the United States (Humphreys, 2011). This lies in contrast to educational philosophies that encourage teacher and student co-construction of

knowledge in the learning environment, with a focus on each student's individual needs (Dewey, 1916/2004).

The research in music education has documented situations of peer and social exclusion within ensembles, and most of this research has focused on the school band (Hoffman, 2008; Taylor, 2009). The extant literature on bullying suggests that, "peer rejection predicts a range of adjustment problems independently from other risk factors such as aggressive or withdrawn behavior patterns" (Buhs, Ladd, & Herald-Brown, 2010, p. 163). Students who are different from the established school ensemble culture, but still volunteer to join the musical group may be targets for antisocial-aggressive behaviors from their peers. This type of behavior has been documented in only a few studies involving school ensembles; however, additional evidence of hazing and harassment behaviors in collegiate music ensembles exists with late adolescent populations (Brinkley, 2014; Carter, 2013; Silveira & Hudson, 2014).

Summary of the School-based Musical Ensemble

The traditions of role structure and large group pedagogical practice in school music ensembles are mostly derived from historical practice (Mantie, 2012). Although there are rich traditions, values, and beliefs embedded in the school music ensemble culture, tensions also exist with regards to certain aspects of ensemble culture. Sloboda (2005) suggested that ensemble participation "… can be a ready source of conflict between people," as is the case with the hierarchical configuration of roles (p. 329). Alternatively, Adderley and his colleagues (2003) recognized the school band as a space where youth feel comfortable, accepted, and included. Since Sloboda, little research has been conducted to investigate this tension with the tradition of role structure in school ensemble classrooms. What remains unanswered by research is how youth negotiate this complexity. The relationship between youths' feelings of belonging related

to music ensemble participation and the potential for conflict and aggression with peers is unclear.

Need for the Study

Descriptive research is needed to explore if feelings of attachment and belonging to school affects the potential for the perpetration of bullying behaviors and peer victimization in middle school music ensemble courses. At the time this dissertation was written, over 1,000 empirical studies investigating bullying behavior had been conducted in adolescent health and development research. Despite the wealth of knowledge created by this literature base about bullying, little information is known about fine arts student populations (Elpus & Carter, 2013) and only one study has investigated bullying with a music population, specifically band (Rawlings, 2014). Additional empirical inquiries about bullying with music student populations are needed to understand bullying from inside the music classroom.

Music Ensemble Participation as a Protective Factor for Adolescent Development

The ensemble classroom is a space that allows for significant peer relationships to develop and thrive (Adderley et al., 2003). Studies examining peer relationships report youths' feelings of attachment to their social group (Adderley, 2009), similar behaviors and attitudes as their social sub-group (Laine, 2007), and belonging to band (Abril, 2013; Adderley et al., 2003, 2009). These feelings of attachment and belonging are often referenced as *connectedness* in fields including public health (McNeely, Whitlock, & Libbey, 2010; Resnick et al., 1997) and school climate research (Barber & Schluterman, 2008). Connectedness is a topic of inquiry that has attracted researchers in music education (Davidson, Howe, Moore, & Sloboda, 1998; Hamann, Mills, Bell, Daugherty, & Koozer, 1990; Matthews & Kitsantas, 2007; Miksza, 2010; Pitts, Davidson, & McPherson, 2000; Power, 2008; Rawlings & Stoddard, 2014a, 2014b; Taylor,

2009; Wolff, 2004). Two topics conceptually related to school connectedness include the topic of music student-teacher relationship and attachment. Research studies examining students' feelings of belonging to the music program have been sparse. Rawlings and Stoddard (2014a, 2014b) found that middle school band students report relatively strong levels of overall connection to their band teacher, peers in band, and feelings of belonging. Future studies in music education are needed that build upon McNeely and colleague's (2010) definition of school connectedness in order to compare levels of musician connection with other non-music school populations. More descriptive research with varied musical adolescent populations would confirm these preliminary results.

Music Ensemble Participation as a Risk Factor for Adolescent Development

The potential tensions associated with the school ensemble traditions of large group pedagogical practice and traditionally hierarchical group organization may have a theoretical connection to dominance theory (Pellegrini, 2002) and models of social-information-processing (Coie & Dodge, 1998) within bullying research. Few researchers have examined the implications of the traditional music ensemble structure with regard to the potential for aggression, specifically bullying, between adolescents within the contemporary ensemble classroom (Rawlings, 2014; Taylor, 2009). Research examining the ensemble experience has illuminated a paradox: ensemble as both a protective factor (promoting adolescent connection to school and peers) and risk factor (potential for antisocial-aggressive behaviors) in adolescent development. The relationship between adolescent connectedness and bullying behavior within the school music ensemble classroom remains an open arena for future inquiry.

Purpose of the Study

The purpose of this study was to examine the relationship between school connectedness and youth aggression with middle school students enrolled and not enrolled in a school-based music ensemble. The following research questions guided this inquiry:

Research Questions

1. What is the frequency of bullying behaviors and peer victimization as self-reported by middle school students enrolled in music ensemble classes and not enrolled in music ensemble classes?

2. What is the level of school connectedness as self-reported by middle school students enrolled in music ensemble classes and not enrolled in music ensemble classes?

3. To what extent, if any, does music ensemble participation affect the relationship between connectedness and bullying perpetration/victimization for middle school students?

4. Does school connectedness mediate the relationship between school-based music ensemble participation and self-reported bullying behaviors and peer victimization?

To answer these questions, I utilized procedures associated with Structural Equation Modeling (SEM) to analyze baseline data from an in progress investigation. This pre-existing dataset includes observed variables related to perceived school connectedness, bullying behaviors, and peer victimization that were self-reported by the participants. Participants ($N =$ 470) were from two middle schools in central Illinois. Further details about the methodology are available in Chapter 3.

The next section of the chapter includes a general overview and discussion of the current bullying research, adolescent connectedness to school and peers, as well as the complexity between connectedness and potential aggression that may exist within school music ensemble classrooms. I begin by defining bullying and highlight the current state of research within this

area of study. These sections of the chapter are necessary to explain and understand the development of research on youth aggression, specifically the phenomenon of bullying in schools. Brief theoretical discussions provide grounding for the way I am structuring the investigation and more specific theoretical information is included in Chapter 2 because it aligns with the recent empirical studies conducted. Next, I describe the construct of connectedness and highlight its potential for examining school and classroom climate. Terminology and summaries conclude the chapter.

Bullying in Schools

Defining Bullying Behavior

The topic of bullying in schools is ubiquitous in modern mainstream media due in large part to the documented long-term consequences it has on the psychological states (Espelage, Holt, & Poteat, 2010) and academic achievement (Smith, Cowie, Olafsson, & Liefooghe, 2002) of school-aged youth. Despite recent attention from the media, however, bullying behavior is not a contemporary phenomenon. Historically, the word *bully* was first conceptualized in Hughes' (1875/1968) novel, *Tom Brown's Schooldays.* This book chronicles the devastating effects of continual physical and verbal harassment on the well-being of English children at Rugby School. Despite the historical use of this term, the systematic study of the relationship between peer victimization at school and the well-being of those victimized has become a more pressing concern to researchers only relatively recently. Olewus (1991) is recognized as one of the first scientists to systematically research bullying behavior in the 1970s. Following a series of longitudinal studies, he proposed the following definition of bullying: "A student is being bullied or victimized when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more students" (Olweus, 1993, p.3). Olweus' definition features bullying depicted as

intentional, repetitive, and imposing a power imbalance between students who bully and students who are victimized. Furthermore, the Center for Disease Control and Prevention (Gladden, Vivolo-Kantor, Hamburger, & Lumpkin, 2013) also contend that bullying includes "… any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings or current dating partners" (Youth Bullying section, para. 2). It is also important to distinguish bullying behavior from other extreme forms of maladaptive and deviant behavior, such as conduct disorder or oppositional defiant disorder (American Psychiatric Association, 2000). Although a substantial level of aggression may be displayed by individuals diagnosed with these conditions, not all individuals identified as bullies are classified as having these extreme disorders.

Research shows that school-aged youth around the world report witnessing and experiencing bullying (Eslea et al., 2003). For example, in Australia, researchers report that one in six children experiences bullying on a weekly basis (Rigby, 2002). Studies conducted in Sweden and Norway found that 15% of students reported bullying incidences at least two times per month (Olweus, 1993) and, according to the Center for Disease Control and Prevention (Hamburger, Basile, & Vivolo, 2011), "… nearly 30% of American adolescents reported at least moderate bullying experiences as the bully, victim, or both" (p. 1). Despite the global frequency of bullying in schools, bullying is not considered a part of normal development for school-aged youth and should be acknowledged by the researcher and practitioner communities as a precursor to more serious aggressive behaviors (Nansel et al., 2001).

Bullying as a Sub-category of Aggression

Bullying has commonly been defined as a sub-category of aggression (see Smith, et al., 2002 for a review). As such, researchers have identified a broad range of behaviors consistent

with aggression. Bullying behaviors can be classified as either direct and overt or indirect and covert (Crick & Grotpeter, 1995; Currie, Kelly, & Pomerantz, 2007; Mishna, 2012; Swearer, Espelage, & Napolitano, 2009). Direct/overt aggression includes physical and verbal aggression (Craig, Pepler, & Blais, 2007; Swearer et al., 2009). Physical aggression is defined as shoving, hitting, punching, kicking, and pushing (Smith et al., 2002). Verbal aggression includes harmful taunting and teasing (Craig et al., 2007; Smith et al., 2002). In contrast, indirect/covert forms of aggression (psychological, relational, and reputational aggression) include exclusion, ridicule, and name calling with a specific goal of manipulating social networks (Currie et al., 2007; Monks & Coyne, 2011; Swearer et al., 2009). Indirect/covert forms of aggression have been documented to have more long-term consequences on individuals who are targeted (Ttofi & Farrington, 2012). Indirect/covert forms of aggression are most prevalent in North American educational settings, and researchers overwhelmingly agree that these are more difficult to address (Swearer, Espelage, Vaillancourt, & Hymel, 2010; Ttofi & Farrington, 2012).

Face-to-face bullying is the most researched form of bullying perpetration and peer victimization; however, a substantial literature base also exists related to cyber exchanges of aggression between adolescents. Cyber-bullying is an aggressive, intentional act perpetrated by a group or individual using electronic forms of contact (Hinduja & Patchina, 2009). Cyber aggression can be conceptualized through a socio-cultural theoretical frame which views learning as a social process that is communicated through mediated interaction (Mayer, 2008). Contemporary adolescents have multiple opportunities for Internet-based learning and social interaction; therefore they are at risk of exhibiting aggressive behaviors online. Suler (2004) described a phenomenon called the "online disinhibition effect", which refers to greatly diminished internal censorship when communicating in cyber space. In this context, cyber-

bullying behaviors are considered as a product of the minimal social cues, or anonymity, available with online media.

Long-term effects of peer victimization include an increased likelihood of experiencing depression, delinquency, and criminality as adults, as well as intimate partner violence perpetration and possible unemployment (Ttofi & Farrington, 2012). Theories guiding anti-bullying intervention programs postulate that bullying behaviors typically begin during preadolescence, peak during adolescence, and then diminish through adulthood (Hamburger, et al., 2011). This research suggests that taking preventative action prior to the advent and acceleration of trajectory (prior to Grade 7) of peer victimization can have a significant effect in reducing bullying behaviors. Longitudinal studies have indicated that if peer victimization is allowed to continue during adolescence, uninterrupted by an intervention, the potential for academic disengagement and truancy may exist (D'Esposito, Blake, & Riccio, 2011). Evaluations of bullying prevention programs and meta-analytic reviews of program evaluations have contributed a wealth of knowledge about the short- and long-term consequences of youth aggression (Cook, Williams, Guerra, Kim, & Sadek, 2010; Merrell, Gueldner, Ross, & Isava, 2008; Vreeman & Carroll, 2007).

Over the past ten years, educational research has emphasized a more social-ecological approach to understanding bullying (Espelage & Horne, 2007; Espelage & Swearer, 2003; Swearer, et al., 2009; Swearer et al., 2010). Researchers that frame investigations with an ecological perspective conceptualize that bullying is "an interaction that occurs between an individual bully and a victim and unfolds within a social-ecological context" (Atlas & Pepler, 1998, p.86). This approach allows researchers to investigate the individual and contextual influences on bullying behavior to determine how and why adolescents perpetrate bullying

behaviors and/or who are victimized. While there are many individual factors that have been explored by researchers as a means of predicting bullying behavior, most research utilizing this approach has focused on expanding school and peer influence investigations. The next section of the chapter briefly examines the individual correlates of bullying perpetration and peer victimization and then focuses on the school-wide and peer-group contextual influences with regards to bullying and adolescent development.

Individual Correlates Associated with Bullying Perpetration and Victimization

Rates of victimization and bullying behavior differ based on individual demographic differences including sex, race, and age (Carlyle & Steinman, 2007; Espelage et al., 2010). Research exploring biological sex as a concurrent correlate of peer victimization contends that males are more likely to experience physical victimization than girls (Espelage et al., 2010); however, this is largely dependent on the definition of bullying and type of bullying behavior being measured. Felix and Green (2010) conclude that:

> … boys are more likely to inflict harm using physical and verbal aggression, girls choose interpersonal [social] aggression because they are more attuned to interpersonal friendship dynamics. In particular, the tendency for girls to have tighter friendship patterns than boys makes relational aggression a particularly powerful tool for aggression. (p. 175)

In terms of racial and ethnic demographic differences, limited conclusions from the research exist. Nansel and colleagues (2001) found that Black students reported experiencing less victimization than Hispanic or White youth and Hispanic students reported more bullying than Black and White youth. However, rare studies corroborate these results (Espelage, et al., 2010). Researchers encourage school administrators and teachers to consider the nuanced

ethnoracial characteristics of their community when interpreting findings from research studies (Scherr & Larson, 2010). Also, exploring an aggregate ethnoracial demographic variable to understand immigration status may illuminate new information due to the increased global migration patterns to the United States. Other individual influences that have been documented among victimized students include obesity (Lagerspetz, 1982), students enrolled in remedial education (Byrne, 1994), students with learning differences (Marini, Fairbairn, & Zuber, 2000), lesbian, gay, bisexual, and transgender students (Kosciw, 2004), and students engaging in gender nonconforming behavior (Young & Sweeting, 2004).

School Correlates Associated with Bullying Perpetration and Victimization

Schools are influential environments for children's development in our society (Meece & Schaefer, 2010). Because school environments provide a microcosm of the broader society and culture, schools are the only setting in which almost all children and adolescents participate. Schools provide an ideal naturalistic environment in which to study youth aggression (Merrell et al., 2008). Bullying and other forms of antisocial-aggressive behavior in American schools are such a substantial public concern that federal initiatives such as *No Child Left Behind* (NCLB; 2001) have specifically identified school climate and acts of aggressive behavior as data collection and reporting targets.

School climate can influence engagement in bullying behaviors and more positive social interactions. Broadly conceived, the construct known as school climate refers to all social and emotional features of the school environment, including the physical condition of the school building, student perception of classroom control, learning focus, student authority, and classroom practices (Cohen, 2009; Freiberg, 1999; Zullig, Koopman, Patton, & Ubbes, 2010). One hallmark variable of school climate is the student perception of the teacher (Espelage, et al.,

14

2010). Teachers are a particularly central variable to acknowledge because adult supervision decreases in schools as adolescents age. Consequently, less adult supervision is associated with paralleled increases in rates of bullying behaviors among middle school adolescents, more definitively at locations such as lunchrooms, locker rooms, and playgrounds (Craig & Pepler, 1997). Researchers have confirmed that face-to-face bullying behaviors are most often perpetrated in public spaces; however, these investigations have also reported bullying also occurring within the space of the classroom. Furthermore, evidence from the extant literature on bullying indicates that classroom practices and teacher attitudes are school influences that contribute to bullying prevalence (Olweus, 1993; Yoon, 2004; Yoon & Barton, 2014).

Theoretical Perspective of Bullying in Schools. Social control theory (Hirschi, 1969) has been one of the most influential control theories for explaining adolescent delinquent or risk behaviors in schools. In a 20-year time period (1970 – 1991), 71 studies that tested social control theory were conducted in the United States (Kempf, 1993). Hirschi (1969) investigated the reason for adolescents not committing delinquent behaviors and developed a theory of social control. Social control theory (SCT) is comprised of four elements: (a) attachment to peers, (b) commitment to socially acceptable types of behavior, (c) involvement in culturally traditional activities, and (d) beliefs in the moral values of society. To clarify the interaction of these four elements, SCT postulates that when adolescents are attached to parents, peers, and teachers, they are less likely to engage in risk behaviors (e.g., substance abuse, aggressive behavior) (Hirschi, 1969). For example, if youth are focused on spending time and energy in music activities (e.g., participating in music classes, performing ensembles, and extra-curricular music activities), they are less prone to commit risk behaviors. When an individual is involved in these activities, the individual will be occupied and not have time to commit the risk behaviors. In short, SCT

postulates that when social bonds with conventional institutions within society (e.g., schools, churches) are strong, individuals are protected from becoming delinquent or aggressive.

Summary of Bullying in Schools

The topic of bullying in schools has captivated researcher's attention for decades because of associated harmful short- and long-term consequences to academic achievement and overall adolescent well-being. Researchers continue to investigate nuanced scenarios about bullying with diverse populations across the world because of the contextual influences that impact school classroom environments. For example, although Olweus (1993) has identified anti-bullying prevention and behavior intervention strategies that retard the victimization rates of Scandinavian youth, these programs/strategies have had little to no longitudinal affect on North American youth (Merrell et al., 2008).

Bullying is connected to issues of overall school climate and is investigated in similar ways (Espelage et al., 2010, p. 153). The conceptual connection between these two seemingly disparate topics is their influence on student learning and academic achievement in schools. Both school and peer influences are investigated frequently in educational research; however, there are many settings or modalities where bullying behaviors may be perpetrated or experienced. For example, peer victimization may be experienced through electronic communication or social media (e.g., Facebook, Twitter, Snapchat), within community-gathering spaces (e.g., shopping centers, park and recreational spaces), in the home, or as a member of a sports team.

Adolescent connectedness is one factor that determines a school's climate for student learning. As Espelage and colleagues (2010) identified, school climate and bullying may predict a student's academic achievement or well-being in school. Thus, it may be plausible to assume a relationship between the strength of an adolescent's connection to school and the frequency of

16

peer victimization. In the next section of the chapter, I provide an overview of the research on adolescent connectedness and define it in terms of its connection to school and to peers.

Adolescent Connectedness to School

Scholars investigating school climate and bullying are allied in their pursuit of understanding the individual and contextual influences affecting student academic achievement and positive health outcomes or well-being. One factor of school climate that has shown promising results on predicting adolescent academic achievement and positive health outcomes is the notion of understanding how adolescents establish and sustain connections to school and peers. This notion is referred to as connectedness throughout the extant literature on school climate (McNeely, et al., 2010).

Adolescent Connection to School

Historically, researchers have defined school connectedness as youths' perceptions of relationships to adults at school, perceptions of relationship to school, and attitudes toward the importance of school (Resnick et al., 1997). Research on adolescent well-being asserts the notion that connectedness to key socializing agents in school is crucial to positive adolescent development (National Research Council and Institute of Medicine, 2002). Positive adolescent development is defined as the decisions youth make that do not risk their health or disrupt their education. As youth develop through the adolescent years, opportunities for autonomous decision-making become more frequent. This freedom from adult supervision empowers youth to make decisions that may positively or negatively affect their overall health and educational achievement.

School connectedness is a prominent but rarely clarified construct in the school climate literature base. The term school connectedness has been utilized to incorporate a diverse

selection of related constructs including but not limited to: teacher support, social belonging, group cohesiveness, school attachment, school bonding, perceived school safety, and student satisfaction (Libbey, 2004; McNeely et al., 2010). Although the study of school connectedness is relatively new, empirical research is beginning to demonstrate that these constructs, although related, are not interchangeable. Libbey (2007) explained that some constructs appear to be referenced more often than others when examining adolescent health and educational outcomes. The tendency from previous research to use the related constructs mentioned above interchangeably when attempting to assess youths' connection to school makes it necessary to articulate a clear definition of school connectedness that can be easily understood and communicated by practitioners and educators.

Previous research on school connectedness has not revealed a dominant theoretical underpinning or methods for measuring this construct. Barber and Schluterman (2008) described measures of school connectedness as focusing on the quality of a student's performance or relationship (e.g., school engagement) in school. These measures define connectedness by behaviors such as engagement in learning and participation in school extracurricular activities. Although these measures are valuable in identifying students who display the positive behaviors concomitant with connection, researchers are focusing on the behavioral consequences of connectedness. Nevertheless, researchers rarely recognize connectedness as fundamentally relational. For the purposes of this dissertation, McNeely and colleagues (2010) have determined school connectedness to be the "…psychological state in which individual youth perceive that they and other youth are cared for, trusted, and respected by adults with authority in the school" (p. 267). This definition recognizes the intrinsic relationship between the individual and the school context, including the people and organizational policies and practices.

18

Despite the generalization of the term connectedness in past research, this new definition proposed by McNeely et al. (2010) is grounded in multiple theoretical perspectives and clearly differentiates school connectedness from youth liking school (Resnick et al., 1997) or their relationship with peers (Barber & Schluterman, 2008). These theoretical perspectives include attachment theory (Bowlby, 1969), social-ecological developmental theory (Bronfenbrenner & Morris, 1998; Lerner, 1991), and social capital theories (Coleman, 1990).

Adolescent Connection to School Music. Since the construct of school connectedness may be considered by some researchers to be in its infancy, locating related research in music education matching McNeely and colleagues (2010) definition of school connectedness was challenging. Two frequent topics for consideration from the adolescent development and social science research on school connectedness are: teacher support (or youth-teacher relationship) and youths' feeling of belonging to school. When examining the related research from music education, investigators have examined the music student-teacher relationship (Davidson, et al., 1998; Hamann, et al., 1990; Matthews & Kitsantas, 2007; Pitts, et al., 2000; Power, 2008; Taylor, 2009) and students' feelings of belonging to the music program (Mikszta, 2010; Wolff, 2004). This research will be reviewed in chapter 2.

Summary and Connections to Bullying in Schools

Researchers investigating issues of school climate and bullying in schools are interested in exploring the factors, which promote a positive developmental and learning environment for youth. Catalano and colleagues (2004) report that bullying is a concern for schools because it is a threat to school safety and school climate. As such, bullying interferes with the primary mission of schools, academic achievement. A typical school-based response to issues with bully victimization has been to draft anti-bullying policies; however, with a historically unclear

definition of the bullying phenomenon, there has been difficulty in crafting state-wide or national policies. One such difficulty has focused on the federal protection of free speech. Conn (2004) wrote:

> Public schools do not have to tolerate the taunts of bullies, even those who assert the right of freedom of speech or expression, if school administrators and teachers are informed about the law. The First Amendment does not protect [a] bully's obscenities, fighting words, or insults that damage peers' relationships with other students….because schools are responsible for inculcating in students the value of civility and good citizenship. Schools have even broader power and authority to restrict speech and expression that federal, state, or local governments do not have. (p. 37)

Consequently, defamatory words, lewd comments, vulgar statements and intimidating threats fall outside of the protection of the First Amendment and interfere with students' rights to an education (Conn, 2004). Thus, schools have the freedom to work earnestly to address bullying and peer victimization at a local level.

One way that schools have addressed the concern about bullying is to adopt an anti-bullying program that provides a behavioral intervention and promotes bullying prevention strategies. Most of these programs are *stand alone* interventions, which means that the program is comprised of a single dosage to the target population with little or no long-term reinforcement or follow-up treatment (Adelman & Taylor, 2011). A meta-analytic review of studies evaluating adolescent anti-bullying intervention programs revealed that most programs that show short-term reduction of peer victimization do not prevent the long-term consequences associated with bully victimization (Merrell et al., 2008). Rawlings and Stoddard (2013) conducted a critical review of anti-bullying prevention programs used in American elementary schools and reported that

20

fidelity issues with program implementation, poor evaluative design, and inconsistencies with reporting standardized demographic information are hurdles for researchers eluding to the longstanding effects of a behavior intervention program.

Most anti-bullying intervention and prevention programs fail to acknowledge the role of school climate on influencing bully behaviors; however, studies investigating adolescent connectedness reveal that an adolescent's connection to school and peers can improve academic performance and prevent involvement in risky behaviors such as substance use and other delinquent behaviors (McNeely et al., 2010, p. 275). Adolescent connectedness has also been identified by researchers as positively impacting secondary school graduation rates, attendance, motivation, and lowering levels of truancy and bullying behavior (Blum & Libbey, 2004; Osterman, 2001). Despite the investigations reporting a relationship between adolescents' feelings of connection to school and lower frequencies of bullying behavior, little is known about this strength and effect of this relationship on adolescent academic attainment (Hong & Espelage, 2012) or how this relationship may be different with music populations.

Music has been identified as one school subject that positively impacts adolescent academic achievement and engagement with school (Eccles & Barber, 1999; Farb & Matjasko, 2012). Adderley et al. (2003) reported that students in the band classroom feel connected to their peers. Adderley and colleagues (2003) along with Laine (2007) described social sub-groups within the band that would form around demographic features such as the student's instrument, seniority in the band, and musical expertise. Since these students also described feelings of connection to peers, the nurturing aspect of band, and band being a place of support (e.g., home away from home), understanding the individual level of connection to one another and to their

school may provide additional information about the underlying climate of school music ensemble classrooms.

Definition of Terms

For the purpose of this study, the following terms will be defined as:

Bully – Persons who perpetrate bullying behaviors (Swearer et al., 2009).

Bullying – This term refers to a unique sub-category of aggression that is characterized by any unwanted aggressive behavior that is intentional, repetitive, and elevates the social power or status of the perpetrator, and who is not a sibling or dating partner (Olweus, 1993; Gladden et al., 2013). Bullying is a term commonly referencing antisocial-aggressive behaviors in schools or the workplace. Intimate dating partners are excluded from the definition because it has its own research literature base (for more information about intimate dating violence, see Saltzman, Fanslow, McMahon, & Shelley, 2002). No explanation for the exclusion of sibling aggression was offered by the CDC; however, it stands to reason that this topic is not a public health concern. Rather, it may be plausible to assume that sibling aggression is a topic researched by social work and family counseling professionals.

Bully/Victim – This term refers to a person or people who perpetrate bullying behaviors and, in turn, experience peer victimization.

Bystander – This is a person or people who witness the perpetration of bullying behavior.

Chair Placement Examinations – This term refers to the testing strategy utilized by instrumental music teachers to determine student musical achievement and for seating arrangement into a predetermined classroom formation.

Cyber-bullying/victimization - Cyber-bullying is an aggressive, intentional act enacted by a group or individual using electronic forms of contact (Hinduja & Patchina, 2009).

Direct/Overt Aggression – This term refers to aggressive behaviors that are clearly definable and observable in schools including physical and verbal aggression. These behaviors include, but are not limited to kicking, hitting, punching, pushing, shoving, flicking, taunting, teasing, and name-calling (Craig, Pepler, & Blais, 2007; Swearer et al., 2009).

Indirect/Covert Aggression – This term refers to aggressive behaviors that are subtle and less obvious to observe in schools including, relational aggression, psychological/social aggression, and reputational aggression. These behaviors include, but are not limited to exclusion, ridicule, and name calling with a specific goal of manipulating social networks (Currie et al., 2007; Monks & Coyne, 2011; Swearer et al., 2009).

Music Ensemble Classroom – This term is used to reference locations in the instrumental and vocal music classroom, during band, orchestra, or choir class, or during ensemble related activities (even outside of the ensemble classroom, i.e., locations such as the bus used to transport music ensemble students to and from academic experiences).

Music Ensemble Students – In this study, music ensemble students are defined as those students who self-reported current enrollment in at least one curricular music ensemble course. "Non-ensemble" students in this study are defined as those students who self-reported no enrollment in a music ensemble course. Students self-reporting enrollment in non-performance music courses (e.g., theory, appreciation, creative arts) were included within the non-ensemble group.

Peer Victimization – This term refers to experiencing or being the recipient of targeted aggression from one or more peers, which have more social power than the victim (Storch, Masia-Warne, Crisp, & Klein, 2005).

Physical Aggression – This term refers to the many ways youth display aggression to inflicting physical harm on another or multiple peers. This includes shoving, kicking, hitting, pushing, and punching (Craig, Pepler, & Blais, 2007).

Relational Aggression – This term can be displayed as a direct or indirect form of aggression. Relational aggression involves manipulating relationships in order to cause harm. Direct forms of relational aggression include breaking confidences or talking within "ear shot" so that a targeted peer hears (Mishna, 2012).

School Connectedness – This term refers to the "…psychological state in which individual youth perceive that they and other youth are cared for, trusts, and respected by adults with authority in the school" (McNeely et al., 2010, p. 267). Throughout this dissertation the terms *school connectedness* and *connection to school* will be used interchangeably.

School Climate – This term refers to the way students perceive the school, including perceptions of values and beliefs (Hoy, 1990). School climate is a multidimensional concept. Cohen (2009) referred to school climate as the "quality and character of school life" composed of four concepts: safety, teaching and learning, relationships, and the environments (p. 100).

School Engagement – School engagement includes a student's affective, cognitive, and behavioral responses related to attachment, sense of belonging, or involvement in school (Brewster & Bowen, 2004).

Social (or psychological) Aggression – This term refers to the behaviors that are often able to go undetected by adults in schools including ridicule, intimidation, and group rejection (Mishna, 2012). Examples of this behavior include eye rolling, making faces or "looks," students mocking demographic variables such as race, appearance, and/or family.

Socio-musical groupings - This term refers to the social status within the ensemble as determined by a student's musicianship, positive disposition, and leadership/social skills (e.g., hardcore band kids, Abril, 2013).

Victim – This term refers to those who are targeted in a bullying episode and experience bullying behavior.

Chapter Organization

Chapter 1 identified several theories associated with bullying behavior, adolescent development and connectedness that manifest in middle schools throughout the United States. Furthermore, individual and contextual correlates influencing the perpetration of bullying behavior were explained. Chapter 2 reviews and describes the related research conducted in adolescent development and music education. The purpose of this review is to situate the research from educational psychology and adolescent health that pertain to this study and provide a context for the current investigation. Adolescent bullying and connectedness studies are organized by topic and publication chronology. Chapter 3 outlines the methodology for the dissertation study, including a description of the participant sampling, data source, design and instrument, procedures, theoretical model construction, and data analysis. Chapter 4 presents the results from the analyses outlined in Chapter 3 and the final chapter summarizes, discusses, and highlights the implications of this study for in-service and preservice music teachers as well as music teacher educators and researchers.

Conclusion

This chapter examined the complexities found between the traditions, beliefs, and values of the school music ensemble classroom, which may promote feelings of connection to school and peers, and the tensions of the ensemble classroom, which may promote conflict and

aggression between peers. Bullying behavior is a complex sub-category of aggression with psychologically and socially damaging long-term consequences to adolescents (American Educational Research Association, 2013). Evidence of verbal and physical aggression in the band classroom has been referenced in only a few studies and practitioner articles in music education (Carter, 2011, 2013; Rawlings, 2014; Taylor, 2009, 2011). Results from this research suggest that aggression is present in the music ensemble classroom.

Adolescent connectedness, feelings of attachment and belonging to adults in school, predicts positive health outcomes and academic achievement (McNeely, et al., 2010). Researchers in music education have been interested in understanding the outcomes of connectedness on youth who report feeling connected in music classes (Miksza, 2010). Given the unique complexity of school musical ensembles, opportunities exist for youth to feel connected to school; however, opportunities also exist for youth to feel victimized by their peers. Despite the wealth of knowledge about bullying behavior and adolescent connectedness, limited information can be reported from participants in music. Therefore, the purpose of this study was to examine the relationship between school connectedness and youth aggression with middle school students enrolled and not enrolled in a school-based music ensemble.

Chapter II

REVIEW OF RELATED LITERATURE

Chapter 1 introduced and provided a rationale for studying the relationship between school connectedness and bullying behavior with middle school students both enrolled and not enrolled in a school-based music ensemble. The music ensemble was determined as a place where adolescents feel connected and support one another. Examining this complexity with school music ensemble participation, between the feelings of connectedness and potential for aggression, is the relationship under investigation during this study. In Chapter 1, the extant research on adolescent bullying, correlates and trends, was briefly synthesized along with a theoretical grounding of bullying in schools and amongst peers. Then, an overview of the requisite literature on adolescent connectedness to school was presented. This body of research concluded that adolescents who report feelings of connection to school also report higher levels of academic achievement, school engagement (e.g., low levels of truancy), and well-being when compared to more disconnected adolescent peers (McNeely et al., 2010). Since this study examined the complexity of connectedness and youth aggression with middle school ensemble students, the first part of Chapter 1 discussed the uniqueness of the music ensemble classroom and theorized that ensemble participation may affect the relationship between connectedness and bully victimization.

In order to address the purpose and research questions for this study, this chapter reviews empirical studies that have investigated the following three topics: (1) adolescent development

and bullying in schools, (2) connectedness as a predictor of school climate, and (3) connectedness as a predictor of bullying behavior and peer victimization. For the topic of adolescent development and bullying in schools, I review and synthesize studies related to adolescent development and aggression, and patterns of aggression, including classrooms and spaces where aggression may be displayed (e.g., playground, physical education, music education). For the topic of connectedness as a predictor of school climate, I review and synthesize studies related to school connectedness with related empirical studies conducted in music education. Lastly, seven studies using a similar theoretical framework were reviewed to display adolescent connectedness as a predictor of bullying and peer victimization. The chapter concludes with a synthesis of the literature and research found in Chapters 1 and 2.

It is important to note that the body of empirical research on bullying is large, and there are many other important topics within that literature that are worthy of examination, although they are not directly relevant to this particular study. For example, other important topics such as research investigating teacher's role on bullying behavior, bystander behaviors, gender attitudes, harassment, sexual harassment, sexual violence, LGBTQ bullying, homophobic name-calling, empathy, anti-bullying prevention and intervention programs, and federal or legal support for anti-bullying policies, although interesting, are not reviewed within this chapter. Similarly, the studies presented here are limited to those that focus on the adolescent age group (ages 12-25), which is the target age of the population under investigation. Throughout this chapter, the reviewed studies are presented in chronological order by topic.

Adolescent Development and Bullying in Schools

This section of the chapter reviews research related to adolescent development and bullying in schools. I begin with a discussion of several important theories related to adolescent

development and aggression. Following this overview, I highlight the classrooms and spaces where aggression is most prominently displayed in schools. Studies investigating these locations are reviewed and summarized within the context of the adolescent development.

Adolescent Development and Aggression

Social cognitive theory (Bandura, 1986) postulates that motivational processes influence both learning and performance in adolescence. Social cognitive theory (SCT) was initially developed to understand social behaviors; however, Bandura (2001) expanded its scope to encompass learning and performance of cognitive, social, and motor skills, strategies, and behaviors. Furthermore, SCT emphasizes that learning occurs in a social context and most of the content learned is expanded through observation.

There are several basic assumptions about SCT. Reciprocal, bi-directional relationships exist between a person's genetic, behavioral, and environmental factors. For example, classroom learning is shaped by factors within the academic environment including individual cognitive abilities, peer relationships/interactions, and exposure to developmentally appropriate behaviors. Aggression is one factor that may impact classroom learning. Individual genetic factors or predispositions influence behaviors and potential for aggression (Bandura, 2001). Furthermore, neurobiologists posit that an adolescent's temperament and neurobiological functioning affects aggression (Belsky, Friedman, & Hseih, 2001). In a study investigating neurological patterns of aggression, Streek-Fischer and Van der Kolk (2000) determined that neurological dysfunction with the amygdala and frontal lobe region spikes aggression tendencies.

While genetic factors may predict patterns of aggression, Bandura (1973) noted that aggression was a learned rather than innate behavior. This emphasizes the role of the environment on influencing behavior. Bandura (2001) explained that adolescents learn to control

their behaviors through self-observation, judgment, and self-response, suggesting that there is interplay between the individual genetic factors and classroom environment that determines behavior, aggressive or not. Thus, exposure to violence increases the potential for aggressive behavior (Bracher, 2000) and chronic exposure to violence may contribute to neurological dysfunction. In sum, environmental variables trigger individual characteristics and predispositions affecting behaviors like bullying.

Patterns of aggression. Research has been conducted investigating demographic differences and correlates of adolescent bullying at school (Carlyle & Steinmann, 2007; Hong & Espelage, 2011). When taken together, this body of research demonstrates that demographic differences impact the patterns of aggression perpetrated or experienced by adolescents. For example, bully victimization rates vary by age, gender, SES and racial identity (Carlyle & Steinman, 2007). In Chapter 1 of this study, it was asserted that age also plays a role in the types of aggression experienced during early adolescence. For instance, American middle school students (grades 6 – 8) are at risk of experiencing verbal and physical aggression; however, as these students age, the risk for these behaviors diminishes (Hamburger, et al., 2011). As these direct forms of aggression decrease, more covert behaviors emerge as the dominating form of aggressive behavior. Forms of relational, social, and/or psychological aggression dominate during the high school years (grades 9 - 12) with few instances of direct forms of aggression.

Throughout adolescence, patterns associated with gender[1] and aggression has been documented and confirmed through multiple longitudinal investigations of bullying behavior (American Educational Research Association, 2013). For example, males typically perpetrate

---

[1] In this study, the term gender is used to refer to the biological sex of the adolescent. Issues related to gender expression, gender identity, or gender performance are not directly addressed by this study.

physically aggressive acts more than females, while females typically perpetrate verbally aggressive behaviors more than males (Wang, Iannotti, & Nansel, 2009). Wang and colleagues (2009) note that females report experiencing more socially aggressive behaviors (e.g., rumor spreading) than males during late middle through early high school years in school. In sum, age and gender have been described in the research as variables that influence patterns of aggression during adolescence.

The final variable considered by researchers in adolescent development and bullying utilized to predict patterns of aggression is socio-economic status. Socio-economic status (SES) in educational research has mostly been used as an aggregate variable, which is calculated from several observable or self-reported variables, which combine to determine overall status (Elgar, Craig, Boyce, Morgan, & Vella-Zarb, 2009). For example, by measuring the educational level of parents/guardians, household income, free-reduced lunch eligibility (FRL), and other items on questionnaires, overall SES may be determined. Elgar and colleagues (2009) found an association between country-level income inequality and school bullying. Countries with greater differences in income inequality reported more frequent bully victimization. For instance, adolescents who are raised in hierarchical communities with more income inequality are exposed to more status competition than adolescents who grow up in more democratic societies. Discrimination and retaliation might start among adolescents who ostracize poorer classmates from their peer groups (Elgar et al., 2009).

Classrooms and spaces for aggression in schools. A review of extant literature on bullying in American Schools indicates that most opportunities for perpetration of bullying behaviors occur in transitional or non-traditional instructional spaces with less frequent supervision by adults (Eccles & Roeser, 2011; Espelage et al., 2010). For example, transitional

31

spaces include the hall corridors, stairwells, parking lots, bathrooms, and spaces where students transition between classes and sports fields. Since there are usually few teachers monitoring transitional spaces in American schools, these places are reported as the primary setting for antisocial-aggressive exchanges between peers. Also, recreational spaces have been identified as places for aggressive behaviors.

In a study of adolescents in five secondary schools in southeastern Michigan, Astor and colleagues (1999) found that most exchanges of antisocial-aggressive behavior occur between students in spaces where there was minimal adult supervision. These spaces were reported as "frequent sites for fights, unwanted sexual attention, and other negative behaviors" (Eccles & Roeser, 2011, p. 608). The playground (Frey, Hirschstein, & Edstrom, 2009; Low, Frey, & Brockman, 2010) and gymnasium (Bejerot, Edgar, & Humble, 2011; Bejerot, Plenty, Humble, & Humble, 2013; Gano-Overway, 2013; Puhl, Peterson, & Luedicke, 2012) are frequent spots where aggression occurs. Similarly, both bullying perpetration and peer victimization have been examined in music education settings (Abeles, Hafeli, & Sears, 2014; Buttu, 2008; Carter, 2011, 2013; Conway, 2000; Elpus & Carter, 2013; Rawlings, 2014; Sinsabaugh, 2005; Silveria & Hudson, 2014; Taylor, 2009, 2011). These studies will be discussed in greater depth below.

Bullying on the playground. Frey and colleagues (2009) examined both perpetrators and victims of bullying behaviors during playground observation as a part of evaluating the *Steps to Respect* (StR) anti-bullying intervention program. Students ($N = 624$) in grades 3-5 from 6 elementary schools (three intervention and three control) participated in the study. Schools were matched for size, ethnic breakdown, and percentage of students receiving free and reduced lunch (range 21-60%). The intervention is a multilevel program that coordinates a school-wide environmental intervention (e.g., increasing adult monitoring in bullying events), sequential

classroom curricula (e.g., changing the normative beliefs that support bullying), and selected intervention strategies for perpetrators of bullying behaviors (e.g., addressing student social-emotional skills). This intervention specifically addressed physical and verbal displays of aggression. The evaluation included posttests at 6-, 12-, and 18-month intervals. Additionally, a subset of students (164 intervention and 196 control) was randomly selected at pretest for playground observation. Results revealed significant changes in observed destructive bystander behavior. Over the two-year period, the authors found a reduction in bystander support for bullying behavior. In addition, reductions in problem behaviors strengthened with a second year of implementation of the intervention program (Frey et al., 2009). This study acknowledges that pre-adolescent antisocial-aggressive behaviors can change in transitional spaces such as the playground.

Low et al. (2010) examined the StR program as a means of reducing relational aggression on school playgrounds. Students ($N = 544$) in grades 3-6 were in the original sample from six elementary schools in the Pacific Northwest region of the United States. Two suburban districts were matched for district size, ethnic breakdown, and percent of students receiving free or reduced lunch (range = 21-60%). Low et al. chose a data subset ($n = 12$ grade 3-4; $n = 10$ grade 5-6), which were randomly selected for observation on the playground. The research team collected pretest observations for 610 students in the intervention schools; however, only 544 students completed the posttest observation. Teachers (36 intervention/36 control) that were selected to participate had no prior experience with StR. Data analysis revealed that, over the school year, girls were more likely than boys to be involved with gossiping and as targets of gossip. The authors reported that rates of relational aggression increased with chronological age. Alternatively, physical and verbal victimization declined when students who participated in the

33

intervention received individual support from teachers. The findings did not suggest that peer connectedness was linked to reductions in victimization in the control group. Low and her colleagues concluded that where a peer group might discourage direct aggression it might also invite covert aggression.

Bullying in physical education. Bejerot, Edgar, and Humble (2011) studied the relationship between a history of poor motor skills in childhood and bully victimization among 44 undergraduate students from three campuses in Sweden. Results from this study demonstrated that students with below average performance in physical education (PE) courses are 3.6 times (95% confidence interval: 1.23-10.5; $p = .017$) more likely to be victimized in school. Consequently, strong correlations between poor physical performance in PE and chronic victimization (duration, $p = .007$; frequency, $p = .008$) were found. Bejerot and colleagues contend that poor motor skills are a risk factor for experiencing peer victimization.

Students enrolled in gym classes report being teased for multiple reasons, including poor motor skills or competence and also body weight. Puhl, Peterson, & Luedicke (2012) conducted a comprehensive investigation of intervention preferences of overweight adolescents including sources and strategies for target support, bullying intervention and prevention. This was the first study to document students' preferences for interventions in response to weight-based victimization. Adolescents ($N = 361$) enrolled in national weight-loss camps completed an electronic survey. Researchers found that students most preferred friends (66%) and peers (58%) as intervention agents, followed by teachers (55%), PE teachers/coaches (44%), and parents (43%) (p. 315). Participants who experienced more weight-based victimization expressed increased desire for intervention targeting the perpetrator. Weight-based victimization in adolescence was found to be a concern for physical education teachers and coaches.

In a follow-up to an earlier investigation, Bejerot, Plenty, A. Humble, & M. Humble (2013) surveyed adults ($N = 2,730$) in Sweden responding to items about bully victimization and motor skill performance in school. Results of this study indicated that participants who identified as having below average motor skills in adolescents were 3.01 times (95% confidence interval 1.97-4.40) more likely to be bullied. Additionally, adolescents who reported lower SES (OR 2.29; 95% CI 1.45-3.63), being overweight (OR 1.71; 95% CI 1.18-2.47), and perpetrating bully behaviors (OR 2.18; 95% CI 1.53-3.11) were of increased risk for being victimized by peers. Berjerot and colleagues confirm previous findings and conclude that having poor motor skills is a strong risk factor of adolescents experiencing victimization.

Gano-Overway (2013) explored the relationship between prosocial (i.e., intentional acts to help others) and antisocial (i.e., intentional acts that harm others) behaviors in physical education. Early adolescent participants ($N = 528$) were surveyed to assess levels of caring, empathy, social behaviors, and bullying. Within this study, participants reported "sometimes engaging in prosocial behavior and rarely participating in antisocial behavior" (p. 111); however, overall, a quarter of the participants reported experiencing victimization in physical education class. Data analyzed utilizing a multi-group structural equation model (SEM) demonstrated that prosocial behavior was predicted by a participant's strong level of cognitive empathy. In sum, if adolescents report a caring school climate, then there is a greater likelihood of youth engaging in prosocial behaviors.

Bullying in music education. Similar to studies investigating bullying in physical education classrooms, only a few studies in music have overtly investigated the phenomenon of bullying in the music classroom (Elpus & Carter, 2013; Rawlings, 2014). However, preliminary studies in music education acknowledge the presence of aggression in the music classroom

(Buttu, 2008; Carter, 2011, 2013; Conway, 2000; Elpus & Carter, 2013; Sinsabaugh, 2005; Taylor, 2009, 2011) and are corroborated by contemporary investigations (Abeles, et al., 2014; Carter, 2013; Elpus & Carter, 2013; Silveria & Hudson, 2014).

In a phenomenological investigation, Conway (2000), examined the origins of gender stereotypes, the characteristics of students who did or did not align with cultural norms of gendered musical instrument choice, and parental reactions toward student instrument choice. Participants ($N = 37$) were from two high schools ($n = 17$; $n = 21$, respectively) in the New York City metropolitan area. Data collection included open-structured participant interviews. Data analysis revealed that adolescents worry about peer rejection based on the instrument they perform:

> It seemed that the most controversial issues for many of the students regarding gender and instrument choice related to males and the flute. All of the students who were asked whether or not they would allow a daughter of theirs in the next 20 years to play a low brass instrument responded that the child should play whatever she would like. However, when asked the same question with regards to a son playing the flute, many of the students expressed concern about the teasing that the children might experience (pp 13-14).

This study clearly demonstrates the relationship between societal expectations and peer opinions about musical instrument choice for males and females.

In a multiple case study, Sinsabaugh's (2005) dissertation investigated adolescents ($N = 12$) who played musical instruments atypically associated with their gender, and specifically focused on the contextual and environmental influence of the student (e.g., school, peers, family). Findings revealed that boys who played a "cross-gendered" instrument struggled more

than girls. For example, two boys who played the flute reported being harassed by their peers because of their instrument selection. Sinsabaugh did not clarify in this study if the teasing was perpetrated from peers were in band or outside of band. However, girls reported more acts of resilience with attempting new activities rather than boys. This study corroborates the findings of Conway (2000), which demonstrates the potential for adolescents to taunt and tease each other based on instrument selection.

Buttu (2008) investigated females' perceptions and experiences of musical instrument gender associations in a same-sex school environment. This naturalistic case study inquired how females in an all-girls school perceive gender stereotypes enacted through performance on a musical instrument. Buttu found that the female participants had knowledge of the culturally constructed gender stereotypes associated with musical instruments; however, the participants did not report feelings of chronic victimization in a same-sex school. Also, the study documented participants' recollections of male family members who had been teased due to playing culturally feminized instruments. Buttu commented "sadly, many of their accounts ended in the male succumbing to the social pressures and opting to change instruments" (p. 54). She suggested that music educators in co-educational settings encourage adolescents to perform stereotypically gendered instruments if they believe the student's level of self-confidence and resiliency may be low, or if the music educator suspects the adolescent may not be able to withstand the social pressures associated with performing a musical instrumental not commonly associated with their biological sex.

Taylor (2009) examined the support structures that contribute to instrument choice and achievement among high school male flutists that participated in the Texas All-State Band or Orchestra between 2003 and 2007. Eighteen high school and college-aged adolescents (8 White,

7 Hispanic, 3 Asian) agreed to participate in this qualitative inquiry. Data included one questionnaire and interview for each participant. Findings from this study revealed that most participants were initially teased about "playing a girl's instrument…however, taunting dissipated as they began winning high chair positions and regional competitions" (p. 56). Taylor suggested that, for boys, music competitions may support and validate their decision to pursue performing a counter-stereotypical gendered musical instrument. Most participants discussed their parents, private music instructors, and professional male flutists as their primary support structures and role models. Taylor suggested that more support from public school music teachers in providing equally represented examples of males and females performing on all instruments may lead to a more androgynous association with gender and musical instruments.

In a practitioner-geared article, Carter (2011) highlighted issues of harassment and bullying in school music programs by presenting three stories of student harassment in music classrooms. Despite the fictional nature of the anecdotes, Carter posits that these are representative examples of the possible aggression and victimization that may exist in the music classroom. He suggested that music educators are in a unique position to recognize problematic behavior because of the often extended instructional time in music classes, longitudinal contact with students over many years, and nature of the ensemble experience. Carter asserted that students who are connected to school and peers are less likely to engage in or be victims of harassment. Strategies for identifying harassment in the music classroom are also offered as a way of reducing the frequency of this behavior; however, definitions describing bullying were not included with this article.

In another practitioner-geared article, Taylor (2011) described intervention strategies that music teachers can implement to prevent bullying behaviors. He recognized that adolescents

enrolled in music are sometimes considered as outsiders in schools. Adolescents in music are frequently victims of harmful taunting, teasing (e.g., "band geek," "orchestra dork"), or homophobic name-calling (e.g., "queer," "fag") targeted by their non-music peers. Taylor explored potential motivations for peer victimization targeting students enrolled in music ensembles and discussed the importance of a safe learning environment for music students. He recommended that music teachers present examples of performers contrary to the stereotypical musical instrument gender pairings (e.g., female flute performers), as atypical pairings (e.g., male flute performers) may be targets for peer victimization inside and outside the music classroom.

Carter (2013) interviewed four African American gay band students attending historically Black colleges or universities (HBCUs) for this collective case study investigating the sociocultural influences that shaped the participants' identities. Data were analyzed through a unique theoretical framework involving poststructural theory, critical race theory, critical theory, and lesbian, gay, bisexual, transgender, queer, or questioning (LGBT2Q) studies. Findings from all four participants indicate the significance of being a member of an HBCU marching band the renegotiating of their "strong male African American" identity (p. 37). Additionally, Carter inquired about their experiences with peer victimization or hazing, finding:

> Incidents of hazing and bullying largely are underreported and not discussed, making it difficult for teachers to recognize negative experiences occurring within [musical] groups…the hazing they experienced was not something they ever discussed, not even with their fellow band members…each stated that what they did endure was shameful and embarrassing and not something, even years later, they wished to share (p. 39).

Moreover, this research demonstrates that despite the participants identifying the importance of music in their lives, being a member of a musical ensemble during adolescence does not assure a violence-free environment.

Elpus and Carter (2013) examined the prevalence of bullying among arts participants. Although this study is not yet published, the abstracted summary of this paper was available and extracted from the 2013 American Educational Research Association (AERA) Paper Repository. Elpus and Carter studied whether arts participation was a risk factor for adolescent bullying perpetrator or victimization. They found "that male participants in the arts report about 1.25 times more bullying than do other students. Additionally, results indicate that arts participants are 1.93 times more likely to be targets of hate speech involving sexual orientation than their non-arts peers." Taken as a whole, this study acknowledges the frequencies of art student victimization during adolescence. The odds ratios in this abstract demonstrate there is a need to investigate these results further.

Silveira and Hudson (2014) investigated hazing in collegiate marching bands. Moreover, the researchers examined marching band students' experiences with hazing behaviors, attitudes toward hazing, and students' level of awareness of institutional hazing policies. Participants ($N =$ 1,215) attended NCAA Division I schools from 30 states. Using a multistage cluster sampling approach, all undergraduate and graduate student band members ($n = 407$, freshman; $n = 288$, sophomore; $n = 288$, junior; $n = 249$, senior; and $n = 27$, "Other" which included graduate and fifth-year seniors) were included in the study (no response rate was reported). Results from their online survey demonstrate that approximately 30% of respondents indicated the direct observation of hazing behaviors in their marching band. The most common hazing behaviors reported in this study "involved verbal humiliation or degradation, which generally went

unreported largely because of fear of social retaliation, or because the hazing incidents were

perceived as innocuous" (p. 1). The researchers revealed that the majority of their participants

reported negative attitudes regarding hazing, and remarkably most learned about their

institution's hazing policy through a marching band orientation. Although the researchers

distinguish between hazing and bullying, there are correlations implied throughout the study that

hazing is a form of "group bullying." The extant research on bullying is clear that hazing is not

bullying, rather, a group membership ritual that may include acts of aggression (Allan &

Maddan, 2012).

Abeles and colleagues (2014) continued a 30-year line of inquiry about musical

instrument and gender stereotypes and examined computer-mediated communication (CMC) –

blogs and responses to YouTube postings – to understand how CMCs reflect adolescent's

attitudes about musical instrument-gender associations. Abeles and his colleagues found that

adolescent communication on CMCs provide mutual support, seek out role models, highlight the

relationship between a musician's gender expression and instrument choice, discuss the

association between the genre of music and gender of the musician, and debate sexual orientation

(p. 361). Findings revealed that musician identity is strongly influenced by their instrument

choice such as trumpet or drums (p. 359). The CMCs also illuminated difficulty negotiating the

stereotypes associated with their instrument (e.g., tension with gender expression). Homophobic

name-calling was demonstrated in this study through a cyber platform and provides a new layer

of complication with this line of inquiry that other studies have not investigated.

Rawlings (2014) explored middle school band students' ($N = 291$) perceptions of

bullying behavior inside and outside of the band classroom. Research questions were designed to

generate data regarding the frequency of physical, verbal, and socially aggressive acts self-

reported by middle school students enrolled in the band class, while in the band classroom and band-related activities as well as within the school setting. Using a researcher-modified version of Parada's (2000) Adolescent Peer Relations Instrument (Cronbach's alpha = .95 for Perpetrator Scale and .95 Victimization Scale) with a response rate of 88%, adolescents in 6th-8th grade were asked to report the frequency of aggressive behaviors. Prior to data collection, I conducted a cognitive interviewing session about the design of the survey. The band students confirmed all three subscales of aggression (physical, verbal, and social) present in the survey are valid issues in middle school band rooms and school buildings. These measures were piloted with one 7th grade band from a third middle school in the same district as the study schools. Participants ($n =$ 49) volunteered to take this survey yielding a 70% response rate. Following the completion of the questionnaire, I facilitated a group cognitive interview with the participants recording their responses.

Results showed that participants reported low levels of aggression and victimization within the band classroom. As there are no other studies of aggression and victimization that focus on music or band, it is difficult to know if the results from this particular sample are generalizable to a greater population. When compared to a nationally representative sample of youth (Hamburger et al., 2011), the band students in this study reported perpetrating bullying behaviors and experiencing peer victimization at lower frequencies. Another related finding from this study is that band students reported being victimized more often outside of band than inside the band classroom. Indeed, results also show that band students report more peer victimization both inside and outside the band classroom than they report actually perpetrating bullying behaviors themselves. The results of this study also suggest that the overall aggression and victimization differences exist between how males and females experience these behaviors inside

and outside the band classroom. One particularly interesting finding from this study was that despite the evidence about potential mistreatment of peers based on their instrument choice as cited in the music education research literature (Conway, 2000; Taylor, 2009; Zervoudakes & Tanur, 1994), students from this study who performed on instruments atypical to their gender reported no practical difference in frequencies of perpetrating aggression or experiencing victimization when compared to their stereotypical band peers. Based on the previous research from Taylor (2009, 2011), which documented male flute players feeling victimized as a result of their instrument choice; the results from this study do not confirm his findings.

Summary of Adolescent Development and Bullying in Schools

The perpetration of bully behaviors and experiences of peer victimization can happen anywhere in or around the school; however, these are often are reported in spaces with little or no adult supervision (Eccles & Roeser, 2011; Espelage et al., 2010). Fagan and Wilkinson (1998) conducted a review of theories and evidence that suggest several functional goals that perpetrating antisocial-aggressive behaviors may serve for adolescents. These goals included securing high social status among peers, dominance over others, acquisition of material goods, defiance of authority, and retribution for insults to the self. The playground is a space where aggression is a concern because of a lack of adult supervision and a myriad of other factors (e.g., limited playground equipment, exclusionary childhood games). Despite the tendency for aggression on the playground, scholars have determined that anti-bullying prevention programming influences school-aged children's behavior outside of the classroom walls onto the playground (Frey et al., 2009; Low et al., 2011). Physical education activities often require some level of physical contact, which can make it difficult for teachers to recognize that some of the physical contact is aggressive. Often, if teachers see the aggressive behavior, they need to

43

determine if is being used for peer intimidation. Similarly to the playground, gymnasium culture may factor into the proliferation of bullying behaviors. Physical education places students in situations of displaying motor skill competence. Bejerot and colleagues (2011, 2013) identified poor motor skills as a risk factor for chronic peer victimization. Therefore, if poor motor skills exist with an overweight adolescent, this places the student in a vulnerable position as a likely target for peer victimization. With only four empirical investigations examining physical education and bully victimization, motor skills and weight-based victimization have been overlooked by researchers and seem to be a highly volatile environment where aggression may thrive. In the future, poor motor skills and weight-based victimization may be a concern for students involved in secondary school marching bands.

Researchers in music education have expressed concern about adolescents' feelings of victimization in the music classroom and school building. The research of Abeles and his colleagues (2014), Sinsabaugh (2005), and Taylor (2009) suggests that adolescents, who perform musical instruments atypical to their gender, may be targets for bullying behaviors and harassment by their peers. Similarly, most studies appearing in this review reported that adolescents are victimized in music classrooms because of individual differences; however, Rawlings (2014) found that no significant difference existed in levels of bullying perpetration or peer victimization with students who were performing on instruments atypically associated with their gender. Geographic differences with study samples may account for this disparate finding. Despite these studies in music education and a growing wealth of empirical research in general education about aggression and bullying, empirical inquiries about bullying with music student populations compared with non-music populations are needed to understand the multiple behaviors and types of aggression that contribute to bullying episodes.

Connectedness as a Predictor of School Climate

This section of the chapter reviews research related to connectedness as a predictor of school climate. I will begin with a brief discussion of school climate. Following this overview, I will then review school connectedness studies. Empirical studies conducted with music populations are included with a particular focus on the most prevalent constructs related to connectedness, the student-teacher relationship and belonging. These studies are reviewed and summarized.

Approximately 50 million students attend public elementary and secondary schools in the United States, and school enrollment is projected to reach a record of 54 million by 2017 (Planty et al., 2008, as cited in Meece & Schaefer, 2010). With this enrollment projection, issues of school accountability for student academic achievement will likely be debated amongst policy and education reformers. School climate has been identified as a topic of research by federal initiatives such as *No Child Left Behind* (NCLB, 2001) because of the contribution a positive school climate has on adolescent academic achievement. Wang, Haertel, and Walberg (1997) conducted a meta-analysis exploring the factors influencing student learning found that a school's *climate* is informed by: administrative regulation of the school, classroom management, peer environments, student-teacher social interactions, school culture, parental involvement, and perceived adolescent connectedness. Adolescents who express more positive perceptions of their school climate are likely to earn higher grades in school (Stone & Han, 2005) and perform better on standardized tests (MacNeil, Prater, & Busch, 2009). Consequently, adolescents who feel safe, cared for, supported to learn, school climate increases academic achievement (McNeely et al., 2010; Whitlock, 2006). In this section of the chapter, the most prominently referenced form

of adolescent connectedness will be reviewed, school connectedness. Additionally, studies conducted in music education that relate to school connectedness, are included.

School Connectedness

For more than a century, researchers in the field of education have examined issues of school climate within American schools (Perry, 1908; Zullig, et al., 2010). Evidence from this literature suggests that a school's climate can affect students' social environment, behavior, and ability to learn (Zullig et al., 2010). Acknowledging the complexity of what composes and defines school climate, reviews by Cohen (2006) and Freiberg (1999) reveal a newfound interest with the notion of school connectedness as it relates to adolescent behavior and ability to learn in the school setting.

Much research has been conducted by a core group of investigators developing school connectedness as a psychological construct to help inform overall school climate. Using Resnick et al. (1997) as a preliminary point of departure, investigators affiliated with the University of Minnesota during the 2000s (Blum & Libbey, 2004; Klem & Connell, 2004; Libbey, 2004, 2007; McNeely & Falci, 2004) were concerned with adolescent connection to school and worked to organize a series of symposia to gather leading minds of the field together and develop this construct further (Wingspread Declarations on School Connections, 2004). These researchers agree that students are more likely to succeed academically when they are connected to school.

Libbey (2004) examined the variables from the National Longitudinal Survey of Adolescent Health (Add Health) measuring student relationships to school. Using these measurement tools as a point of departure for the review, her investigation broadly considered school connectedness to include multiple related terms that may or may not share the same or similar definition, elements, or theoretical framework as school connectedness. These terms

included student-teacher attachment, bonding, and school engagement. She clearly describes the lexicon of terms, concepts, and critiques the measurement tools in order to guide future practice and research. Overall, Libbey identified nine overarching constructs (See Table 1) evident from the variables on the Add Health survey relating to school connectedness. She concluded that whether researchers are examining student academic performance or involvement with a range of health behaviors, youth who feel connected to school, feel that they belong, and that teachers are supportive and treat them fairly, "… do better" (p. 282).

McNeely and Falci (2004) explored the Add Health data and analyzed the contribution of student perceptions (7th - 12th grade students) of teacher relationships and school participation on school connectedness. These researchers found that a positive connection to adults in school can counterbalance negative behavior influences from a peer group (p. 292). For example, if adolescents understand that adults trust and care for them, they are less likely to engage in peer behaviors that are perceived as negative or against socially accepted behavior. Additionally, it was recommended from this analysis that school connectedness, as a broad conceptualization, does not provide clear guidance to policy makers and practitioners (p. 284).

In 2009, a report from the Center for Disease Control and Prevention (CDC) released results which analyzed the same Add Health dataset as Libbey (2004) and McNeely and Falci (2004). Researchers from the CDC confirmed these findings and named school connectedness as a protective factor against risky or adverse adolescent behavior leading to negative health and educational outcomes. School connectedness was identified as the strongest protective factor for both girls and boys to decrease substance use, school absenteeism, peer victimization and second in importance as a protective factor against emotional distress, eating disorders, and suicidality (CDC, 2009).

This body of research using the Add Health database demonstrates the role of school connectedness may be a powerful predictor of adolescent health and academic outcomes and is consistent with a growing number of other studies using other data sources. Karcher (2002a, 2002b) reported that connections to school during adolescence notably impacts violence in schools. By examining middle-level rural adolescents, he identified school disconnectedness as a predictive factor of participation in violence. This finding explains that youth who engage in violent behavior become less connected to their teachers. Also revealed by this study was the negative correlation between school connectedness with threatening behavior, whereas more connectedness predicted less violence.

In addition to examining the behavior influences of adolescents as an outcome of school connectedness, Klem and Connell (2004) investigated the relationship between teacher support, student engagement, and academic achievement using the longitudinal datasets collected by the Institute for Research and Reform in Education (Bridges & Connell, 1988). The researchers traced how students, who feel supported by teachers, are more likely to be engaged with school. Greater academic achievement was also recognized as an outcome predicted by youths' feelings of engagement with school. The researchers determined that a positive relationship between school connectedness exists with school engagement and academic achievement. Consequently, adolescents not connected to school reported weak school engagement and low levels of academic achievement.

Another approach to developing the construct of school connectedness included a review of two longitudinal studies, the Seattle Social Development Project (Hawkins et al., 1999) and Raising Healthy Children (Catalano, et al., 2003), to investigate the importance of the bonding experience during adolescence (Catalano, Haggerty, Oesterle, Fleming, & Hawkins 2004). These

researchers determined that school bonding is an important component of attachment, control, and social development theory and contend school bonding may influence behavior in school. For example, once a student establishes a bond with school, this inhibits behavior inconsistent with the social norms and values of the school. Evidence from these two studies demonstrated the importance of school bonding in contributing to positive outcomes of youth including academic performance (p. 259). Catalano and colleagues also synthesized that school bonding reduces problems including delinquency and violence, drug use, and school absenteeism.

Whitlock (2006) examined the relationship between school connectedness and four developmental supports of adolescents: meaningful roles at school, safety, creative engagement, and academic engagement. She determined that school connectedness is strongly affected by opportunities for meaningful input into school policies and the extent to which classroom resources engage student interests. The importance of positive youth-teacher exchange in and outside of the classroom was also reported as a factor in developing a connection to school.

Related Research in Music Education

Since the construct of school connectedness may be considered by some researchers to be in its infancy, locating related research in music education matching McNeely and colleagues (2010) definition of school connectedness was challenging. Two frequent topics for consideration from the adolescent development and social science research on school connectedness are teacher support or youth-teacher relationship and youths' feeling of belonging to school. When examining the related research from music education, investigators have examined the music student-teacher relationship (Davidson, et al., 1998; Hamann, et al., 1990; Matthews & Kitsantas, 2007; Pitts, et al., 2000; Power, 2008) and students' feelings of belonging

to the music program (Miksza, 2010; Wolff, 2004). These studies appear in the forthcoming sections of the chapter.

Student-teacher relationships in music education research. Hamann and his colleagues (1990) examined the effect classroom environment had on student musical achievement in high school performing ensembles. The researchers recruited instrumental and choral student participants ($N = 1,792$) and asked them to respond to questions about their involvement with the performing ensemble and feelings of music teacher support. The researchers defined teacher support as the "…amount of help and caring a teacher shows toward students" (p. 217). The students with the highest ratings at adjudication festivals indicated high classroom teacher support scores. Hamann and his colleagues were interested in understanding the teacher support of the performance ensemble classroom and by their definition; there is a conceptual link to the McNeely et al. (2010) definition of school connectedness. Based on the results from this large-scale study, which is supported by the adolescent development research, music students' perceived feelings of care from an adult have a positive relationship to a student's musical achievement.

Davidson, et al. (1998) interviewed young instrumentalists ($N = 257$), which were at various levels of mastery on their instrument, to understand the characteristics of music teacher teachers on student's musical learning. Findings from this study demonstrate that support from teachers is essential if the child is to become capable of independent practice and sustained musical development. More specifically, the researchers discovered that the most successful learners regarded their first music teacher higher than their current music teacher on personal dimensions (e.g., warmth, friendliness), and rated their current teacher higher on task-oriented dimensions (e.g., pushiness). In a follow-up study, Howe (1999) confirmed this finding and

added that support from teachers is necessary for the development of self-confidence and enthusiasm for music (p. 74).

Pitts et al. (2000) examined beginning instrumentalists to determine the motivations and behavior of learning with comparisons drawn between children who maintained and lost motivation. The researchers found that beginning instrumentalists' enjoyment and satisfaction with music learning is directly linked from maintaining a connection with the music teacher (p. 61). Teacher connection was reported by the participants as the core of what motivated effective practice strategies and learning music during the first 20 months of studying to play an instrument. This finding relates to the school connectedness research and prior studies in music education (Davidson et al., 1998; Hamann et al., 1990; Howe, 1999), as it emphasizes the importance of students' feelings of support to increase musical achievement.

Matthews and Kitsantas (2007) investigated whether collective efficacy, group cohesion, and perceived motivational climate in a music ensemble predicts instrumentalists' perceived teacher (conductor) support. Findings from this study of high school honor band students ($N = 91$) showed that instrumentalists who have a strong sense of collective efficacy and group cohesion are more likely to perceive their conductors as supportive. Consistent with these findings, other researchers from music education have demonstrated the importance of teacher support (Hamann, et al., 1990; Davidson et al., 1998) in music ensembles. An interesting finding from this study indicated that teachers who promote a task-oriented climate in their ensembles by encouraging goal mastery are more likely to be perceived by student musicians as being supportive.

Power (2008) applied the Motivation, e'ngagement, E'ngagement (MeE) framework to music education, as a way of examining the school factors that influence boys' engagement with

two Australian schools. Findings from her study confirm past research (Skinner & Belmont, 1993) that teacher support is highly influential in encouraging student engagement with school. She contends that a means of motivating boys to learn in music education is dependent on the perceived strength of teacher support (p. 96). Strategies for nurturing a connection include: environments are consciously crafted to promote positive cross-age and student-teacher relationships (p. 99), teachers structuring positive powerful collaborative learning experiences (p. 96), and teachers and students working collaboratively within learning contexts (p.99).

Student belonging to school music. Wolff (2004) reviewed research in music education that examined the nonmusical outcomes of music education. She identified three areas representative of the literature base as the cognitive outcomes, social emotional outcomes, and physical learning outcomes. Most related to school connectedness was the literature on social emotional outcomes in music education. Studies examining music student self-esteem, personality, and school attitudes were discussed with a secondary outcome of belonging (Blanton, 1962; Hood, 1973). These studies evaluated the effect of music instruction on learning and feeling of belonging. Additional findings from these studies indicated an improvement in student freedom from anti-social tendencies and social adjustment (p. 83). Consequently, Wolff reported, low achieving music students benefitted more from music instruction with regards to these behaviors when compared to the higher achieving music students.

Miksza (2010) investigated relationships between participation in high school music ensembles and extra-musical outcomes from the Education Longitudinal Study national dataset. Using a linear mixed model approach to analyzing the variables from the dataset, Miksza found a positive relationship between music participation and feelings of belonging. Additionally, music participation was found to have a positive significant effect on the student's commitment to

school (p. 22). Related to the adolescent development research, behaviors typically associated with school commitment are low rates of absenteeism and dropping out of school (CDC, 2009).

Summary of Connectedness as a Predictor of School Climate

Researchers have made a substantial contribution to the development of a school connectedness construct by continuing to interrogate its use, definition, and measurement (McNeely et al., 2010). This systematic strategy for developing an understanding of the connections adolescents have with school has yielded general trends as demonstrated by researchers in adolescent development. The researchers identified in this section have concluded school connectedness is associated with many positive health and educational outcomes. Since the research has been clear about the inconsistent use of a theoretical underpinning or agreed upon definition when measuring school connectedness, the empirical evidence presented in this section is to be considered in a broad sense[2].

Researchers in music education are interested in understanding how students are connected to the elements of school music. As conveyed in this review, adolescents in music report levels of attachment to adult figures in music and feelings of belonging to their peers in music. Although investigations exploring the non-musical outcomes of musical learning have been conducted, no studies have examined how feelings of attachment and belonging may or may not be associated with peer victimization experiences. In the general education literature, research investigating this relationship is relatively recent, and in the next section of the chapter, I will review those empirical studies.

---

[2] McNeely et al. (2010) provides a comprehensive synthesis and discussion regarding additional empirical evidence from school connectedness research including socio-demographic patterns, prevention and risk reduction, as well as the additive effects of school connectedness.

Connectedness as a Predictor of Bullying Behaviors and Peer Victimization

Connectedness has been theoretically conceived as a predictor of bullying behaviors and peer victimization (Fettrow, 2013). This section of the chapter reviews seven studies that utilize and develop this theoretical model with adolescent populations. These studies were identified following a key word search in four health, psychology and educational electronic bibliographic databases: PsycINFO, Educational Resources Information Center, JAMA, and Dissertation Abstracts including the following keyword terms *school connectedness* and *bullying*. After screening approximately 50 titles and abstracts, 10 papers were identified for review on the following initial inclusion criteria:

1) Investigations were empirical.

2) Participants were adolescent school aged (grade levels 6 – 12).

3) Outcome variables clearly measured bullying or aggression toward peers, including physical or verbal aggression in a school setting.

I chose to focus on studies that examined the relationship between school connectedness and bullying as the extant literature reviewed in this chapter indicated a relationship. Six papers were not included because this relationship was not examined. In addition, I reviewed references used in the primary sources to identify papers that were not discovered during the initial search. This step in the process revealed three papers that were included in this section of the chapter. Of the seven papers identified for review, two utilized a structural model to conceptualize the relationship between school connectedness and bullying. These models were particularly useful as models for this dissertation study because they demonstrate that a relationship exists between adolescent feelings of connectedness and bullying.

Young (2004) investigated the relationship between school connectedness and bullying. She investigated middle school adolescents' ($N = 793$) perceptions of bullying behaviors and peer victimization in Alabama. Results from the study determined that the strength of school connectedness is inversely related to rates of victimization and bullying with this population. Moreover, students with strong connections to school (e.g., sense of belong, positive relationships with adults) were least likely to perceive victimization or engage in bullying behaviors. This study confirms previous research and revealed that one predictor of bullying perpetration is the tendency for students to be withdrawn or isolated from school. Although this study was not designed to demonstrate a causal relationship between the variables, Young acknowledges that future studies need to clearly define school connectedness and work to provide evidence of a causal relationship.

You and colleagues (2008) examined the role of school connectedness in mediating students' sense of hope and life satisfaction for three groups of participants reporting different levels of exposure to victimization: Bullied Victims, Peer Victims, and Nonvictims. Participants ($N = 866$) were middle and high school students from four schools on the central coast of California. Data were analyzed using a combination of techniques including Structural Equation Modeling (SEM), multi-group latent mean analysis (LMA), and multi-group structural analysis. Results indicated that chronic victims (Bully Victims) showed significantly lower levels of school connectedness than Peer Victims (some victimization) or Nonvictims. Furthermore, school connectedness was not found to mediate the relationship between hope and life satisfaction in both partial and full mediation models for students who are victimized (Bully Victims or Peer Victims). These findings corroborate previous research that demonstrates the

role of school connectedness in promoting positive health outcomes for Nonvictims (Resnick et al., 1997).

O'Brennan and Furlong (2010) investigated adolescents' perceptions of school connectedness and peer victimization (physical, verbal, and relational), as well as perceived reasons for the perpetration of aggression. Participants were middle and high school students (N = 1,253) from ten schools in central California, who completed the California Healthy Kids Survey (CHKS) in November 2009. Data were analyzed using multivariate techniques, which confirmed past research demonstrating that there is a relationship between the strength of school connectedness and experiences with peer victimization (physical, verbal, and relational). Low levels of connection were associated with more frequent reports of victimization. Of the three forms of victimization, student perceptions of their interpersonal connections at school were most strongly associated with verbal forms of victimization (e.g., harmful teasing, taunting) (p. 385). Overall, it was determined with this sample that victimization was not a chronic problem (day-to-day or week-to-week) for students reporting low levels of connection to school. Due to the cross-sectional design of this study, it is difficult to know how the results of this study are generalizable past the current population. This was the first study to parcel out the forms of victimization (physical, verbal, relational) and confirms past research highlighting the prominence of verbal victimization during adolescence.

Clark (2011) examined the effect of adolescent extracurricular activity participation on being a victim of school violence, specifically bullying. Seven activities (athletic teams, spirit organizations, performing arts groups, academic clubs, student government, community service, and other) were selected from past research to determine the levels of school connectedness and rates of victimization. Data from middle and high school students (N = 5, 409), who completed

the 2007 School Crime Supplement of the National Crime Victimization Survey, were analyzed to determine if there was a relationship between rates of victimization and extracurricular activity participation. Upon further examination of the results, the greatest number of students that reported experiencing victimization were involved in the performing arts (p. 68). Extracurricular involvement was determined a means of connecting students to friends and adults, which are known as protective factors against risky behaviors; however, this may not be generalizable to students involved in the performing arts.

Jose and colleagues (2012) examined the temporal relations of adolescents' feelings of connection and well-being over a three-year time period. Participants were 10- to 15-year-olds (at Time 1) ($N = 1,774$) from 78 schools in northern New Zealand. Adolescent connectedness was measured in four domains (school, peer, family, and community) and well-being was measured with four indicators (aspirations, confidence, positive affect, and life satisfaction). Results from this study confirm past findings, which recognize that strong feelings of connection have positive effects on well-being with family connectedness having a particularly strong role (p. 246). Additionally, these researchers report a diminishing effect of positive connectedness. For example, offering only isolated opportunities for connection is unlikely to yield long-term benefits. Rather, Jose and colleagues suggest interventions that build individual capabilities for developing relationships.

Fettrow (2013) examined the relationship between the perpetration of bullying behaviors, perceived school connectedness, and academic achievement with a purposeful sample of female, in-season, high school athletes ($N = 111$) from three schools in northeast Ohio. Data were analyzed using one-way and two-way Analysis of Variance (ANOVA) techniques and correlation analysis. Results show a statistically significant relationship between bullying

perpetration and race, as well as current academic achievement. Also, results confirm past research acknowledging an inverse relationship between the strength of adolescent connections to school and the perpetration of bullying behaviors. Findings from this study should be interpreted cautiously as the instruments used in this study were only examined on an aggregate level. For example, the Parada *Adolescent Peer Relations Instrument* (APRI) (2000) allows for examination of specific bullying behaviors (e.g., physical, verbal, and social aggression). These were considered in the pilot study; however, only the total score was used by the researcher. Also, the instrument measuring school connectedness, which contained three constructs (school safety, sense of belonging, and adult relationships), was only examined on an aggregate level. Further examination of the relationship between specific bullying behaviors and the constructs of school connectedness may provide evidence of a stronger or weaker correlation.

Goldweber and colleagues (2013) examined patterns of perpetrating aggressive behaviors (physical, verbal, social, and cyber) and victimization in relation to aspects of school climate, such as school safety and feelings of belonging. Participants were middle and high school students ($N = 12,763$) from a large public school district in Maryland. Pearson-centered and latent class analyses were conducted from the data collected. Results indicate several classes of students exist (e.g., low involvement, high physical/high verbal, high involvement) within this population. Adolescents with chronic levels of victimization (high involvement grouping) reported low perceptions of school safety and belonging while highlighting a school's climate support bullying perpetration. Furthermore, results from this study show that connection to school and feelings of belonging may be a protective factor against physical forms of bullying behavior (p. 482).

Chapter Summary

School music ensembles have had a longstanding presence in America's public schools (Humphreys, 1995, p. 40). At the time of their inception, the instructional and organizational structure of school-based music ensemble courses were modeled after the military, professional, and collegiate ensembles (Mantie, 2012; Whitwell & Dabelstein, 2011). These musical ensembles served mostly at civic events, celebrations and concerts, with school music ensembles quickly emulating their societal counterparts.

The school-based music ensemble classroom is a complex learning environment, non-traditional when compared to lecture-based, academic courses. Studies by Adderley (2009) and his colleagues (2003) explored the school band culture in particular and found that youth perceive the band classroom as a "home away from home" (p. 190). Furthermore, the adolescents that participated in these studies described the musical and social environments that exist in school band. In an ethnographic study of a high school band program, Abril (2013) examined the socio-musical environment that was initially reported by Adderley et al. (2003). He found that several hierarchical strata or sub-groups function as a microcosm of the school culture. For instance, he labeled students, who report possessing the most advanced musical prowess and dedication to the band, as "hardcore band kids" (p. 435). Abril continued to define other levels of perceived social status and how these *hardcore American band kids* elicited inclusionary and exclusionary social tactics within the school band culture (Adler & Adler, 1995). With recent reports of these social tactics, such as hazing and harassment with collegiate bands (Brinkley, 2014; Carter, 2013), it is unclear if these practices stem from earlier experiences with the school ensemble culture. This chapter summary reviews the extant literature on bullying in schools and its relationship with school connectedness.

The Centers for Disease Control and Prevention (Gladden, Vivolo-Kantor, Hamburger, & Lumpkin, 2013) defines bullying, as "… any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings or current dating partners" that is repetitive, intentional over time (Youth Bullying section, para. 2). Throughout this chapter, correlates associated with bullying behaviors and patterns of aggression were discussed. Taken altogether, the extant literature on bullying demonstrates that adolescents engage in perpetrating bullying behaviors in spaces where adult supervision is limited (Eccles & Roeser, 2011) including playgrounds (Frey et al., 2009; Low et al., 2010), physical education (Bejerot, et al., 2011; Bejerot, et al., 2013; Gano-Overway, 2013; Puhl, et al., 2012). Furthermore, adolescents that reported aggression against music students detailed these behaviors coming from outside the music classroom (Abeles, et al., 2014; Buttu, 2008; Carter, 2011, 2013; Conway, 2000; Elpus & Carter, 2013; Rawlings, 2014; Sinsabaugh, 2005; Silveria & Hudson, 2014; Taylor, 2009, 2011). The limited research with music populations demonstrates that adolescents can be victims of verbal aggression because of a stereotypical mismatch between biological sex and chosen musical instrument (Abeles, et al., 2014; Buttu, 2008; Conway, 2000; Sinsabaugh, 2005; Taylor, 2009); however, Rawlings (2014) did not find chronic victimization of atypical adolescents in middle school band. Elpus and Carter (2013) reported arts students are more likely to be victimized when compared to non-arts students. These findings document the potential for antisocial-aggressive behavior in arts classrooms. Despite this research conducted with arts and music populations, a gap in the literature exists with comparing bullying behavior perpetration and victimization between music and non-music populations. Moreover, most studies provide qualitative findings with few studies demonstrating evidence of a chronic problem of bullying behaviors with large populations of music students.

Bullying interferes with the primary mission of schools' academic achievement. Researchers investigating issues of bullying in schools and school climate are interested in promoting a positive developmental and learning environment for youth (Catalano, et al., 2004). Most anti-bullying intervention and prevention programs fail to acknowledge the role of school climate on influencing bully behaviors; however, studies investigating adolescent connectedness reveal that an adolescent's connection to school and peers can improve academic performance and prevent involvement in risky behaviors such as substance use and other delinquent behaviors (McNeely et al., 2010, p. 275). McNeely and colleagues (2010) have determined school connectedness to be the "…psychological state in which individual youth perceive that they and other youth are cared for, trusted, and respected by adults with authority in the school" (p. 267). Studies demonstrate that adolescent perceptions of connectedness, feelings of attachment and belonging to adults and peers in school, predicts positive health outcomes and academic achievement (McNeely, et al., 2010). Adolescent connectedness has also been identified by researchers as positively impacting secondary school graduation rates, attendance, motivation, and lowering levels of truancy and bullying behavior (Blum & Libbey, 2004; Osterman, 2001). Researchers have limited knowledge about the strength and effect this relationship has on academic adolescent attainment (Hong & Espelage, 2012) or how this relationship may be similar with music populations.

School connectedness is conceptually related to music student-teacher relationship and attachment. Research studies examining students' feelings of belonging to the music program have been sparse and future studies in music education are needed that build upon McNeely and colleague's (2010) definition of school connectedness in order to compare levels of musician connection with other non-music school populations. Youths' feelings of closeness and being

supported or cared for by their peers in music class have been investigated and may provide another layer of research building on extant literature as to the benefits of social interaction in music (Rawlings & Stoddard, 2014a). Both school and peer connectedness have been preliminarily examined with middle school band classrooms yielding relatively strong levels of overall connection to the band teacher, peers in band, and feelings' of belonging (Rawlings & Stoddard, 2014a, 2014b). More descriptive research with varied musical adolescent populations would confirm these preliminary results.

This chapter examined empirical studies linked to the complexities between the traditions, beliefs, and values of the school music ensemble classroom, which promote feelings of connection to school and peers, and the tensions of practice with ensemble classroom, which promote conflict and aggression between peers. Based on these empirical studies, I theorize that music ensemble participation may affect adolescent perceptions of school connectedness and self-reported bullying behaviors and peer victimization. Further understanding of the relationship between connectedness and bully behaviors in the music ensemble classroom is needed; however, a comparison with non-ensemble students is necessary to clarify the difference, if any, between the populations. Consequently, an investigation is needed that examines the potential effect music ensemble participation in middle school has on the relationship between connectedness and bullying. Therefore, the purpose of this study was to examine the relationship between school connectedness and youth aggression with middle school students enrolled and not enrolled in a school-based music ensemble. Chapter 3 presents the research methodology for this study, including information about the data sources, design, instruments used to measure connectedness and aggression perpetration and victimization, procedures, theoretical models, and plan for data analysis.

Chapter III

RESEARCH METHODOLOGY AND DESIGN

Prior research suggests that bullying behavior may occur at relatively high frequencies among adolescents, with significant short-term and long-term consequences (Espelage et al., 2010). From the research on bullying, emerging evidence demonstrates that bully perpetration and victimization is concurrently and longitudinally associated with low levels of school connectedness and student engagement (Fettrow, 2013; Hong & Espelage, 2012). Researchers in adolescent development have also found that participation in school-based music classes during adolescence promotes positive youth development and educational outcomes (Eccles & Barber, 1999; Farb & Matjasko, 2012; Feldman & Matjasko, 2007). Studies from the field of music education reviewed in this dissertation strongly suggest that adolescents who participate in school band classes perceive strong connections to school and peers; however, limited research has been conducted investigating bullying perpetration and peer victimization. In this dissertation, I utilize data from a current, large-scale study to compare the perceptions of connectedness and bullying behaviors in with adolescents enrolled in middle school music ensemble course with their non-ensemble peers.

This chapter presents the research methodology and design for the dissertation. The research questions, data sources, school and participant demographics, instrument and scales, procedures, and statistical analyses will be presented. As previously stated, four research questions guide this investigation:

1. What is the frequency of bullying behaviors and peer victimization as self-reported by middle school students enrolled in music ensemble classes and not enrolled in music ensemble classes?

2. What is the level of school connectedness as self-reported by middle school students enrolled in music ensemble classes and not enrolled in music ensemble classes?

3. To what extent, if any, does participation in music ensemble affect the relationship between connectedness and bullying perpetration/victimization for middle school music ensemble and non-ensemble students?

4. Does school connectedness mediate the relationship between school-based music ensemble participation and self-reported bullying behaviors and peer victimization?

Data Sources

Data were secured for this dissertation through a written agreement with researcher Dorothy Espelage, Ph.D. from the University of Illinois, Urbana-Champaign. These data are part of a large-scale, two-year randomized trial funded by the Centers for Disease Control & Prevention (# CE3240) to researcher Dorothy Espelage (PI), seeking to understand the effect of a social-emotional learning (SEL) behavior intervention on reducing bullying, sexual harassment, gender-based harassment (e.g., homophobic name-calling), and teen dating violence. Following a collaborative meeting, Espelage agreed to include within her baseline survey a music variable that I developed. The music variable was developed based on the musical course offerings of the schools participating in Espelage's study (See section labeled "Demographic Variables" for more information). A verbal agreement to use the data for this dissertation was made and is documented in a data use agreement (See Appendix A). Data were made available January 1, 2015.

Research Setting

Prior to data collection, I contacted music teachers and guidance counselors in each school district with an initial phone call to secure information about the music classes offered at their school, as information available on the school's webpage was inconclusive. Preliminary structured interviews were conducted via phone or electronic correspondence with the informants (e.g., music teachers, guidance counselors) in each district that participated in the study to understand the course offerings in the music department (See Appendix B for interview protocol). Only one participant from each district responded to the request for information (50% response rate); however, the informants were able to confirm that course offerings were unified, district-wide.

Conversations with the informants revealed that each school district offers curricular music ensemble classes (band, orchestra, and choir) during the middle school grades of 6, 7, and 8. Accordingly, classes are grouped by grade-level cohorts (e.g., 6th grade band, 7th grade orchestra, and 8th grade choir) and perform, on average, one concert per academic quarter (e.g., 10 week time period). Also, each school reported additional band courses (e.g., jazz band) that meet either before or after the academic school day. The music teacher or guidance counselor informants reported additional music course offerings at each school (e.g., orchestra, choir, show choir, music appreciation).

Sample and Participants

Data were collected from 6th and 7th grade students from two middle schools in two school districts from central Illinois. Based on the demographic profile of each school district (Illinois State Board of Education [ISBE], 2014) the total population sampled was 843 students (See Table 1 for school-level demographic information). Participants ($N = 470$) volunteered to

participate in this study for an overall response rate of 57.1% (29.9% and 81.9% for Schools A

and B, respectively).

Table 1

Demographic Data of Participating Middle Schools

Item	School A	School B
N, Total school population[a]	610	659
6th Grade (%)	204 (33.4)	220 (33.4)
Male	114 (55.9)	107 (48.6)
Female	90 (44.1)	113 (51.4)
7th Grade (%)	198 (32.5)	221 (33.5)
Male/Female	106 (53.5)	120 (54.3)
Female	92 (46.5)	101 (45.7)
8th Grade (%)	208 (33.1)	218 (33.1)
Male/Female	103 (49.5)	97 (44.5)
Female	105 (51.5)	121 (55.5)
% Low-income[b]	89.9	63.8
% Homeless	4.0	2.0
Racial composition		
% White	46.2	30.5
% Black	42.6	46.2
% Hispanic	6.6	6.9
% Asian	0	12.3
% American Indian	0.8	0.2
% Multi Racial/Ethnicity	3.6	3.6
% Pacific Islander	0.2	0.3
% English Learners[c]	1.8	1.6
% Chronically Truant[d]	21.7	11.3

Note: [a]Indicates total number of students enrolled during the fall semester of 2014.
[b]Indicates percentage of students who fulfill one or more of the following conditions:
- From a family that receives public aid (e.g., Supplemental Nutrition Assistance Program, Targeted Assistance for Needy Families);
- Living in institutions for neglected or delinquent children;

- Being supported in foster homes with public funds; or
- Eligible to receive free or reduced-price lunches (according to United States Department of Agriculture's guidelines).

[c]According to Illinois' current regulations, this indicates percentage of English learners (ELs) whose English proficiency is not yet sufficient to provide students with the ability to successfully participate and achieve in classroom settings where the language of instruction is English. [d]Illinois law defines "chronically truant" as a student who misses five percent of school days within an academic year without a valid excuse. For example, nine days of an average 180-day school year.

Study Participants

Participants ($N = 470$) from two middle schools were utilized from the dataset made available from Dorothy Espelage. It is important to note that the parent study included other schools not represented in the current study. These additional schools were not selected for inclusion within this current study because they did not offer curricular school-based music ensembles. The two schools selected for the current study offered school-based music ensembles with similar instructional meeting schedules. When pooled together, students from these two schools enrolled in a school-based music ensemble ($n = 178$) and not enrolled in a school-based ensemble ($n = 292$) comprise the total sample for this study. School A had a volunteer response rate of 29.9%, and this response rate should be considered when interpreting the results. School B had a higher volunteer response rate of 81.9%, and due to this higher response rate, School B results may be generalized to schools that share similar demographic characteristics with School B. Further explanation of school response rates appear in Table 2.

Differences between School A and School B. To investigate differences between School A ($n = 119$) and School B ($n = 351$) χ^2 statistics were calculated. Results from these calculations appear in Table 3. Overall, there was not a significant difference between the schools for gender and grade level, indicating the samples are proportionally similar. However, the χ^2 and t statistic revealed a significant association or difference between schools and ethnicity, age, and GPA. A

significant difference was detected between the mean age of participants in School A and B, $t(281.37) = 2.494$, $p = .013$ (two-tailed). The magnitude of the differences in the means (mean difference = .56, 95% CI: .42 to 1.08) was moderate (eta squared = .054). Expressed as a percentage, only 5.4% of the variance in age is explained by school building attendance. Additionally, a significant difference was detected between the mean GPA of participants in School A and B, $t(468) = -5.192$, $p = .000$ (two-tailed). The magnitude of the differences in the means (mean difference = -.40, 95% CI: -.546 to -.246) was very small (eta squared = .013). Lastly, a significant association between ethnicity and school building attendance was detected, χ^2 (6, $n = 448$) = 31.634, $p < .001$, *Cramer's V* = .24. According to Gravetter and Wallnau (2004), this is a moderate effect size that demonstrates 24% of the variance in school is explained by self-reported ethnicity. In other words, school attendance was moderately associated with the participant's self-reported ethnicity. Taken together, age and GPA was slightly dependent on the school building the participant attends and ethnicity was moderately dependent on the school building.

Table 2

School Total Population, Sample Respondents, and Percent Response

Item	School A Total Population[a]	School A Respondents (% Response)	School B Total Population[a]	School B Respondents (% Response)
N, 6th Grade	204	56 (27.5)	220	186
Male/Female	114/90	23 (20.2)/33 (36.7)	107/113	91 (85)/95 (84.1)
N, 7th Grade	198	63 (31.8)	221	165
Male/Female	106/92	36 (34)/27 (29.3)	120/101	90 (75)/75 (74.3)

Note: [a]Indicates total number of students enrolled during the fall semester of 2014.

Table 3

Difference Tests for Variables Across Schools

Demographic Variables	χ^2	t	df	Effect Size
Gender	.140	-	1	n/a
Age	-	-5.192**	468	$\eta = .054$
Ethnicity	31.634**	-	6	$V = .24$
Grade	1.25	-	1	n/a
GPA	-	2.494*	281.37	$\eta = .013$

Note: n/a = not applicable
* represents significance detected at the $p < .05$ level
** represents significance detected at the $p < .001$ level

Description of the Instrument and Measures

Preventing Youth and Teen Dating Violence Questionnaire

The *Preventing Youth and Teen Dating Violence Questionnaire* includes items that

measure a wide range of constructs involving physical, cyber, and sexual violence. The survey

includes items to assess protective factors (e.g., sense of belonging, connectedness, enrollment in

music) thought to reduce risk behaviors and promote adolescent well-being. The survey included

items to assess negative behaviors that are known to influence the learning environment in

schools (e.g., online sexual solicitation, homophobic name-calling, substance abuse).

Alternatively, this questionnaire includes measures designed to assess positive behaviors that are

known to promote a positive learning environment in schools (e.g., adolescent empathy,

bystander and upstander intervention practices, hope). Rather than further describing the global

instrument, I will focus on the scales germane to this dissertation study. To address the specific

research questions of this study, measured variables were used as indicators of certain latent

constructs in SEMs. In addition, certain measured variables were entered as a specific mediating

variable (school connectedness) or covariates (e.g., gender, school). Table 4 includes measures selected from the 2014-2016 *Preventing Youth and Teen Dating Violence Questionnaire* for the current study.

Demographic Variables

Self-reports of biological sex, current grade, race, and music participation were elicited to determine demographic characteristics. In addition, one variable indicating participant music enrollment was selected for inclusion on the survey (See Appendix C for music variable language).

Bullying and Victimization

The University of Illinois Aggression Scales (Espelage & Holt, 2001) were used to assess the occurrence of bullying behavior and victimization by peers. For all items, students were asked to indicate how often, in the past 30 days, they have engaged in a specific behavior. All of these measured variables were answered on a five-point Likert-type scale with 1 (*never*), 2 (*1 or 2 times)*, 3 (*3 or 4 times*), 4 (*5 or 6 times*), and 5 (*7 or more times*). A principal-axis factor analysis of the 18 items with a sample of 422 predominantly white middle school students supported a three-factor solution or three subscales including physical, verbal, and social aggression (Espelage & Holt, 2001). For this study, the bullying and victimization scales were used and the fighting scale was not. It is important to note that the direction of the bullying behavior is not of interest in this dissertation, rather, the frequency of behaviors. For instance, investigating who is perpetrating the behavior and who is victimized is beyond the scope if this study.

The Bullying Scale contains six items specifying bullying behaviors including teasing, social exclusion, name-calling, and rumor spreading such as *I teased other students, I upset other*

students for the fun of it, I excluded others from my clique (group) of friends, I spread rumors about others, I helped harass other students, and I started arguments or conflicts. Higher scores indicate higher self-reported bullying. Espelage and Holt (2001) found a Cronbach alpha coefficient of .87 and the Bullying Scale was strongly correlated ($r = .65$) with the Youth Self-Report Aggression Scale (Achenbach, 1991), suggesting convergent validity. These researchers also found that the Bullying Scale was not highly correlated with the Victimization Scale ($r = .25$), providing evidence of discriminant validity. For this particular sample, score reliability demonstrated a Cronbach alpha coefficient of $\alpha = .81$. Evidence of score validity revealed the Bullying Scale was moderately correlated ($r = .51$) with Internet Harassment Perpetration scale, suggesting convergent validity, and only slightly correlated ($r = .35$) with the Victimization Scale.

The Victimization Scale contains three items assessing victimization by peers such as *Other students made fun of me, Other students picked on me,* and *Other students called me names.* Higher scores indicate more self-reported victimization. Factor loadings ranged from .85 through .92 for these three items, which accounted for 6% of the variance, and a Cronbach alpha coefficient of .88 was obtained (Espelage & Holt, 2001). For this particular sample, score reliability demonstrated a Cronbach alpha coefficient of $\alpha = .89$. Evidence of score validity revealed the Victimization Scale was moderately correlated ($r = .56$) with Internet Harassment Victimization scale, suggesting convergent validity, and not highly correlated ($r = .19$) with the Bullying Scale.

The Internet Harassment Perpetration scale (Ybarra, Espelage, & Mitchell, 2007) contains three items assessing cyber aggression perpetration including [I] *made a rude or mean comments to anyone online,* [I] *spread rumors about someone, whether they were true or not,*

and [I] *made a threatening or aggressive comments to anyone online.* For all items, students were asked to indicate how often, in the past 12 months, they have engaged in a specific behavior online, through text, or through social media sites. All of these measured variables were answered on a four-point Likert-type scale with 1 (*never*), 2 (*1 to 3 times)*, 3 (*4 or 9 times*), 4 (*10 or more times*) for a total score range from 3 - 12. Higher scores indicated more self-reported aggression perpetration. Ybarra and her colleagues (2007) reported a Cronbach alpha coefficient of .82. For this particular sample, score reliability demonstrated a Cronbach alpha coefficient of α = .81. Evidence of score validity revealed the Bullying Scale was moderately correlated (*r* = .51) with Internet Harassment Perpetration scale, suggesting convergent validity, and only slightly correlated (*r* = .35) with the Victimization Scale.

The Internet Harassment Victimization scale (Ybarra, et al., 2007) contains three items assessing cyber victimization by peers including *Someone made a rude or mean comment to me, Someone spread rumors about me, whether they were true or not,* and *Someone made a threatening or aggressive comment to me*. For all items, students were asked to indicate how often, in the past 12 months, has a specific behavior happened to them online, through text, or through social media sites. All of these measured variables were answered on a four-point Likert-type scale with 1 (*never*), 2 (*1 to 3 times)*, 3 (*4 or 9 times*), 4 (*10 or more times*) for a total score range from 3 - 12. Higher scores indicated more self-reported aggression perpetration. A Cronbach alpha coefficient of α = .79 was obtained (Ybarra, et al., 2007). Cronbach alpha coefficient for this particular sample were α = .87.

School Connectedness

The latent construct of school connectedness was measured using four items from Goodenow's (1993) Psychological Sense of School Membership (PSSM) Scale including *The*

teachers here respect me, I am treated with as much respect as other students are, There is at least one teacher or other adult in this school I can talk to if I have a problem, and *I feel proud of belonging to this school.* Higher scores indicate more perceived connection to school. Goodenow reported acceptable internal consistency reliability ranging from .77 to .88 for suburban and urban samples. Response options were on a 4-point Likert-type scale ranging from 1 (*strongly disagree*) to 4 *(strongly agree)* for a total score range from 4 - 16. For this particular sample, score reliability demonstrated a Cronbach alpha coefficient of $\alpha = .69$. Evidence of score validity revealed the PSSM (or School Connectedness) Scale was slightly correlated ($r = -.19$) with Internet Harassment Perpetration scale, suggesting discriminant validity.

Table 4

Measures Selected From the 2014-2016 Preventing Youth Violence and Teen Dating Violence Survey for the Current Study

Scale (Author)	# of Items	Description	Construct	Cronbach Alpha
University of Illinois Bully Scale (Espelage & Holt, 2001)	6	Measures bullying behavior (including physical, verbal, and social aggression), over the 30 days prior to being surveyed	Bullying	.81
University of Illinois Victimization Scale (Espelage & Holt, 2001)	3	Measures victimization (including physical, verbal, and social aggression), over the 30 days prior to being surveyed	Victimization	.89
Internet Harassment Perpetration Scale (Ybarra, Espelage, & Mitchell, 2007)	3	Measures internet aggression perpetrated by the participant	Cyber Aggression	.75

(continued)

Table 4 *(continued)*

Scale (Author)	# of Items	Description	Construct	Cronbach Alpha
Internet Harassment Victimization Scale (Ybarra, Espelage, & Mitchell, 2007)	3	Measures internet victimization experienced by participant	Cyber Victimization	.87
Psychological Sense of School Membership Scale (Goodenow, 1993)	4	Measures perceived connection to school reported by participant	School Connectedness	.69

Procedures

The Institutional Review Board (IRB) of the University of Illinois Urbana-Champaign initially granted approval of the study from which this data is being used (UIUC IRB #14115). The University of Michigan IRB determined the study met the criteria for exempt status due the use of existing data in which participants cannot be identified.

Survey Administration

The school districts and the University of Illinois Institutional Review Board approved a waiver of active consent of parental permission. A letter notifying parents of the survey were sent to all 6th and 7th grade students enrolled at the middle schools prior to data collection, and parents were asked to sign and return the consent form only if they wished that their child would not participate in the study. However, following this mailing, School A chose to require active consent of parental permission instead, which likely influenced the participation rate for School A. The baseline data were collected during the final week of August 2014 through the first three weeks of September 2014. Participants who did not attend school on the days the survey was administered were not surveyed. Also, students who were educated in alternative settings in the district such as alternative academic schools were not surveyed.

Multiple safeguards were implemented to protect students from being negatively affected by the content of the questionnaires. First, at each location for student data collection, an assent script was read to students whose parents had consented to their participation. After this script was read, students indicated their consent by beginning the electronic questionnaire and had the opportunity to indicate that they did not want to participate in the study without penalty. Additionally, at every survey administration, an appropriately trained study representative was in the room to provide an immediate response to a participant and direct him/her to appropriate resources should they feel uncomfortable with the content. Finally, students were told they could stop the survey at any time should they feel upset by the questions.

The surveys were administered electronically in August and September of 2014. Students were assured that their answers would remain anonymous, as their name would be converted to a number as soon as the surveys were collected and that no teachers or parents would have access to their answers. Those students who elected not to participate or whose parents did not want them to participate had consent forms sent back were removed and went to another supervised classroom.

Data Analysis

Several procedures were used to analyze the data from collected in this study. This section details the preliminary statistical analyses and primary analyses for answering the four research questions.

Power Analysis. Prior to data analysis, I determine the sample size required for a structural equation modeling (SEM) analysis. I considered both the adequacy for correct parameter estimation and for desired level of statistical power (.80). Using the null model (See Figure 3.2), the degrees of freedom were calculated by subtracting the parameters of the model

(33) from the sample moments (105) for a total of 72 degrees of freedom. According to

MacCallum, Browne, and Sugawara (1996) and rounding down to 70 degrees of freedom, a

sample size of 200 would yield 87.7% power and a sample size of 400 would yield 99.7% power.

The minimum sample size to achieve 80% power (for a test of close fit) would be 168.

Additional sample size considerations are needed to perform multi-group analysis. Large

sample sizes are needed to perform a multi-group analysis because the initial step of the analysis

estimates the proposed model freely for each group. There needs to be sufficient power within

each group to make the group comparisons meaningful (Acock, 2013). Acock cautions

researchers when performing multi-group analysis with significantly unequal sample sizes

between groups. Notably, the full sample is pooled when the paths are constrained in the

multiple group analysis and these pooled estimates will be weighted to reflect the larger of the

two groups. This may potentially yield misleading values.

Preliminary Data Analysis. All preliminary data analyses were conducted in Statistical

Package for the Social Sciences (SPSS for Mac 22.0). Using SPSS 22.0, I created a base dataset

from the raw data received from Espelage. After the data file was prepared for analysis,

procedures for data screening were conducted. These procedures included examining the data for

multivariate normality, linearity, and collinearity. No violations were present in the dataset.

Additional decisions regarding outliers and missing data were made during this stage of data

analysis. For instance, all variables were screened to detect potential response bias and patterns

of missingness. Univariate outliers were not dismissed from the dataset as these participant's

self-reported behaviors may indicate chronic bullying perpetration, peer victimization, or

perceptions of connection to school. Upon screening for multivariate normality, no serious

violations associated with SEM protocols were detected. More information about the full

information maximum-likelihood (FIML) algorithm used to handle missing data for primary

analyses appear in Chapter 4. The preliminary analyses conducted and procedures for meeting

the assumptions of SEM are listed in Table 5.

Table 5

Preliminary Statistical Analyses

Procedure	Analysis
Data Cleaning	- Check descriptive data for categorical variables - Check descriptive data for continuous variables

Data Screening	- Sample size and power analysis
	- Examine distributions
	- Check collinearity
	- Check for outliers
	- Missing data
	- Univariate Normality: Assess normality (skewness and kurtosis values) of continuous variables
	- Transform data, if necessary
	- Score reliability – Cronbach's alpha
	- Score validity
	- Estimate bivariate Pearson Product-Moment Correlation matrix
	- Check for relative variances
	- Check for potential covariates/control variables
	  - School
	  - Gender
	- Dummy code categorical grouping variables

Primary Data Analysis. Stata 13.1 was used for data analysis as it has the ability to run

Generalized SEM models with endogenous variables of different types (binary, poisson, etc.) and

can also run SEM models in the presence of multiple-imputed data (Acock, 2013). Several

analytic procedures were conducted to examine the four research questions. Primary statistical

analyses listed by research question appear in Table 6.

Table 6

Primary Statistical Analyses and Items for Research Questions

Research Question(s)	Measures	Analysis
1. Frequencies of bullying behaviors and peer victimization for music ensemble grouping	- Observed variables for physical, verbal, social, and cyber perpetration and victimization	- Descriptive statistics (*M, SD,* Range) - Independent Samples *t*-test for music ensemble and non-ensemble grouping
2. Frequencies of connectedness for music ensemble grouping	- Observed variables for school connectedness	- Descriptive statistics (*M, SD,* Range) - Independent Samples *t*-test for music ensemble and non-ensemble grouping
3. Effect of music ensemble participation	- Music ensemble participation (Group) - Bully Perp (Factor) - Peer Victim (Factor) - School Connectedness (Factor)	- FIML CFA by location of behavior (face-to-face, cyber)
4. Does school connectedness mediate the relationship between music ensemble participation and bullying?	- Music ensemble participation (PV) - School Connectedness (MedV) - Bully Perp (Outcome) - Peer Victim (Outcome)	- Structural Equation Model with Mediation by location of behavior (face-to-face, cyber)

Note: Group = Grouping Variable; Factor = Outcome Variable in Factor Analytic Procedure; PV = Predictor Variable; MedV = Mediating Variable

Research Questions One and Two. Studies in music education have yet to compare

perceptions of connectedness and bullying between adolescents enrolled in music ensembles

with their non-ensemble peers. In order to answer these research questions, the researcher

constructed a descriptive table to display the means, and standard deviations for the measured

variables by grouping (music ensemble and non-ensemble adolescents). Moreover, additional

independent samples *t*-tests were conducted to compare the means and investigate statistical difference. Finally, the correlations among the latent constructs are presented in a separate table.

Research Questions Three and Four. These research questions require the use of Structural Equation Modeling. Structural Equation Modeling (SEM) is a statistical methodology used across many disciplines to fit and test the plausibility of a hypothesized model of relationships between many variables (Acock, 2013). These variables can include variables that are observed and measured in a dataset as well as variables that are latent, or unobserved. For instance, latent variables in SEM generally correspond to hypothetical constructs (Kline, 2011). An example is the construct of school connectedness. There is no single, definitive measure of school connectedness. Instead, researchers use different types of observed variables such as student belonging, teacher trust, and teacher respect, to assess various facets of school connectedness. Variables determined by other variables are commonly called dependent variables while in SEM the term "endogenous" is used. Exogenous variables are similar to independent variables in that they are not directly influenced by any other variable in the model, however may have correlations present between them. Both observed and latent variables can be both endogenous and exogenous.

Full SEM models can be thought of as having two components, a measurement, confirmatory factor analysis (CFA), and a path, or structural component (Kline, 2011). The CFA component allows for the measurement of shared variability of a set of items, also known as a factor indicator, which correspond to the unobserved factor. For example, the CFA component examines the constructs investigated and demonstrates measured equivalence between groups (music ensemble and non-ensemble peers). To examine the three-factor model, a full information

maximum-likelihood (FIML) estimation algorithm (Collins, Shafer, & Kam, 2001; Enders, 2009) was selected in Stata 13.1.

Using CFA allows for the assessment of differences in latent space. Presented in Figure 3.1 is an example of a CFA model with three factors and 13 indicators. This model represents the hypothesis that (1) six indicators (Tease, Upset, Exclude, Rumor, Harass, Conflict) measure factor BullyPerp, (2) three indicators (MadeFun, PickedOn, NameCall) measure factor PeerVic, (3) four indicators (Belong, PeerResp, TeachResp, TeachComf) measure factor SchoolCon, and (4) the BullyPerp and PeerVic factors covary. The results of a CFA include estimates of factor variances and covariances, loadings of the indicators on their respective factors, and the amount of measurement error for each indicator (Kline, 2011). This process is necessary to confirm the hypothesized constructs indicate convergent and discriminant validity. Kline (2011) posits:

> If the researcher's model is reasonably correct, then one should see the following pattern of results: (1) all indicators specified to measure a common factors have relatively high standardized factor loadings on that factor (e.g., > .70); and (2) estimated correlations between factors are not excessively high (e.g., < .90 in absolute value) (p. 116).

In sum, if the results of the CFA do not confirm the a priori hypotheses, the measurement model may need revision.

The next component in an SEM is to examine the structural model. Figure 3.2 displays the path model representation of multiple-group analysis used in this dissertation. It graphically represents the hypothesized relationship between participant levels of connectedness and frequencies of perpetrating bullying behaviors and experiencing peer victimization. The path representation is helpful in understanding the relationship between the variables of interest in this dissertation study. For instance, the extant literature reviewed in Chapter 2 examined the

relationship between connectedness and bullying behaviors of adolescents. The theoretical path model represented from the previous research is the basis for Figure 3.2. Figure 3.3 displays the path model representation of mediation analyses for bullying and peer victimization. Figure 3.4 displays the path model representation of mediation analyses for cyberbullying and cyber victimization behaviors.

When conducting the structural model, several statistics need to be assessed. First, the model identification and scaling was conducted. It is necessary to scale factor variables to ensure identification of the model. A model is identified if there is a unique estimate of the value for each parameter in the model (Acock, 2013). For instance, researchers desire a unique solution to the model given a set of data. Oftentimes, identification is determined by the number of input coefficients (known values) to estimate each parameter. A necessary condition of identification is that the model has zero or more degrees of freedom (input coefficients minus parameters to be estimated). The model found in Figure 3.2 has 72 degrees of freedom indicating an over-identified model. Second, the chi-square statistic was examined to assess the overall model fit. While chi-square is known to be sensitive to sample size, a p-value above a specified alpha, usually .05, is often considered an acceptable fit (Kline, 2011). Additionally, several relative fit indices were examined. Acock (2013) suggests examining further fit indices in predicting model fit because they are less dependent on sample size. For this dissertation, the Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RSMEA) were used. The CFI informs how the fitted model is compared to a null model that assumes there is no relationship among the measured items and the CFI value represents how much better the fitted model does that the null model. Where CFI values larger than .9 or especially .95 are considered an acceptable fit, RSMEA scores above .1 are considered a poor fit, between .08 and .1 a reasonably

close fit, between .05 and .08 an acceptable fit, .01 and .05 a close fit, and .00 an exact fit

(Acock, 2013; Hu & Bentler, 1999). RSMEA determines if there are any unnecessary parameters

in the fitted model. For instance, if the model is too complex, the RSMEA will not be acceptable.

Multiple-group SEM analyses may indicate that music ensemble and non-ensemble participants

differ with the association between perceptions of school connectedness and bully perpetration

and peer victimization. Procedures associated with mediation analysis may be utilized to

investigate if feelings of school connectedness mediate the relationship between music ensemble

participation and bullying perpetration or peer victimization.
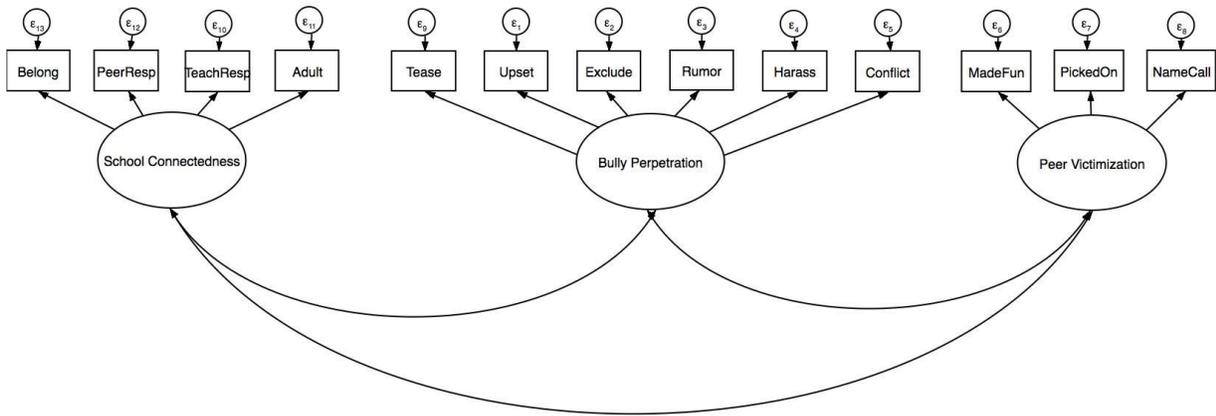
Figure 3.1. Multiple-group confirmatory factor analysis.
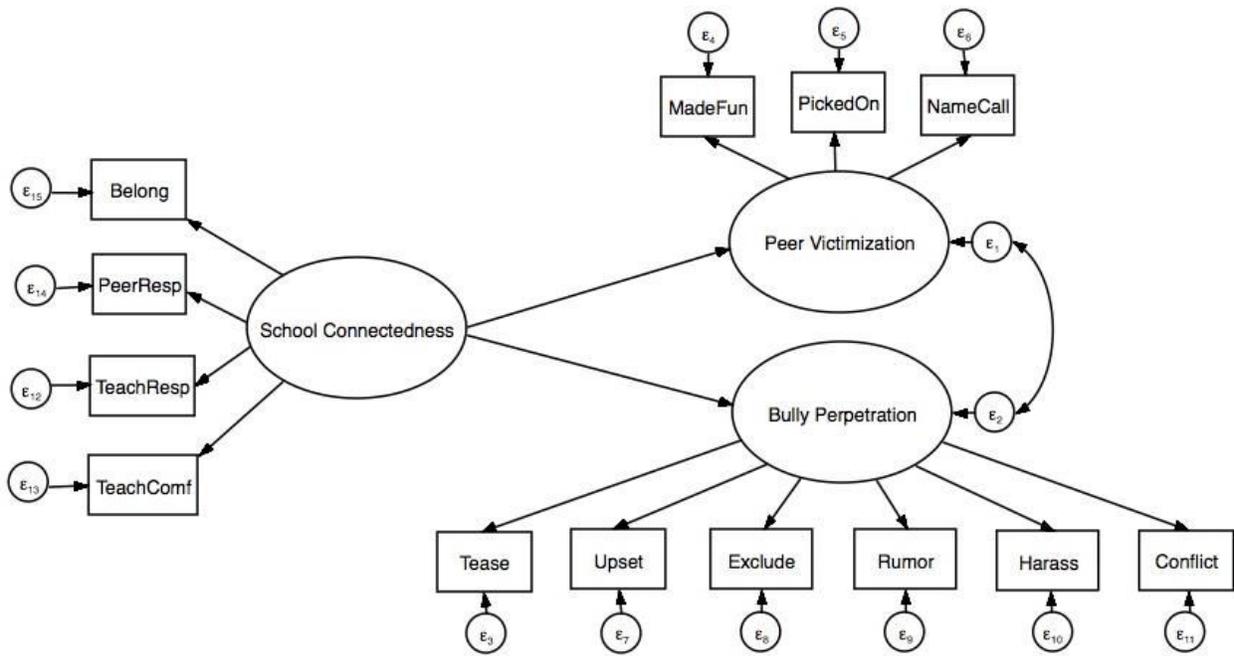
Figure 3.2. Theoretical structural equation model.
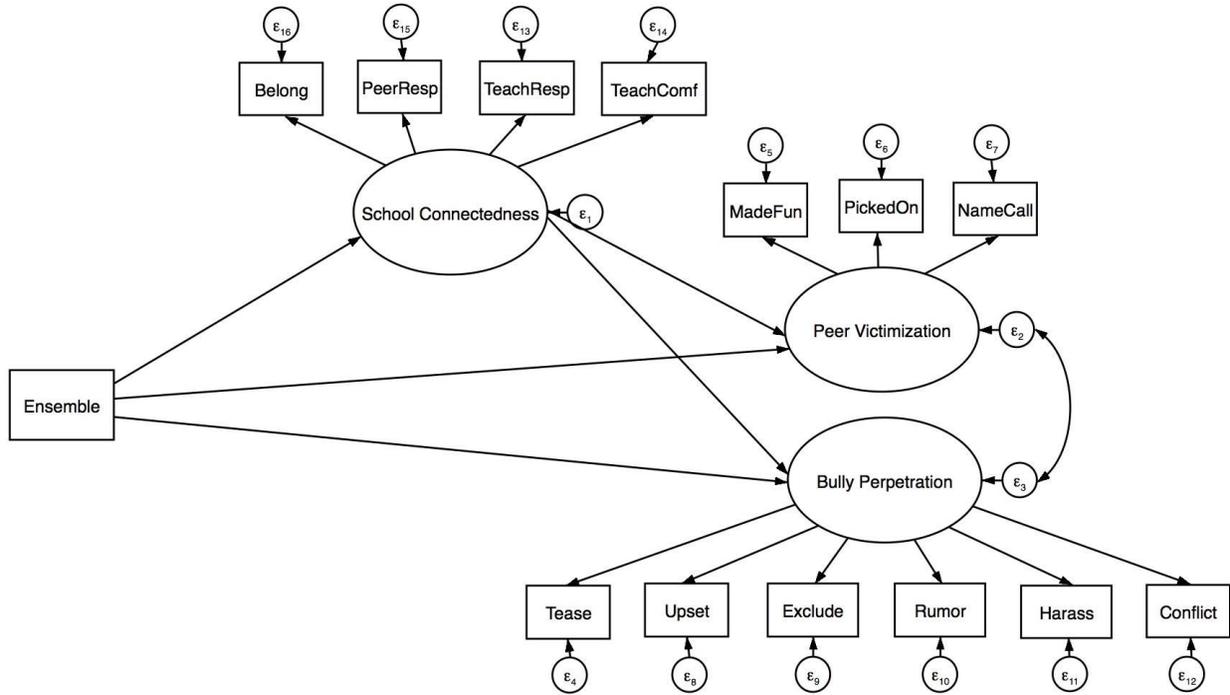
Figure 3.3. Path model representation of mediation analysis.
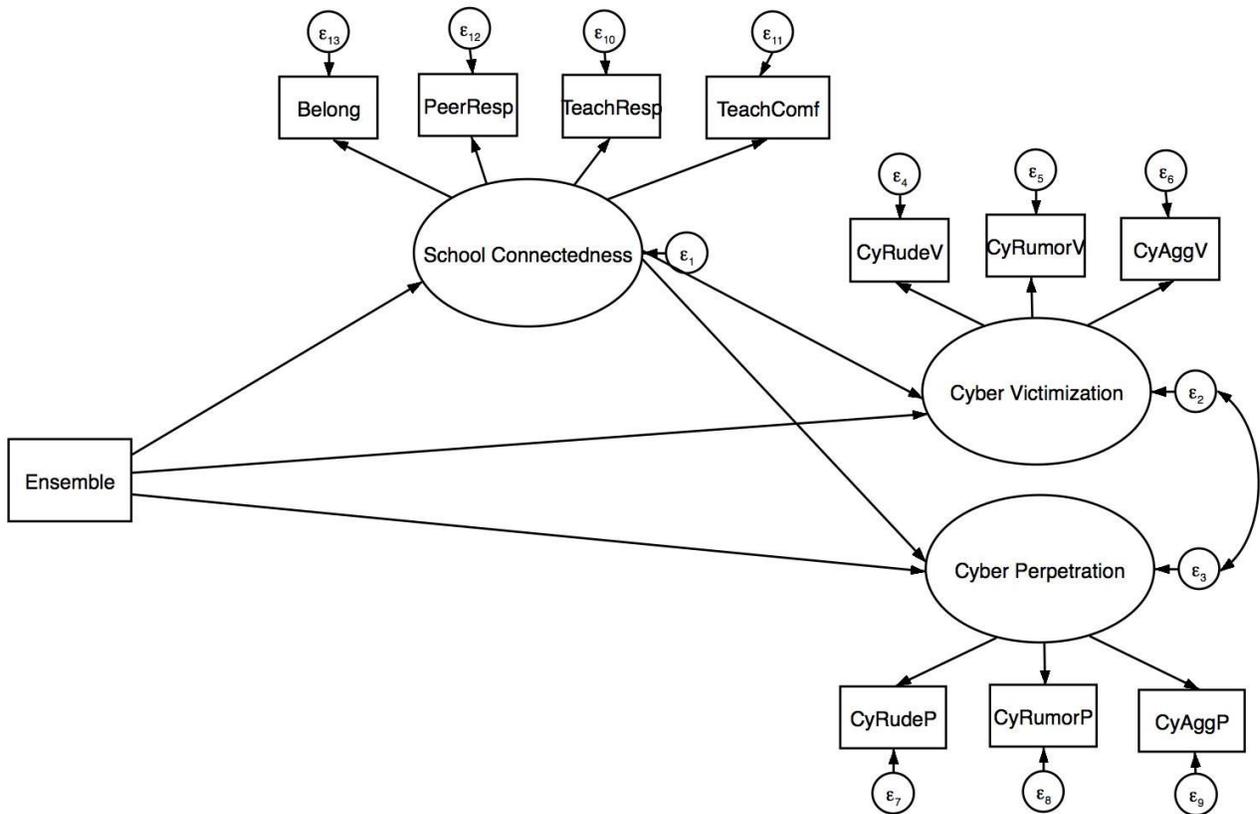
Figure 3.4. Path model representation of mediation analysis for cyber behaviors.

Chapter Summary

The purpose of this dissertation study was to compare the perceptions of connectedness and bullying behaviors from adolescent respondents enrolled in middle school music ensemble class with their non-ensemble peers. Using a baseline data from an in progress study, I investigated the effect of music ensemble participation on the relationship between a participant's strength of school connectedness and bullying behaviors. Data analytic strategies for describing the dataset were conducted before fitting a multi-group SEM between music and non-music students. Fitting a SEM with the current dataset shows the effect middle school music ensemble participation has on the relationship between school connectedness and bullying behaviors. Known covariates (e.g., gender, school building) were included in the model.

In the next chapter, results of data analysis are presented. These analyses include sample demographics; missing data procedures; descriptive data about participant self-reported frequencies of bullying behavior and perceptions of connectedness; summary statistics of measured variables; information about model convergence; recommended data-model fit indices; comparisons for competing models; information about post hoc model re-specification; and standardized and unstandardized parameter estimates (R^2 values for key structural outcomes). Chapter 5 focuses on discussing and interpreting the results of the data analysis including a summary of the overall study findings and implications for the music education profession.

Chapter IV

RESULTS

The purpose of this study was to examine the relationship between school connectedness and youth aggression with middle school students enrolled and not enrolled in a school-based music ensemble. Data were examined to assess whether factors related to bullying could be measured equivalently between music ensemble and non-ensemble participants. To account for possible school and community differences, data were preliminarily examined by school building and descriptive statistics were calculated separately for each school. Comparative analyses were conducted to determine differences in latent means and predictors related to bullying. The following chapter will detail the analyses conducted to address the four research questions of this study. The four research questions are:

1. What is the frequency of bullying behaviors and peer victimization as self-reported by middle school students enrolled in music ensemble classes and not enrolled in music ensemble classes?

2. What is the level of school connectedness as self-reported by middle school students enrolled in music ensemble classes and not enrolled in music ensemble classes?

3. To what extent, if any, does participation in a music ensemble affect the relationship between connectedness and bullying perpetration/victimization for middle school music ensemble and non-ensemble students?

4. Does school connectedness mediate the relationship between school-based music ensemble participation and self-reported bullying behaviors and peer victimization?

Specifically, this chapter explains and displays the following: sample demographics, information about missing data, descriptive statistics about perceived connectedness and self-reported bullying perpetration/peer victimization, confirmatory factor analysis equivalence model(s), and mediation effect of music ensemble participation models.

I begin with descriptions of the sample. Notably, "music ensemble students" in this study are defined as those students who self-reported current enrollment in at least one curricular music ensemble course. "Non-ensemble" students in this study are defined as those students who self-reported no enrollment in a music ensemble course. Students self-reporting enrollment in non-performance music courses (e.g., theory, appreciation, creative arts) were included in the current sample within the non-ensemble group.

Self-reported demographic information was collected for age, gender, grade, ethnicity, grade point average (GPA), and music class participation. Eleven cases were excluded from the sample because the participants did not answer the music class variable, yielding a total sample of 470 adolescents. Demographic characteristics of the sample appear in Table 7.

Table 7

Demographic Characteristics of the Participants

Characteristic	School A (*n* = 119)		School B (*n* = 351)		Total Sample (*N* = 470)	
	n	%	*n*	%	*n*	%
Gender						
Male	59	49.6	181	51.6	240	51.1
Female	60	50.4	170	48.4	230	48.9
Age						
10 years	0	0	9	2.6	9	1.9
11 years	34	28.6	159	45.3	193	41.1
12 years	58	48.7	157	44.7	215	45.7
13 years	23	19.3	24	6.8	47	10.0
14 years	4	3.4	1	0.3	5	1.1
15 years	0	0	1	0.3	1	0.2
Ethnicity						
Native American	4	3.5	8	2.3	12	2.6
African American	42	36.5	146	41.6	188	40
Asian American	1	0.9	47	13.4	48	10.2
Hispanic	7	2.6	12	3.4	19	4.0
White	52	45.2	94	26.8	146	31.1
Pacific Islander	0	0	1	0.3	1	0.2
Other	0	0	0	0	0	0
Multiple Races	13	10.9	25	7.1	38	8.1
No Response	0	0	18	5.1	18	3.8
Grade in School						
Sixth	56	47.1	186	53.0	242	51.5
Seventh	63	52.9	165	47.0	228	48.5

(continued)

Table 7 *(continued)*

Characteristic	School A		School B		Total Sample	
	n	%	*n*	%	*n*	%
Overall GPA						
Mostly A's (90-100)	30	25.4	117	33.5	147	31.5
Mostly A's and B's (85-90)	51	43.2	104	29.8	155	33.2
Mostly B's (80-84)	10	8.5	18	5.2	28	6.0
Mostly B's and C's (75-79)	13	11.0	29	8.3	42	9.0
Mostly C's (75-79) and below (D's and F's)	6	5.0	8	2.3	14	3.0
Not sure	8	6.8	73	20.9	81	17.3
Music Class Participation						
No Music Class	50	42.0	199	56.7	249	53.0
Band	29	24.4	61	17.4	90	19.1
Choir	22	18.5	31	8.8	53	11.3
Orchestra	12	10.1	23	6.6	35	7.4
Non-performance	6	5.0	37	10.5	43	9.1

Differences between Adolescents Enrolled and Not Enrolled in a Music Ensemble

Preliminary analyses were conducted to explore differences in demographic characteristics between ensemble and non-ensemble participants. To investigate differences between adolescents enrolled and not enrolled in a music ensemble, χ^2 statistics were calculated. Overall, there were statistically significant differences between the ensemble and non-ensemble participants for all demographic variables, indicating that the samples are not similar. Table 8 displays the results from these calculations. Effect size calculations revealed small effects for most demographic variables (Cohen, 1988). However, the χ^2 statistic revealed a significant

association between ethnicity and status of music ensemble participation, χ^2 (6, $n = 448$) =

48.233, $p = .000$, *Cramer's V* = .33. According to Gravetter and Wallnau (2004), this is a large

effect size that demonstrates 33% of the variance in music ensemble participation is explained by

self-reported ethnicity. In other words, music ensemble participation was strongly associated

with the participant's self-reported ethnicity. Descriptive statistics revealed that ethnicity was

relatively proportional for student's enrollment in a music ensemble, but Asian-American

adolescents were overrepresented in the sample of students enrolled in a music ensemble.

Conversely, African-American students were underrepresented in the sample of students enrolled

in a music ensemble. Descriptive statistics for participants appear in Table 9.

Table 8

Difference Tests for Variables Across Ensemble Participation

Demographic Variables	χ^2	t	df	Effect Size
Gender	3.909*	-	1	$\phi = -.01$
Age	-	2.563*	468	$\eta^2 = .014$
Ethnicity	48.233**	-	6	$V = .33$
Grade	6.943**	-	1	$\phi = -.13$
GPA	-	2.462*	395.26	$\eta^2 = .013$

Note: Cohen (1988) proposed standards for interpreting Cramér's *V.* These values for $df = 3$ are
.06 (small effect), .17 (medium effect), and .29 (large effect).
* represents significance detected at the $p < .05$ level
** represents significance detected at the $p < .01$ level

Table 9

Descriptive Statistics for Participants, Including Music Ensemble and non-Ensemble

Demographics	Music Ensemble ($n = 178$)		non-Ensemble ($n = 292$)	
	n	%	*n*	%
Gender				
Male	80	44.9	160	54.8
Female	98	55.1	132	45.2
Age				
10 years	5	2.8	4	1.4
11 years	83	46.6	110	37.7
12 years	78	43.8	137	46.9
13 years	9	5.1	38	13.0
14 years	2	1.1	3	1.0
15 years	1	0.6	0	0
Ethnicity				
Native American	2	1.2	10	3.6
African American	49	29.2	139	49.6
Asian American	36	21.4	12	4.3
Hispanic	3	1.8	12	4.3
White	64	38.1	82	29.3
Pacific Islander	1	0.6	0	0
Other	0	0	0	0
Mixed Race	13	7.7	25	8.9
No Response	10	5.6	12	4.1
Grade in School				
Sixth	106	59.6	136	46.6
Seventh	72	40.4	156	53.4

(continued)

Table 9 *(continued)*

Demographics	Music Ensemble		non-Ensemble	
	n	%	*n*	%
Overall GPA				
Mostly A's (90-100)	71	40.1	76	26.2
Mostly A's and B's (85-90)	55	31.1	100	34.5
Mostly B's (80-84)	9	5.1	19	6.6
Mostly B's and C's (75-79)	13	7.3	29	10.0
Mostly C's (75-79) and below (D's and F's)	5	2.8	9	3.1
Not sure	25	13.6	59	19.6

Missing Data

Overall, 23 (88.5%) of the 26 measured variables included some missing data, with 163 (34.7%) out of the 470 respondents having some level of missingness. However, the missingness of the total sample was relatively low, with only 3.7% (403) missing from the measured items (10,810) by total number of respondents. Overall, missingness per item ranged from 0 to 7%. Luengo and colleagues (2010) suggest that missing data between 1 and 5% are manageable. Only three measured variables had missingness that just exceeded 5%, including: *teachers here respect me* (7%), *I excluded other students from my clique (group) or friends* (5.7%), and *Other students made aggressive or threatening comments to anyone [while online, through text, or through social media sites]* (5.1%). Moreover, utilizing a full-information maximum likelihood approach to handle missing data in a SEM analysis accommodates for respondent-levels of

missingness with data (Finkbeiner, 1979). Therefore, a multiple imputation procedure was not necessary for the current sample.

<div align="center">**Research Question One**</div>

The purpose of this research question is to assess the frequency of bullying behaviors and peer victimization, face-to-face and on cyber platforms as self-reported by middle school students enrolled and not enrolled in a school-based music ensemble. First, I will present results from descriptive statistics for the Bullying and Victimization Scales measuring the prevalence of face-to-face bullying interactions followed by the results from descriptive statistics for the Internet Harassment Perpetration and Victimization Scales measuring the prevalence of bullying interactions on cyber platforms. I will conclude this section of the chapter with a summary of the results.

Bullying Behaviors and Peer Victimization

Descriptive statistics for the self-reported Bullying and Victimization Scales for the music ensemble/non-ensemble grouping are presented in Table 10. Espelage and Holt (2001) recommend that participant responses be summed to create aggregate scale scores. Possible participant scale scores on the "Bully Scale" range from 6 – 30, and from 3 -15 on the "Victimization Scale." Overall, the mean averages for the sample were relatively low scores on the Bully Scale, indicating relatively few instances of bullying reported by the participants ($M =$ 7.99 $SD =$ 3.26); however, scores on the peer victimization scale indicate that participants reported more prevalence of these victimization behaviors ($M = 6.34$ $SD = 3.67$). Both music ensemble ($M = 7.59$ $SD = 2.80$) and non-ensemble students ($M = 8.24$ $SD = 3.49$) reported relatively low levels of bullying during the past 30 days prior to data collection; however, there was a small statistically significant difference in bullying between music ensemble and non-

ensemble students, t (399.25) = -2.107, p < .05 (two-tailed), η^2 = .01. On average, participants

reported perpetrating bullying behaviors once in the 30 days prior to data collection. When

Victimization Scale scores for music ensemble and non-ensemble groups are examined

separately, music ensemble (M = 6.31 SD = 3.62) and non-ensemble students (M = 6.36 SD =

3.71) reported moderately low levels of victimization. According to these average Victimization

Scale scores, participants reported experiencing at least three instances of peer victimization

during the 30 days prior to data collection. There was no statistically significant difference in

victimization between ensemble and non-ensemble students. Descriptive statistics for the

Bullying, Victimization, Internet Harassment Perpetration, and Internet Harassment

Victimization Scales appear in Table 10.

Table 10

Descriptive Statistics of Bullying and Victimization Scales for All Participants (N = 470)

Scale	Music Ensemble Participants (n = 178)		Non-ensemble Participants (n = 292)				
	M	SD	M	SD	T	df	α
Bullying Scale[a] (6 items)	7.59	2.80	8.24	3.49	-2.107*	399.29	0.83
Victimization Scale[a] (3 items)	6.30	3.62	6.36	3.70	-0.15	444	0.91
Internet Harassment Perpetration Scale[b] (3 items)	3.76	1.47	3.82	1.45	-0.39	446	0.75
Internet Harassment Victimization Scale[b] (3 items)	4.49	2.23	4.56	2.22	-0.30	441	0.87

Note: * represents significance detected at the *p* < .05 level.
[a]Scale = '1-Never' '2-1 to 2 times' '3-3 to 4 times' '4-5 to 6 times' '5-7 or more times'
[b]Scale = '1-Never' '2-1 to 3 times' '3-3 to 9 times' '4-10 or more times'

Prevalence of self-reported bullying perpetration and victimization. In order to

compare these results to previous studies (Espelage & Holt, 2001), students who scored one

standard deviation above the mean on the Bullying Scale were categorized as "bullies" and those scoring one standard deviation below the mean on the Bullying Scale were categorized as "non-bullies." Based on this categorization, 49 students in the overall sample were classified as bullies, with 10 of these bully participants enrolled in a school-based music ensemble and 39 of these bully respondents not enrolled in an ensemble. A Chi-square test for independence (with Yates Continuity Correction) indicated a moderately small significant association between chronic bully status and school-based music ensemble participation, χ^2 (1, $n = 245$) = 6.174, p = .013, ϕ = .17. Similarly, 71 participants were classified as chronic victims, with 25 of these chronic victim respondents enrolled in a school-based music ensemble and 46 of these chronic victim respondents not enrolled in an ensemble. A Chi-square test for independence indicated no significant association was found between chronic victim status and school-based music ensemble participation.

Internet Harassment Perpetration and Victimization

Participant responses for survey scales related to Internet interactions were also summed to create aggregate scale scores, as recommended by Ybarra and her colleagues (2007). Possible participant scale scores on Internet Harassment Scales range from 3 – 12. Mean averages of total population data indicate relatively few instances of Internet harassment perpetration (M = 3.80 SD = 1.45); however, Internet harassment victimization scale scores (M = 4.53 SD = 2.22) indicate more prevalence of these behaviors across the total sample. When Internet Harassment Perpetration Scale scores for music ensemble and non-ensemble groups are examined separately, both music ensemble (M = 3.76 SD = 1.47) and non-ensemble students (M = 3.81 SD = 1.45) reported low levels of Internet harassment perpetration or cyber bullying. The mean scale scores, in relation to the response options, indicate that participants may have perpetrated Internet

harassment behaviors once in the past 12 months prior to data collection. Similarly, both music

ensemble ($M = 4.49$ $SD = 2.23$) and non-ensemble students ($M = 4.56$ $SD = 2.22$) reported

relatively low levels of Internet victimization or cyber victimization. The mean scale scores

indicated that participants might have experienced two or more instances of Internet harassment

victimization in the past year prior to data collection. Overall, there was not statistically

significant difference in Internet Harassment Perpetration and Victimization between participants

enrolled in a music ensemble or not.

Prevalence of self-reported Internet harassment perpetration and victimization.

Based on this categorization outlined above (Espelage & Holt, 2001), 38 respondents (16

enrolled in a school-based music ensemble and 22 not enrolled in an ensemble) were identified

as chronic perpetrators of Internet harassment behaviors within the past year prior to data

collection. Twenty-four respondents (11 enrolled in a school-based music ensemble and 13 not

enrolled in an ensemble) self-reported as chronic victims of Internet harassment within the past

year prior to data collection. Chi-square tests for independence indicated no significant

differences between ensemble and non-ensemble groups according to their classification as

either a chronic cyberbully or cybervictim.

Summary of Research Question One

To summarize, relatively low levels of bullying perpetration, peer victimization, Internet

harassment perpetration, and victimization were reported by the participants. A statistically

significant difference in bullying was found between groups. Results revealed that non-ensemble

students in this sample perpetrate aggressive behaviors, on average, more frequently than do

music ensemble students. Although the participants reported relatively few instances of bullying

perpetration, experiences being victimized by peers were reported more frequently in the past 30

days prior to data collection than were experiences perpetrating these behaviors. Non-ensemble students also reported slightly higher mean scores on the Internet Harassment Perpetration and Victimization Scales than music ensemble students; however, no statistical difference between ensemble and non-ensemble students was displayed.

Overall, this sample of adolescents ($N = 470$) reported relatively low levels of perpetrating bullying behaviors; however, a weak statistical difference was detected between those students enrolled or not enrolled in a music ensemble. When chronic bully perpetration was further examined utilizing a Chi-square test for independence, a moderately small significant association between chronic bully status and school-based music ensemble participation was demonstrated. In other words, when accounting for differences in sample size, fewer chronic bullies from the current sample are enrolled in a school-based music ensemble than are not enrolled in a school-based ensemble.

Research Question Two

This research question addressed levels of perceived school connectedness as self-reported by middle school students enrolled and not enrolled in a school-based music ensemble. Possible participant scale scores on the Psychological Sense of School Membership (PSSM) Scale (Goodenow, 1993) ranged from 4 – 16, with higher summed scale scores indicating higher levels of connection to school. Descriptive statistics for the self-reported School Connectedness Scale, organized by music ensemble enrollment, are presented and followed by a summary of the results.

School Connectedness

Mean scores from the total sample indicate relatively high levels of school connectedness ($M = 12.89$ $SD = 2.22$). When School Connectedness Scale scores for music ensemble and non-

ensemble groups are examined separately, both music ensemble ($M = 12.91$ $SD = 2.28$) and non-ensemble participants ($M = 12.87$ $SD = 2.19$) reported similarly high levels of school connectedness. There was no statistically significant difference in school connectedness based on music ensemble participation.

Summary for Research Question Two

Adolescents self-reported relatively high levels of school connectedness. There was no statistically significant difference in school connectedness between adolescents enrolled in a school-based music ensemble and not enrolled in a music ensemble. Overall, this sample of adolescents ($N = 470$) reported similar perceptions of school connectedness.

Research Question Three

This research question addressed the relationship between school connectedness and bullying perpetration/victimization for middle school students enrolled and not enrolled in a school-based music ensemble. To first address this question, a multi-group confirmatory factor analysis (CFA) procedure was utilized to ascertain the measurement invariance on the University of Illinois Aggression Scales (Espelage & Holt, 2001), Internet Harassment Scales (Ybarra, et al., 2007), and the Psychological Sense of School Membership Scale (Goodenow, 1993). This process permits the measurement equivalences of constructs and allows for direct comparisons among groups (Little, Lindenberger, & Nesselroade, 1999). When comparing multiple groups, Little (1997) recommends assessing for strong measurement invariance (equivalence) using three steps: (a) test the model fit based on manifest indicators; (b) equate factor loadings across groups and evaluate model fit; and (c) equate intercepts across groups and evaluate model fit.

Chapter 3 displayed two hypothesized structural models. One model represented the relationship between school connectedness on bully perpetration and peer victimization and the

second model represented the relationship between school connectedness on Internet harassment

perpetration and victimization. Three latent constructs were used in one measurement model to

test measurement equivalence between music ensemble and non-ensemble students. These

constructs include: (a) school connectedness; (b) bully perpetration; and (c) peer victimization.

As found in Table 11, a range of item-level indicators was used to create each construct to

establish an over-identified model. The second measurement model included constructs

measuring: (a) school connectedness; (b) Internet harassment perpetration; and (c) Internet

harassment victimization. A range of item-level indicators used to create each construct may be

found in Table 12.

Table 11

Correlations for CFA and SEM Analyses (Bully Perpetration/Victimization Constructs)

Observed Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
School Connectedness													
1. Belong	1												
2. Peer Respect	.48	1											
3. Teacher Respect	.47	.47	1										
4. Teacher Comfort	.32	.28	.29	1									
Bully Perpetration													
5. Tease	-.09	-.12	-.19	-.03	1								
6. Upset	-.01	-.10	-.15	.01	.57	1							
7. Exclude	-.03	-.15	-.10	-.05	.38	.26	1						
8. Rumor	-.04	-.05	-.17	.03	.42	.32	.40	1					
9. Harass	-.02	-.13	-.17	.01	.44	.39	.47	.54	1				
10. Conflict	-.02	-.13	-.17	-.05	.45	.44	.34	.59	.54	1			
Peer Victimization													
11. Made Fun	-.04	-.26	-.08	.01	.17	.15	.26	.23	.14	.30	1		
12. Picked On	-.08	-.24	-.07	-.01	.22	.20	.21	.24	.16	.27	.77	1	
13. Name Call	-.04	-.28	-.05	.03	.17	.19	.27	.24	.22	.30	.80	.72	1

Note: CFA = confirmatory factor analysis, N = 395; Belong: I feel proud belonging to this school. Peer Respect: I am treated with as much respect as other students are. Teacher Respect: The teachers here respect me. Teacher Comfort: There is at least one teacher or other adult in this school I can talk to if I have a problem. Tease: I teased other students while we were in a group. Upset: I upset other students for the fun of it. Exclude: I excluded other students from my clique (group) of friends. Rumor: I spread rumors about other students. Harass: I helped harass other students. Conflict: I started (instigated) arguments or conflicts. Made Fun: Other students made fun of me. Picked On: Other students picked on me. Name Call: Other students called me names.

Table 12

Correlations for CFA and SEM Analyses (Internet Harassment Constructs)

Observed Variable	1	2	3	4	5	6	7	8	9	10
School Connectedness										
1. Belong	1									
2. Peer Respect	.48	1								
3. Teacher Respect	.47	.47	1							
4. Teacher Comfort	.32	.28	.29	1						
Internet Perpetration										
5. Cyber Rude	-.10	-.17	-.15	-.04	1					
6. Cyber Rumor	-.09	-.13	-.14	.01	.49	1				
7. Cyber Aggression	-.11	-.16	-.11	-.09	.55	.41	1			
Internet Victimization										
8. Cyber Rude	-.03	-.20	-.04	.01	.35	.25	.26	1		
9. Cyber Rumor	-.10	-.25	-.07	.06	.36	.35	.28	.68	1	
10. Cyber Aggression	-.08	-.20	-.08	.05	.33	.25	.44	.71	.64	1

Note: CFA = confirmatory factor analysis, $N = 395$; Belong: I feel proud belonging to this school. Peer Respect: I am treated with as much respect as other students are. Teacher Respect: The teachers here respect me. Teacher Comfort: There is at least one teacher or other adult in this school I can talk to if I have a problem. Cyber Rude (Perp): Made rude or mean comments to anyone. Cyber Rumor (Perp): Spread rumors about someone, whether they were true or not. Cyber Aggression (Perp): Made aggressive or threatening comments to anyone. Cyber Rude (Victim): Someone made rude or mean comments to me. Cyber Rumor (Victim): Someone spread rumors about me, whether they were true or not. Cyber Aggression (Victim): Someone made aggressive or threatening comments to me.

Results from Confirmatory Factor Analyses

Using Acock's (2013) procedure for conducting a CFA, I first examined separate models

for ensemble and non-ensemble participants to determine if the initial parameters were

acceptable. Missing data were estimated using FIML, which uses all available information, does not use listwise deletion, and assumes that the missing values are missing at random (Enders, 2009). Second, I examined a model with configural invariance (equal form invariance), which assumes all parameters (e.g., loadings, intercepts) are freely estimated (Kline, 2011). The configural model between music ensemble ($n = 178$) and non-ensemble samples ($n = 292$) demonstrated a minimally acceptable fit based on the relative fit indices ($\chi^2_{(144)} = 357.47$, $p <$ .001, CFI = 0.90, RMSEA = 0.08). According to Acock (2013), the overall fit is considered "reasonably close fitting." These results appear as Model 1 in Table 13.

Third, I fit a model that assessed for construct-level metric invariance (equal factor loadings). The purpose of this step is to assess which parameters are different, if any, for music ensemble and non-ensemble students. If the loadings are equal for both groups, then the latent variables are assumed to have the same meaning for both ensemble and non-ensemble populations. This procedure is conducted by imposing cross-group equality constraints on the factor loadings (Model 2) to determine if they are invariant between the two groups of students (Kline, 2011). For example, when factor loadings are forced to be equal between music ensemble and non-ensemble samples, is there a significant difference? The loading invariance test revealed that the model remained with the acceptable range for the appropriate fit indices ($\chi^2_{(148)} =$ 364.08, $p < .001$, CFI = 0.90, RMSEA = .079). Based on this result and the results of the likelihood ratio test between models ($\Lambda_{(4)} = 6.6$, $p = .16$), it was determined that there is not a statistically significant difference between music ensemble and non-ensemble students when factor loadings are constrained between groups. A postestimation Score test was conducted to determine which, if any, loadings were problematic. Only two loadings, *BullyPerp* → *Upset* ($\chi^2_{(1)} = 6.42$, $p < .05$) and *BullyPerp* → *Harass* ($\chi^2_{(1)} = 12.35$, $p < .001$) were reported as

significant. Therefore, music ensemble and non-ensemble students differ significantly on how important *Upset* and *Harass* are as indicators of bullying perpetration. The results are reported in Table 13. Standardized and unstandardized coefficients from the Bully Perpetration/Victimization model appear in Table 14.

Table 13

Multi-group CFA Comparison of Models Table for a Three-Factor Model of Bully Perpetration/Victimization and School Connectedness Analyzed across Samples of Music Ensemble and Non-ensemble Middle School Students

Model	χ^2 (df), p	Comparison	LRT	RMSEA (90% CI)	CFI
1. Same form	357.47(144), p < .001	-	-	0.08 (.069-.090)	.90
2. Equal loadings	364.08(148), p < .001	Model 1 vs. 2	6.60(4), p = .16	.079 (.069-.089)	.90

Note: LRT, likelihood ratio test; CI, confidence interval

Overall, the construct of bullying perpetration was not equivalently assessed between ensemble and non-ensemble groups. When the variable means for *Upset* and *Harass* indicators were compared between ensemble and non-ensemble students, *Upset* displayed little difference between the music (2.0) and non-music students (1.8) and when *Harass* was compared, there was little difference between the variable means for ensemble (2.1) and non-ensemble students (1.8). When comparing the means of *BullyPerp* between music ensemble and non-ensemble students, the mean level of bullying perpetration for non-ensemble students was fixed to 0, and the mean on *BullyPerp* for music ensemble students was 0.16, z = 0.98, p = 0.34. In other words, music ensemble students are not perpetrating bullying behaviors, on average, significantly more than non-ensemble students. Acock (2013) cautions that researchers may proceed to the structural component when only slight differences exist in factor loadings. As demonstrated by these results, I chose to proceed. In conclusion, the results from these tests imply that all of the

constraints imposed should be relaxed. Results for all models appear in Table 13 with the final

standardized models appearing in Figures 4.1 and 4.2.

Table 14

Factor Loadings from Final Measurement Model for Bullying Perpetration/Victimization

Indicator	Music Ensemble Participants	Non-ensemble Participants	Music Ensemble Participants	Non-ensemble Participants
	λ – Loading Estimates (SE)		λ – Standardized Loading Estimates (SE)	
School Connectedness				
Belonging to school	1 (0.29)	1 (0.31)	0.67 (0.55)	0.64 (0.59)
Peer respect	1.2 (0.28)	1.2 (0.36)	0.74 (0.46)	0.68 (0.54)
Teacher respect	1 (0.23)	1 (0.31)	0.72 (0.49)	0.64 (0.59)
Teacher comfort	0.77 (0.53)	0.77 (0.71)	0.46 (0.79)	0.39 (0.85)
Bully Perpetration				
Tease	1 (0.35)	1 (0.43)	0.56 (0.68)	0.60 (0.64)
Upset	1 (0.35)	1 (0.39)	0.56 (0.69)	0.61 (0.63)
Exclude	1.3 (0.73)	1.3 (0.66)	0.50 (0.75)	0.60 (0.64)
Rumor	0.99 (0.12)	0.99 (0.21)	0.74 (0.45)	0.72 (0.48)
Harass	1 (0.18)	1 (0.24)	0.68 (0.54)	0.70 (0.51)
Conflict	1.2 (0.23)	1.2 (0.25)	0.71 (0.50)	0.76 (0.43)
Peer Victimization				
Made Fun	1 (0.18)	1 (0.32)	0.95 (0.10)	0.91 (0.17)
Picked On	0.87 (0.60)	0.87 (0.58)	0.82 (0.34)	0.82 (0.33)
Name Call	0.91 (0.51)	0.91 (0.57)	0.85 (0.28)	0.83 (0.30)

$\chi^2_{(144)} = 357.47$, $p < .001$, CFI = 0.90, RMSEA = 0.08
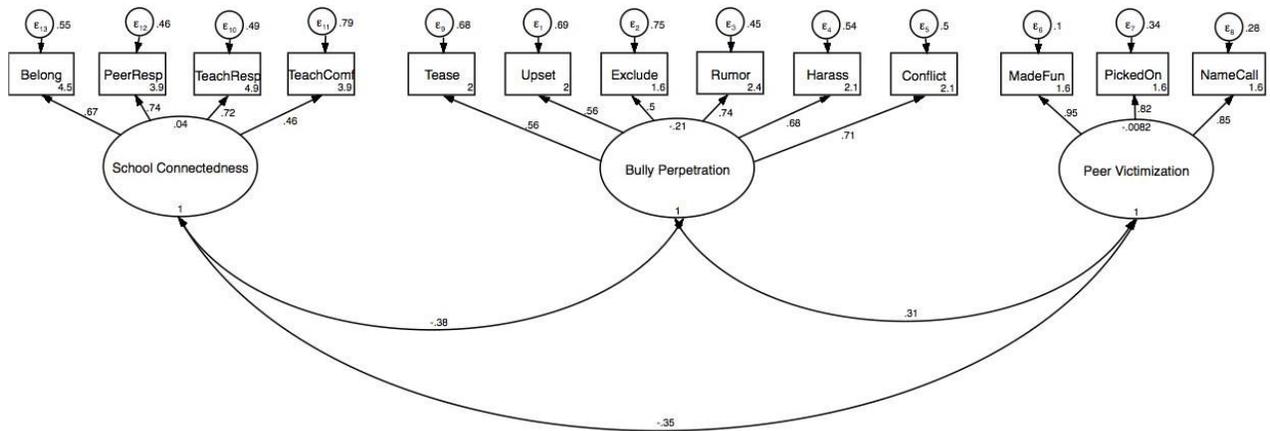
Figure 4.1 Final Invariance Model for Bully Perpetration and Victimization Multi-Group CFA (Music Ensemble Participants)
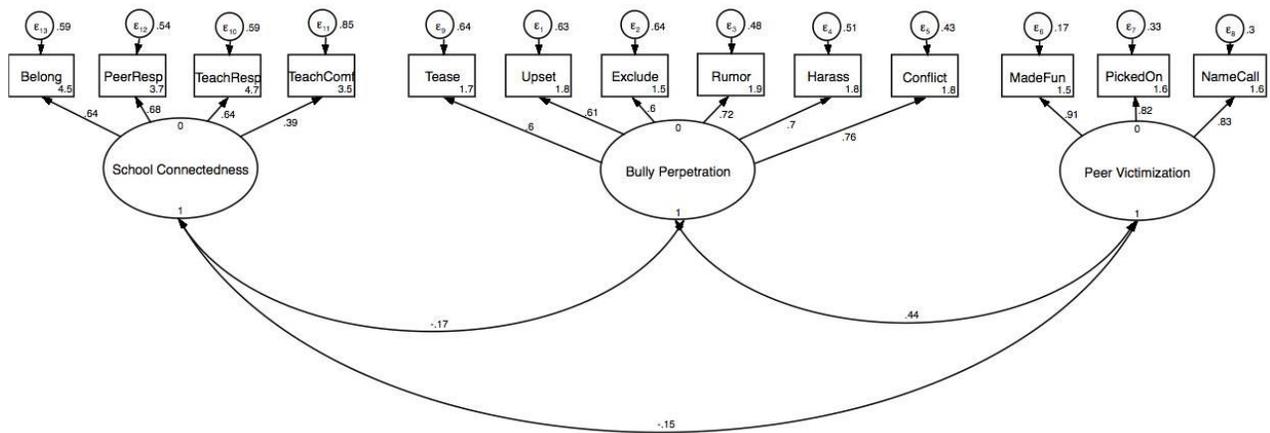
Figure 4.2 Final Invariance Model for Bully Perpetration and Victimization Multi-Group CFA (Non-ensemble Participants)

Results of Confirmatory Factor Analyses for Internet harassment

Confirmatory factor analyses were conducted on constructs measuring: (a) school connectedness; (b) Internet harassment perpetration; and (c) Internet harassment victimization. The configural model between music ensemble ($n = 178$) and non-ensemble samples ($n = 292$) demonstrated an acceptable fit based on the relative fit indices ($\chi^2_{(81)} = 192.53$, $p < .001$, CFI = 0.93, RMSEA = 0.077). The overall fit was acceptable. Cross-group equality constraints were imposed on the factor loadings (Model 2). The loading invariance test revealed that the model

remained with the acceptable range for the appropriate fit indices ($\chi^2_{(82)}$ = 197.31, p < .001, CFI

= 0.93, RMSEA = .078). Based on this result and the results of the likelihood ratio test between

models ($\Lambda_{(1)}$ = 4.77, p = .03), it was determined that there is a statistically significant difference

between Model 1 and Model 2 when factor loadings are constrained between groups. A

postestimation Score test was conducted to determine which, if any, loadings were problematic.

One loading, *CyberVic* → *CyRudeV* ($\chi^2_{(1)}$ = 13.02, p < .001), was reported as significant.

Therefore, music ensemble and non-ensemble students differ significantly on how important

CyRudeV is as an indicator of Internet harassment victimization. In sum, the results from these

tests imply that all of the constraints imposed should be relaxed, as imposing constraints

significantly worsens the fit of the model. Results for all models appear in Table 15, with the

final standardized models appearing in Figures 4.3 and 4.4. Factor loadings for final

measurement model appear in Table 16.

Table 15

*Multi-group CFA Comparison of Models Table for a Three-Factor Model of Internet
Perpetration/Victimization and School Connectedness Analyzed across Samples of Music
Ensemble and Non-ensemble Middle School Students*

Model	χ^2 (df), p	Comparison	LRT	RMSEA (90% CI)	CFI
1. Same form	192.53(81), p < .001	-	-	0.077 (.063-.091)	.93
2. Equal loadings	174.83 (71), p < .001	Model 1 vs. 2	4.77(1), p = .03	.078 (.064-.092)	.93

Note: LRT, likelihood ratio test; CI, confidence interval

Table 16

Factor Loadings from Final Measurement Model for Internet Perpetration/Victimization

Indicator	Music Ensemble Participants	Non-ensemble Participants	Music Ensemble Participants	Non-ensemble Participants
	λ – Loading Estimates (SE)		λ – Standardized Loading Estimates (SE)	
School Connectedness				
Belonging to school	1.1 (0.26)	1.1 (0.30)	0.70 (0.51)	0.66 (0.57)
Peer respect	1.2 (0.30)	1.2 (0.36)	0.72 (0.48)	0.67 (0.55)
Teacher respect	1 (0.24)	1 (0.31)	0.70 (0.51)	0.63 (0.61)
Teacher comfort	0.81 (0.52)	0.81 (0.70)	0.47 (0.78)	0.40 (0.84)
Internet Perpetration				
Cyber Rude	1.7 (0.12)	1.7 (0.22)	0.87 (0.24)	0.77 (0.41)
Cyber Rumor	1 (0.22)	1 (0.11)	0.61 (0.63)	0.71 (0.50)
Cyber Aggressive	1.2 (0.18)	1.2 (0.13)	0.70 (0.51)	0.73 (0.47)
Internet Victimization				
Cyber Rude	1 (0.20)	1 (0.25)	0.86 (0.26)	0.82 (0.32)
Cyber Rumor	0.91 (0.25)	0.91 (0.24)	0.81 (0.35)	0.80 (0.36)
Cyber Aggressive	0.89 (0.18)	0.89 (0.17)	0.84 (0.29)	0.84 (0.29)

$\chi^2_{(81)} = 192.53$, $p < .001$, CFI = 0.93, RMSEA = .077
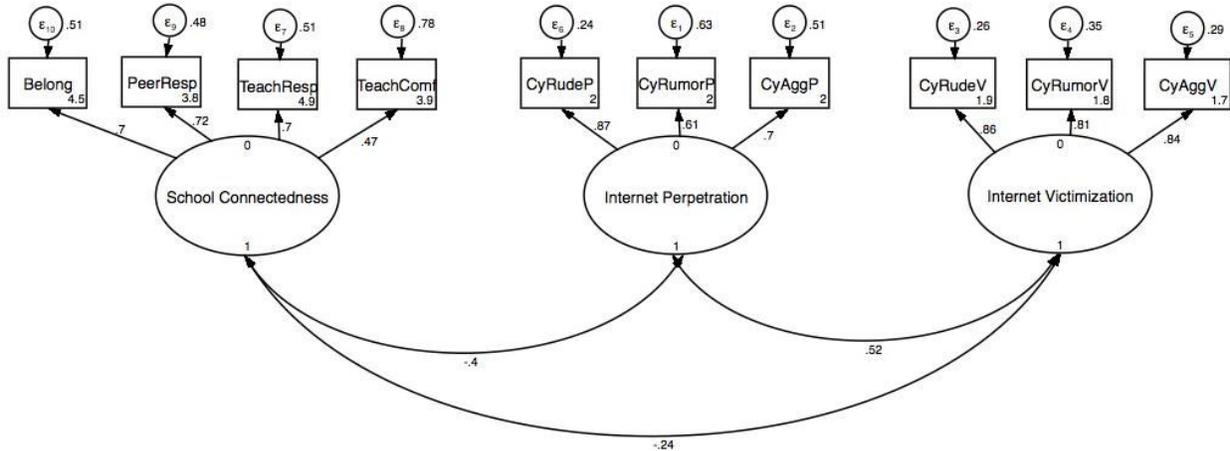
Figure 4.3 Final Invariance Model for Internet Harassment Multi-Group CFA (Music Ensemble Participants)
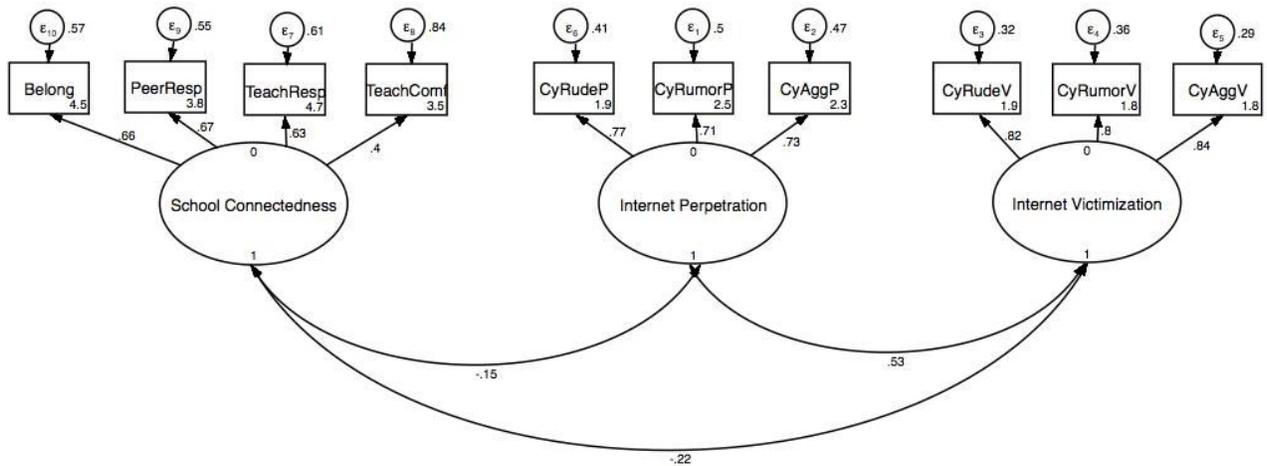
Figure 4.4 Final Invariance Model for Internet Harassment Multi-Group CFA (Non-ensemble Participants)

Results from Multiple-Group Structural Equation Modeling Analyses

Multiple-group structural equation modeling was used to examine relationships between bullying perpetration/victimization, Internet harassment, and school connectedness. School building attendance was included in the models to account for potential school-level influences that may affect overall model fit. Additionally, gender was added to the structural models to account for potential gender influences documented in the extant research on bullying and human development.

Results from SEM analyses for music ensemble and non-ensemble participants. A multiple-group path analysis was conducted on the associations between school connectedness and bullying perpetration/victimization between music ensemble and non-ensemble students. This procedure demonstrates which paths are significantly different between groups and which paths can be treated as equal (Acock, 2013). For instance, some predictors may be more or less important for one group than they are for the other group. The first model is described as the unconstrained solution, which allows all parameters being estimated in the path model to be different for the two groups. The path coefficient *SchoolCon→PeerVic* (perceptions of school connectedness to self-reported frequency of peer victimization) was not found to be significant for non-ensemble participants ($\beta = -.41$, $z = -1.90$, $p = .06$); however, this same path coefficient was found to be significant and negative for adolescents enrolled in a music ensemble ($\beta = -.90$, $z = -3.77$, $p < .001$). In other words, it appears that the level of school connectedness is a significant predictor of peer victimization, but only if the participant is enrolled in a school-based music ensemble course. The path coefficient *SchoolCon → BullyPerp* (perceptions of school connectedness to self-reported frequency of bully perpetration) was found to be significant and negative for non-ensemble participants ($\beta = -.17$, $z = -2.05$, $p < .05$) and for adolescents enrolled in a music ensemble ($\beta = -.32$, $z = -3.85$, $p < .001$). In other words, the level of school connectedness is a significant predictor of bully behavior perpetration regardless of music ensemble enrollment status.

The parameters appear to be different between music ensemble and non-ensemble participants. A postestimation Wald Test determined that no invariance constraints on structural parameters were significantly different for music ensemble or non-ensemble participants. Specifically, these postestimation test results indicate that the difference is not significant for

SchoolCon→PeerVic ($\chi^2_{(1)}$ = 2.542, p = .11) or *SchoolCon → BullyPerp* ($\chi^2_{(1)}$ = 1.58, p = .21)

between groups. Therefore, perceptions of school connectedness as a predictor of perpetrating

bully behaviors and experiencing peer victimization is not significantly different for music

ensemble participants or non-ensemble participants. Since no parameters were statistically

significant, results for the unconstrained solution appear in Table 17.

A multiple-group path analysis was conducted on the associations between school

connectedness and Internet Harassment perpetration/victimization between music ensemble and

non-ensemble students. The path coefficient *SchoolCon→CyberVic* (perceptions of school

connectedness to self-reported frequency of Internet harassment victimization) is significant both

for non-ensemble participants (β = -.35, z = -2.69, p < .01) and for ensemble participants (β = -

.38, z = -2.54, p = .01). In other words, it appears that the level of school connectedness is a

significant predictor of Internet harassment victimization with the current sample, for both

ensemble and non-ensemble students. The path coefficient *SchoolCon→CyberPerp* (perceptions

of school connectedness to self-reported frequency of Internet harassment perpetration) is

significant and negative for enrolled in a school-based music ensemble course (β = -.52, z = -

4.15, p < .001); however, the same path coefficient is not significant for adolescents not enrolled

in a music ensemble (β = -.19, z = -1.89, p > .05). Based on this result, it appears that the level of

school connectedness is a significant predictor of Internet harassment perpetration or

cyberbullying experiences for ensemble and not a significant predictor for non-ensemble

students.

The parameters appear to be different between music ensemble and non-ensemble

participants. Results from a postestimation Wald Test indicated that the invariance constraint on

SchoolCon→CyberPerp is significant: $\chi^2_{(1)}$ = 4.265, p = .04. This suggests that the difference

for this path is statistically significant. Therefore, perceptions of school connectedness as a predictor of perpetrating Internet harassment (cyberbullying) behaviors, is significantly different between music ensemble and non-ensemble participants. Thus it appears that music ensemble participant perceptions of school connectedness has a significant effect on the perpetration of Internet harassment behaviors, whereas for non-ensemble youth, the effect is negative and not statistically different. Perception of school connectedness matters more for music ensemble participants than it does for non-ensemble participants when associated with frequencies of cyberbullying perpetration during the past 12 months.

Based on this result and the results of the likelihood ratio test between models ($\Lambda_{(1)} = 0.03$, $p = .87$), it was determined that the constrained model does not have significantly different fit from the unconstrained model. Therefore, it does not significantly worsen the model by constraining the parameters. In sum, perceptions of school connectedness for music ensemble participants has a significant effect on the perpetration of Internet harassment behaviors, whereas for non-ensemble youth, the effect is negative and not statistically different. Results for the unconstrained solution appear in Table 17.

Table 17

Summary Table of Multiple Group Model Results for Music Ensemble and Non-ensemble Participants

| | Bullying Perpetration/Victimization | | | | Internet Harassment Perpetration/Victimization | | | |
| | Music Ensemble Participants ($n = 178$) | | Non-ensemble Participants ($n = 292$) | | Music Ensemble Participants ($n = 178$) | | Non-ensemble Participants ($n = 292$) | |
Relationship	β	B	β	B	β	B	β	B
Bully/Internet Perpetration								
School Connectedness	-0.32***	-0.38***	-0.17*	-0.16*	-0.52***	-0.40***	-0.19	-0.15
Peer/Internet Victimization								
School Connectedness	-0.90***	-0.35***	-0.41	-0.15*	-0.38**	-0.24**	-0.35***	-0.22**
R^2 Bully/Internet Perpetration	0.15		0.02		0.16		0.03	
R^2 Peer/Internet Victimization	0.12		0.03		0.05		0.05	
χ^2 overall	*df* = 146, 360.84, *p* = .00				*df* = 81, 192.46, *p* = .00			
CFI	0.90				0.93			
RMSEA (90% CI)	0.079 (0.069-0.090)				0.077 (0.063-0.091)			

β = Unstandardized, B = Standardized.
* *p* < 0.05; ***p* < 0.01; ****p* < 0.001

Summary of Multiple-Group Structural Equation Model Analyses

Multiple-group Structural Equation Model analyses demonstrated that the level of associations between school connectedness and bully perpetration/victimization did not significantly differ for music ensemble participants or non-ensemble participants. Instead, the level of association between school connectedness and Internet Harassment perpetration were significantly associated with adolescents enrolled in a music ensemble course during middle school; however, these associations were not found to be significant for non-ensemble youth. These results for Internet harassment perpetration also displayed a stronger negative association between perceptions of school connectedness and bully perpetration/victimization for music ensemble students than for adolescents not enrolled in a school-based music ensemble. Based on this result, mediation analyses are warranted to determine to what extent, if any, does adolescent perceptions of school connectedness explain the relatively low frequencies of bullying and peer victimization with music ensemble and non-ensemble populations.

<div align="center">

Research Question Four

</div>

This research question addresses how school connectedness may contribute to explaining the relationship between participation in a school-based music ensemble during middle school and bullying perpetration/victimization, both face-to-face interactions and on cyber platforms. Mediation analyses are necessary to identify the mechanism that underlies the relationship between ensemble participation and bullying perpetration and experiences of peer victimization. With this question, it is hypothesized that school connectedness may serve as the mediating variable, thus, clarifying the nature of the relationship between an adolescent's school-based music ensemble participation and bullying.

Baron and Kenny (1986), Judd and Kenny (1981), and James and Brett (1984) discuss four steps in establishing complete mediation. One step of mediation analysis requires that the causal variable (music ensemble participation) be correlated with the mediator (school connectedness). Based on the results from research question two, no statistical difference between ensemble and non-ensemble participants was detected on School Connectedness scale scores. Hence, mediation analysis may not be necessary. Contemporary analysts including Hayes (2009) criticize Baron and Kenny's casual steps approach on multiple grounds, including the low likelihood of detecting an indirect effect and this approach is not based on a quantification of the intervening effect. Therefore, I proceeded with mediation analysis to determine if school connectedness may serve as the mediating variable.

Mediation Analyses of Bullying Perpetration/Victimization for Music Ensemble and Non-ensemble participants

Since the association between school connectedness and bully perpetration and peer victimization does differ for music ensemble and non-ensemble students, there may be a difference in the indirect effects that are not being measured based on music ensemble enrollment. In order to assess these potential differences between music ensemble and non-ensemble participants, I conducted a mediation analysis to assess for potential direct and indirect effects that may explain the levels of difference between music ensemble and non-ensemble students. The structural model between music ensemble ($n = 178$) and non-music samples ($n = 292$) demonstrated an acceptable fit based on the relative fit indices ($\chi^2_{(92)} = 246.73$, $p < .001$, CFI $= 0.93$, RMSEA $= 0.06$). No direct and indirect effects reached statistical significance ($p < .05$). Therefore, school connectedness does not mediate the relationship between a participant's

ensemble enrollment status and their self-reported frequencies of bullying perpetration and peer victimization experiences with the current sample.

Mediation Analyses of Internet Perpetration/Victimization for Music Ensemble and Non-ensemble participants

There was a significant difference between ensemble and non-ensemble participants detected during multiple-group analyses revealing a stronger negative association with music ensemble participants than non-ensemble participants. Indirect effects may explain these levels of difference between music ensemble and non-ensemble students with the relationship between school connectedness and Internet Harassment perpetration. In other words, mediation analyses may detect if perceptions of school connectedness explains the difference between ensemble and non-ensemble participant's frequencies of cyberbullying. The structural model between music ensemble ($n = 178$) and non-ensemble samples ($n = 292$) demonstrated an acceptable fit based on the relative fit indices ($\chi^2_{(53)} = 144.53$, $p < .001$, CFI = 0.94, RMSEA = 0.061). No direct and indirect effects reached statistical significance ($p < .05$). Therefore, school connectedness does not mediate the relationship between a participant's ensemble enrollment status and their self-reported frequencies of cyberbullying and cyber victimization.

<div align="center">

Chapter Summary

</div>

This chapter presented the results of this dissertation study examining the effects of middle school music ensemble participation on the relationship between perceived school connectedness, self-reported bullying behaviors, and peer victimization. Descriptive statistics and calculations referencing the sample of participants, including missing data analyses, are located in this chapter. These results indicate that school and gender are potential confounding variables with the SEM analytic procedures and need to be included in the final multiple-group

and mediation models. A summary of the chapter is presented below, organized by research question.

Research question one. The purpose of this research question was to assess the frequency of bullying behaviors and peer victimization as self-reported by middle school students enrolled music ensemble and non-ensemble classes. On average, all students in this sample reported relatively low levels of bullying behaviors and peer victimization, both face-to-face and cyber (or Internet) peer interactions. When examined separately, students enrolled in a school-based music ensemble reported perpetrating bullying behaviors (face-to-face and cyber) less frequently than non-ensemble students. Independent sample *t-tests* of mean scale scores revealed a statistically significant difference between the groupings on the Bullying Scale. Further examination of participants whose scores classified them as "chronic bullies" revealed that there are proportionally more non-ensemble bullies than music ensemble bullies.

Research question two. This research question addressed the levels of school connectedness self-reported by middle school students both enrolled in a music ensemble and not enrolled in a music ensemble. On average, students in both schools (or school samples) reported relatively high levels of connection to school. When examined separately, ensemble students reported slightly higher levels of school connectedness than non-ensemble students; however, independent sample *t-tests* revealed no statistically significant difference between the groupings.

Research question three. This research question addressed the effect of school connectedness on bullying perpetration/victimization, including Internet Harassment, for middle school ensemble and non-ensemble students. Analytic procedures associated with multiple-group structural equation modeling (SEM), including confirmatory factor analyses (CFA) and structural modeling, were utilized to answer this research question. Multiple-group CFA were

conducted to ascertain the measurement invariance that existed between music ensemble and non-ensemble students. The scales were adequately measuring the construct in both groups. Multiple-group SEM analyses demonstrated that the level of associations between school connectedness and bully perpetration/victimization did not significantly differ for both ensemble and non-ensemble students. The level of associations between school connectedness and Internet Harassment perpetration did significantly differ based on participation in a school-based music ensemble; however, these associations were not significant for non-ensemble youth. These findings suggest that participants enrolled in a school-based music ensemble that report elevated levels of school connectedness may be less likely to perpetrate cyberbullying behaviors when compared to their non-ensemble peers. Therefore, participation in a music ensemble significantly affects the relationship between school connectedness and cyberbullying for middle school music ensemble participants; however, it does not affect the relationship for non-ensemble participants.

Research question four. Further examination of the potential indirect effects through mediation analyses revealed that no path coefficients related to musical ensemble membership reached significance. Therefore, school connectedness does not mediate the relationship between school-based music ensemble participation and self-reported bullying behaviors and peer victimization.

Chapter V

DISCUSSION AND CONCLUSIONS

The following chapter will discuss and explore the results of this study as presented in Chapter 4. Specifically, this chapter will review, explain, and summarize the results for each research question, detail the alignment with past research and emergence of new findings, and highlight the implications related to the results of the study. The chapter will conclude with suggestions for future research and limitations of the study.

Review of Methodology

The purpose of this study was to examine the relationship between school connectedness and youth aggression with middle school students enrolled and not enrolled in a school-based music ensemble. The four research questions guiding this investigation were:

1. What is the frequency of bullying behaviors and peer victimization as self-reported by middle school students enrolled in music ensemble classes and not enrolled in music ensemble classes?

2. What is the level of school connectedness as self-reported by middle school students enrolled in music ensemble classes and not enrolled in music ensemble classes?

3. To what extent, if any, does participation in a music ensemble affect the relationship between connectedness and bullying perpetration/victimization for middle school students?

4. Does school connectedness mediate the relationship between school-based music

   ensemble participation and self-reported bullying behaviors and peer victimization?

The study included 470 participants who attended two middle schools located in central Illinois

during September 2014. Participants responded to the questionnaire by self-reporting their

enrollment in a music course (See Appendix C) and their behaviors.

Research Question One:

What is the frequency of bullying behaviors and peer victimization as self-reported by

middle school students enrolled in music ensemble classes and not enrolled in music

ensemble classes?

Summary of Results

Descriptive statistics were calculated using self-reported data for bullying behaviors and

peer victimization from middle school respondents. All four scales (Bullying Scale,

Victimization Scale, Internet Harassment Perpetration, and Victimization Scales) displayed

strong internal consistency, demonstrating agreement between the scale items. Results from

examining participants enrolled in a music ensemble course ($n = 178$) and not enrolled in a music

ensemble ($n = 292$) displayed relatively low average scores for the Bullying and Victimization

Scales; however, the total population in the current study self-reported, on average, more

frequent instances of peer victimization than bullying perpetration in the past 30 days prior to

data collection. Independent samples t-tests between music ensemble and non-ensemble

participants displayed a statistically significant difference only with the Bullying Scale ($t_{(399.25)} =$

$2.107, p < .05, \eta^2 = 01$). Upon further investigation of chronic bullying behaviors within this

current sample, a moderately small association between bully status and school-based music

ensemble participation was detected. In other words, fewer chronic bullies are enrolled in

musical ensemble courses than not and this result was statistically significant. When the average scores for the Victimization Scale were examined, no statistically significant difference was displayed. Results from examining participant responses to Internet harassment Perpetration and Victimization Scales also displayed relatively low average scale scores for each scale. No statistically significant difference between ensemble and non-ensemble students was identified.

Alignment with Past Research

Results from past empirical studies in music education only partially align with the results from the current study. Ensemble and non-ensemble respondents reported a significant difference in frequencies of bullying perpetration in the current study. Prior research in music education has reported on peer victimization experiences in the music and band classrooms; however, these scholars have not explicitly investigated the phenomenon of bullying with adolescent populations. For example, past qualitative work by Abeles and his colleagues (2014), Buttu (2008), Conway (2000), Sinsabaugh (2005), and Taylor (2009) suggest that adolescents who perform musical instruments atypical to their gender may be targets for bullying behaviors and harassment by their peers. A recent study employing questionnaire research (Rawlings, 2014) did not corroborate this identified concern from past research. In that 2014 investigation, middle school participants who played atypical and stereotypical gender musical instrument combinations were compared and reported, on average, no statistical difference between frequencies of perpetrating bully behaviors or experiencing peer victimization. Indeed, evidence from music education research (Abeles et al., 2014; Buttu, 2008; Conway, 2000; Sinsabaugh, 2005; Taylor, 2009) illuminates the presence of music student victimization and results from this current study confirm this past research. However, in this study, frequencies of peer victimization did not differ when ensemble and non-ensemble students were compared.

The results from research question one indicate relatively low frequencies of bullying behavior and moderately low frequencies of peer victimization within the two schools under investigation during the 30 days prior to data collection. In 2011, two practitioner articles questioned the safety of music education classrooms and highlighted bullying behaviors as a threat to a student's musical education (Carter, 2011; Taylor, 2011). These initial practitioner articles explored the existence of peer victimization experiences with adolescent music populations and served as the rationale for this current study. Results from the current study corroborate the assertions found in these articles by demonstrating that experiences of peer victimization occurred at higher frequencies than did perpetrating bullying behaviors with the entire population. Both articles suggest that bullying could be a particular problem within music classes; however, participants in this study demonstrated a difference in perpetrating bullying behaviors based on enrollment in a music ensemble course. According the results of the current study, participants enrolled in a music ensemble perpetrate lower frequencies of bullying behaviors than non-ensemble respondents. The question still remains if bullying could be a particular problem within music classes and whether the unique aspects of a music classroom influence the ways in which peers interact within school peer groups. That is, it is plausible that a music teacher's role in the classroom, rigor of musical performance standards, and peer social standing might be important factors to consider.

Research Question Two:

What is the level of school connectedness as self-reported by middle school students enrolled in music ensemble classes and not enrolled in music ensemble classes?

Summary of Results

I calculated descriptive statistics using self-reported data for school connectedness from middle school respondents. The scale displayed acceptable internal consistency, demonstrating agreement between the scale items. Results gathered from examining participants enrolled in a music ensemble course ($n = 178$) and those not enrolled in a music ensemble course ($n = 292$) displayed, on average, relatively high scale scores. No statistically significant difference between music ensemble and non-ensemble students was demonstrated when scale scores were compared.

Alignment with Past Research

Participants from the current study, on average, reported relatively high levels of school connectedness. Although no past research in music education has explicitly investigated school connectedness, two conceptually related topics are teacher support (or the youth-teacher relationship) and youths' feelings of belonging to school. Investigators have examined the music student and teacher relationship (Davidson, et al, 1998; Hamann, et al., 1990; Matthews & Kitsantas, 2007; Pitts, et al., 2000; Power, 2008) and students' feelings of belonging to the music program (Miksza, 2010; Wolff, 2004). These researchers suggest that heightened levels of connectedness contribute to a positive school climate, hence, leading to possible increases in academic achievement and overall well-being.

Scholars in music education have previously examined facets of school connectedness in music education, including teacher respect, teacher comfort, and feelings' of belonging, with one empirical study comparing music and non-music participants (Miksza, 2010). Indeed, past literature in music education has addressed perceived teacher respect and student comfort with the music teacher. These researchers reported that adolescents enrolled in music classes, who feel supported by their music teacher, experience higher levels of musical achievement (Davidson et al., 1998; Hamann et al., 1990; Howe, 1999; Pitts et al., 2000). Although musical

achievement was not specifically examined in the current study, adolescent perceptions of teacher respect and comfort were utilized to inform the latent construct of connectedness according to the recommendations from McNeely and her colleagues (2010).

Miksza (2010) investigated the relationship between participation in high school music ensembles and extra-musical outcomes from the Education Longitudinal Study national dataset. He found a positive relationship between music participation and feelings of belonging. Additionally, music participation was found to have a positive significant effect on the student's commitment to school (p. 22). However, this study diverges from Miksza in that there was no difference between ensemble and non-ensemble populations in mean levels of perceived connectedness to school. There are two possible explanations for this likely divergent result. One possibility for this disparate result was that the items used to measure school connectedness were different between the studies and identified different aspects of the construct. Lastly, sampling and analysis procedures differed between Miksza's work and the current study.

Research Question Three:

To what extent, if any, does participation in a music ensemble affect the relationship between connectedness and bullying perpetration/victimization for middle school students?

Summary of Results

This research question addressed the relationship between school connectedness and bullying perpetration/victimization for middle school ensemble and non-ensemble students. Analyses using both multiple-group Structural Equation Modeling (SEM) analyses were conducted to ascertain the possible difference between how ensemble and non-ensemble adolescents perceive connectedness, bullying, and victimization. Results from confirmatory factor analyses for music ensemble ($n = 178$) and non-ensemble students ($n = 292$) displayed that

the constructs of peer victimization and school connectedness were equivalently assessed

between groups. When factor loadings were constrained, slight differences existed on two factor

loadings (*Harass* and *Upset)*, which loaded on the construct of bully perpetration, and one

loading (*CyRudeV),* which loaded on the construct of Internet Victimization. Therefore, in this

study, music ensemble and non-ensemble students differed significantly on how important

Harass, Upset, and *CyRudeV* are as indicators of bully perpetration and Internet harassment

victimization. All unconstrained model fit indices, Bullying and Internet Harassment,

demonstrated acceptable scores.

Results from multiple-group path analyses indicated that the associations between school

connectedness and bully perpetration/victimization were negative, but not significantly different

for music ensemble participants or non-ensemble participants. In other words, it appears that

perceptions of school connectedness were not a significant predictor of peer victimization and

bullying perpetration. Similar analyses displayed that the level of the associations between

school connectedness and Internet Harassment perpetration (cyberbullying) were significantly

associated with music ensemble participation; however, the same path coefficients were not

found to be significant for non-ensemble youth. These results indicate a stronger negative

association for music ensemble participations between perceptions of school connectedness and

cyberbullying than for adolescents not enrolled in a school-based music ensemble. In response to

the research question, middle school music ensemble participation affects the relationship

between perceived school connectedness and self-reported cyberbullying. More specifically,

perceptions of school connectedness matter more for music ensemble participants than they do

for non-ensemble participants.

Alignment with Past Research

Most anti-bullying intervention and prevention programs fail to acknowledge the role of school climate on influencing bully behaviors; however, studies investigating adolescent connectedness reveal that an adolescent's connection to school can improve academic performance and prevent involvement in risky behaviors such as substance use and other delinquent behaviors (McNeely et al., 2010, p. 275). Research on school climate demonstrates that connectedness is a predictor of bullying behaviors and peer victimization (Fettrow, 2013). For instance, elevated levels of school connectedness predict low frequencies of bullying behaviors and peer victimization in schools. This dissertation was an outgrowth of empirical studies linked to the complexities between the traditions, beliefs, and values of the school music ensemble classroom, which promote feelings of connection to school and peers, and the tensions of practice with the school ensemble classroom, which promote conflict and aggression between peers.

Results from research question three both confirm trends from the extant research and provide new information and data that adds to the overall narrative about adolescent school connectedness, bullying behaviors, and peer victimization experiences. School building was treated as a covariate in the final models and was found to have statistically significant relationships with participant perceptions of school connectedness and self-reported frequencies of bullying behaviors and peer victimization experiences (American Education Research Association, 2013; McNeely et al., 2010; Wang et al., 2009). When music ensemble and non-ensemble participants were compared, a statistical difference between groups was found on the association between school connectedness and Internet harassment perpetration (cyberbullying). This result suggests that music ensemble students who reported elevated levels of school connectedness were less likely than their non-ensemble peers to report perpetrating

cyberbullying behaviors. Based on this result, mediation analyses were necessary to determine to what extent, if any, did adolescent perceptions of school connectedness explain the relatively low frequencies of bullying and peer victimization with music ensemble and non-ensemble populations. Despite all models achieving Acock's (2013) threshold for acceptable fit (RSMEA value < .08; CFI value > .90), this does not imply that it is the optimal or only possible model. In fact, there is a possibility that alternate models may be hypothesized in future studies, which could further clarify the relationship between school connectedness and bullying behaviors.

Research Question Four:

Does school connectedness mediate the relationship between school-based music ensemble participation and self-reported bullying behaviors and peer victimization?

This research question addresses how school connectedness may contribute to explaining the relationship between participation in a school-based music ensemble during middle school and bullying perpetration/victimization, both face-to-face and on cyber platforms. Results from mediation analyses indicated that no direct and indirect effects reached statistical significance (p < .05). Therefore, school connectedness does not mediate the relationship between a participant's ensemble enrollment status and their self-reported frequencies of bullying, peer victimization, cyberbullying, and cyber victimization.

Implications from the Current Study

The previous section of the chapter summarized and discussed each research question in comparison to previous literature. This section of the chapter is intended to clarify the implications of the current study. I will organize this discussion of the overall study into four separate sections: connections to theoretical frameworks, methodological implications, implications for pedagogy, and implications for music teacher education. Findings from the

extant research are discussed to explicate important directions in research and clarify the implications of the school connectedness construct for music education research.

Connections to Theoretical Frameworks

Results from the current study compare with previous research on school connectedness and bullying behaviors utilizing five theoretical frameworks. First, connection (or connectedness) is frequently articulated as an extension of attachment theory (Barber & Schluterman, 2008). Attachment theory (Bowlby, 1969) postulates that when parents express affection or care, their children are more likely to feel secure and confident. Likewise, attachment to adults in school is thought to function similarly by extending parental attachments (Barber & Olsen, 1997). Research in music education has examined issues relating to attachment theory through understanding student and teacher relationships and feelings of belonging with school-age populations (Davidson, et al., 1998; Hamann, et al., 1990; Matthews & Kitsantas, 2007; Pitts, et al., 2000; Power, 2008). Descriptive results from the current study did reveal statistically significant differences between music ensemble and non-ensemble participants. Furthermore, multiple-group SEM analyses displayed a strong negative association between school connectedness Internet harassment perpetration with music ensemble participants when compared to non-ensemble participants. As such, investigations comparing music and non-music populations may reveal new information about school connectedness as it relates to feelings of attachment to adults inside and outside of school. Hence, accounting for school connectedness and a theoretical framework grounded in attachment theory may help garner new insights for potential prevention and intervention strategies with adolescents.

Second, social ecological theory has previously been applied to school-based bullying research by identifying the factors and contexts that affect antisocial-aggressive behaviors with

adolescents (Espelage, Rao, Craven, 2013). Bronfenbrenner's (1977) theoretical framework

postulates that children and adolescent's behaviors are molded by nested, dynamic contextual

systems, including community, family, school, and peer environments. Results from the current

study's multiple-group SEM analyses displayed a stronger negative association between school

connectedness and cyberbullying (Internet harassment) for music ensemble participants than

non-ensemble participants. These results provoke questions about the nature and emergence of

peer and family characteristics of adolescents enrolled in music ensemble classes that may be

examined through a social-ecological framework. Espelage and her colleagues (2013) explain

that cyberbullying is an example of the "chronosystem's indirect influence on a child's bullying

experiences because of the recent increase in social networking sites and the affordability of text

messaging" (p. 50). Consequently, Adderley and colleagues (2003), along with Laine (2007),

identify social sub-groups within the band ensemble that form around demographic features such

as the student's instrument, seniority in the band, and musical expertise. Perhaps future research

in music education may examine these characteristics and their affect on the relationship

between an adolescent's connection to school and bullying behaviors, face-to-face and on cyber

platforms.

Schools are particularly important environments for perceptions of connectedness

because they are one of the first environments in which children experience large populations of

peers over an extended period of time (McNeely et al., 2010). Social learning (Bandura, 1977,

2001) and social control theory (Hirschi, 1969) are the third and fourth theoretical frameworks

conceptually linked to the current study because desire for connectedness is a fundamental

adolescent human motivation. Social learning theory posits that children observe and adopt the

behaviors, attitudes, and beliefs of the people they respect. Bandura's (1977) theory is similar to

attachment theory, but includes the broader conceptualization of attachment to a group. For instance, if music ensemble students have a teacher and peer group in music that practice healthful behaviors; social learning theory suggests that these supportive relationships will promote healthy development and learning. Future directions of research in music education may include further development of group membership theories with music populations, which are inherently group experiences in and outside of school.

The final theoretical framework of interest for the current study is social capital theory. Coleman (1990) makes clear that positive relationships with individuals of status allows for individual accomplishments otherwise unattainable. For instance, individuals that have high status within a peer group may be in a positive position to facilitate access to desired resources (e.g., job opportunities), experiences (e.g., emotional support), and identity and recognition (e.g., belonging). Individuals perceived by peers as having low social status within a peer or school environment might be targets or perpetrators of bullying behaviors. Furthermore, perpetrators of aggressive behaviors that have low social skills or status are at high risk of being identified as a *bully*, while adolescents with high social skills or status are potentially at lower risk of being identified, because a negative peer relationship would potentially yield undesirable social consequences. Descriptive statistics from the current study displayed no statistically significant differences in school connectedness between music ensemble and non-ensemble participants. However, further investigation of music ensemble and non-ensemble participants may reveal new information about the peer social networks within schools. Abril (2013) examined the socio-musical learning environment that was initially reported by Adderley et al. (2003). He found that several hierarchical strata or sub-groups function as a microcosm of the school band culture. For instance, he labeled students who report possessing the most advanced musical achievement and

dedication to their band as "hardcore band kids" (p. 435). Abril continued to define other levels of perceived social status and how these *hardcore American band kids* elicited inclusionary and exclusionary social tactics within the school band culture (Adler & Adler, 1995). Based on the results from the current sample, music ensemble students, regardless of social status, may have higher social capital or status than documented in the extant research from the field of music education.

Methodological Implications

Rigorous methodological approaches to studying the complex phenomenon of bullying in schools are required for research in music education. Bullying behaviors are complex because of the multiple levels of influence that shape an adolescent's behavior. Fields of study including educational psychology, human development, and public health have pioneered and developed methodological approaches that align with contemporary statistical techniques for data analysis. These approaches may hold promise for the field of music education as well. This section of the chapter will discuss the implications of utilizing a pre-existing dataset for analyses and Structural Equation Modeling (SEM).

Pre-existing data for analyses in music education. Pre-existing data analysis has advantages and limitations (Trzesneiwski, et al., 2011). The advantages of utilizing a pre-existing dataset primarily concern the convenience of researchers bypassing the data collection stage of a study, while the limitations may include issues related to sampling and measurement. Researchers in music education have previously utilized pre-existing datasets for secondary data analysis (Elpus, 2014; Elpus & Carter, 2013; Gardner, 2006; Mikzsa, 2010). These studies have primarily focused on analyzing national or longitudinal datasets, while the current study utilized a pre-existing dataset to analyze a targeted population from a large, in-progress study. These

130

previous studies all utilized pre-existing instruments, whereas I was able to contribute and author specific questionnaire items for use in this study. Overall, using this pre-existing dataset for the current study has been helpful in furthering the understanding of bullying behaviors and perceptions of school connectedness by providing an initial descriptive investigation with a limited, volunteer population.

Structural equation modeling. Few researchers in the field of music education have utilized SEM analytic procedures to fit and test the plausibility of a hypothesized model of relationships between many variables (See Gardner, 2006; Miksza, 2010). In the current study, I hypothesized that enrollment in a music ensemble class may have an effect on the relationship between perceptions of school connectedness and bullying behaviors or peer victimization. The results suggest that music ensemble participants were statistically different than non-ensemble participants with regard to the relationship between perceptions of school connectedness and their perpetration of cyberbullying behaviors in the past 12 months prior to data collection. Furthermore, mediation analyses revealed that feelings of school connectedness did not explain the relationship between music ensemble participation and bully behaviors, peer victimization experiences, with face-to-face interactions or cyber platforms. This result clarifies our understanding of the relationship; however, with only two schools utilized in this study, it is difficult to generalize this finding to other settings beyond the populations within these schools.

Studies utilizing longitudinal transactional models between peer victimization and Internet Harassment perpetration (cyberbullying) suggest that peer victimization and cyberbullying perpetration operate within a reciprocal influence model (Espelage, et al., 2013; Ybarra, Boyd, Korchmaros, & Oppenheim, 2012). These models demonstrate plausible evidence that when youth who do not have high social status in face-to-face contexts engage in

cyberbullying, it places them at risk for peer victimization, which in turn predicts retaliation in cyberspace (Espelage, et al., 2013). As demonstrated by the current study, perceptions of school connectedness for music ensemble participants had a significant effect on the perpetration of Internet harassment behaviors, whereas for non-ensemble youth, the effect is negative and not statistically different. These results may help researchers conceptualize ensemble participation as an emergent protective factor against cyberbullying perpetration. Future studies may confirm and examine the longitudinal effect of music and music ensemble participation on the perpetration of bullying behaviors. Utilizing longitudinal SEM and nested analytic techniques (i.e., hierarchical linear modeling or multilevel linear modeling) allows researchers to demonstrate casual links between predictor and outcome behaviors and/or demographic information.

Implications for Pedagogy: In-service and Preservice Music Educators

The purpose of this study was to examine the relationship between school connectedness and youth aggression with middle school students enrolled and not enrolled in a school-based music ensemble. Results from this study demonstrate that music ensemble students who report elevated levels of school connectedness may be less likely than their non-ensemble peers to perpetrate cyberbullying behaviors. The implications of these results may inform in-service and preservice practitioners. For example, Carter (2011) and Taylor (2011) cautioned in-service practitioners to be aware of issues of bullying and harassment in music classrooms, providing anecdotes and strategies for music teacher interventions. Further research is needed to clarify or extend the results of research question one. Specifically, it is important to understand the frequency of bully bullying behaviors and peer victimization experiences with additional music populations, including adolescents enrolled in non-ensemble music courses, as well as adolescents attending suburban or metropolitan school districts.

Swearer and her colleagues (2009) encourage in-service and preservice educators to conceptualize the social-ecological factors that may influence bullying behaviors prior to intervention. According to Bronfenbrenner's (1979) theoretical framework, individual, family, peer group, school, and community factors dynamically influence an adolescent's behavior. Swearer and her colleagues suggest a multilevel approach to address each social-ecological factor, if applicable, as an intervention strategy for educators. For example, these researchers recommend potential intervention strategies for individuals including: individual or group counseling, working with school psychologists and social workers, and teaching healthy problem solving and conflict resolution (Swearer et al., 2009). Moreover, peer group intervention strategies may include teaching about the negative consequences of bullying, breaking apart negative groups of students, identify and reward positive leaders, and creating conditions in schools where bullying are not rewarded (Swearer et al., 2009).

One consideration for music educators may be understanding and identifying potential victims of antisocial-aggressive behaviors before the advent of perpetration. For instance, Adderley (2009) highlights that adolescents enrolled in band classrooms specifically may spend additional instructional time together and remain as a group or cohort for multiple years. School communities are fluid and new students who relocate and attend school buildings may be socially excluded because of their socio-musical status. Likewise, adolescents wishing to join an established music ensemble class after initial formation may be excluded from the peer group because of their potential for deficit in technical prowess. Music educators should take care with introducing new students to their performance classes and match new students with adolescents who have elevated levels of musical achievement and social capital. There may be other considerations with identifying potential victims in music classrooms; however, most are unique

133

to school and community settings. Taken altogether, one principle exists; potential victims of antisocial-aggressive behaviors are perceived by adolescents as outsiders. If music educators are keenly aware of students who are perceived as outsiders or do not have a social group within the music or ensemble class, the potential for bullying behaviors and peer victimization may be diminished.

Past research in music education has documented situations of peer exclusion in school band (Carter, 2011; Hoffman, 2008; Taylor, 2009). Students who are different from the established school ensemble culture, but still volunteer to join a musical ensemble may be targets for antisocial-aggressive behaviors from their music peers. This type of behavior has been documented in only a few studies involving school ensembles (Abeles et al, 2014; Buttu, 2008; Conway, 2000; Sinsabaugh, 2005; Taylor, 2009); however, additional evidence of hazing and harassment behaviors in marching ensembles exists with late adolescent populations (Brinkley, 2014; Carter, 2013). The results of this study do improve the field's understanding of peer relationships by demonstrating a difference between music ensemble and non-ensemble adolescents on the relationship with feelings of school connectedness and bullying behaviors. Researchers suggest that students who bully others have high levels of moral disengagement (Hymel, Rocke-Henderson, & Bonanno, 2005), and this capacity to disengage might be elevated for students who engage in cyberbullying since technology may allow the perpetrators a level of anonymity (Suler, 2004). Educators need to discuss with students about the responsible and respectful use of technology, as well as have policies in place for their appropriate use. Consequently, teachers should educate themselves about ways in which adolescents use popular social media sites, online applications, and cellular technology for prosocial and deviant motives.

It is important for all teachers to understand the potential for antisocial-aggressive behaviors; however, what may be essential for music teachers is how they make sense of the atmosphere of the music classroom. The academic classroom environment and teacher pedagogy are inextricably linked as demonstrated by the research of Eccles and Roeser (2011). This research may also align with music teaching and student musical learning. For instance, if the music classroom environment distracts adolescents from engaging with their music making, then it may be plausible to hypothesize that adolescents are not able to have an affective experience with music. Moreover, when an adolescent's mental availability is consumed with a potential for peer victimization, they are not able to fully engage in their musical learning. Therefore, music teachers must notice and anticipate the atmosphere of the classroom in order to monitor student learning, which directly informs their practice.

Adolescents participating in musical ensembles may feel connected to one another because of their shared musical interests and shared number of hours with the class (Adderley et al., 2003). Furthermore, ensemble classes such as band have been found to be though of as a "…home away from home" (Adderley et al., 2003, p. 190). By virtue of additional performing opportunities including concerts, festivals and competitions, in-service music teachers are in a position to regularly monitor levels of connectedness in their classrooms and adjust instruction to promote peer respect, feelings of belonging, and teacher respect. Results from the current study indicate that the participants felt relatively high levels of connection to school. Yet, there was no statistical difference between the mean scale scores when ensemble and non-ensemble participants were compared. These feelings of connection may not, however, be shared by all music ensemble students. In-service teachers need to partner with university researchers to conduct assessments of students' perceptions of peer respect and trust, teacher respect and

comfort, and feelings' of belonging in order to comprehend the atmosphere in the room. Following an evaluation of the data, create a data-based decision to adjust the climate through the use of individual school and/or classroom data to help guide intervention strategies. In-service teachers may choose to intervene to promote higher levels of school connectedness, as McNeely and her colleagues (2010) have determined, predict higher academic achievement and promote positive well-being. Intervention strategies for addressing school connectedness may include music teacher-guided discussions about respectful peer interactions, co-creation of classroom policies regarding music program operations, team- and/or trust-building activities, and anonymous feedback about perceived teacher respect and comfort. These strategies may illuminate the social dynamics of a music classroom or program, which may differ in important ways from other classrooms.

Implications for Music Teacher Education

Music teacher educators have many diverse roles in the preparation of preservice music teachers and crafting fieldwork experiences representative of the modern workplace may be challenging. Fieldwork teaching or observations in music classrooms must include a variety of settings; however, also reflect contemporary issues in schools. One contemporary issue with schools is alleviating aggression with adolescents. Antisocial-aggressive behaviors interfere with the primary mission of schools and, thus, musical learning. Issues of aggression should be addressed within music teacher education programs because this is important to the overall health and well-being of adolescents. Although it is important to note that overall levels of aggression were low for all participants, the results of the current study found that music ensemble students are less likely to experience and perpetrate bullying behaviors when they are connected to school. Bullying behaviors and peer victimization may be concerns for some P-12

136

music programs. Guided discussion and stimulated recall exercises around noticing and diagnosing antisocial-aggressive behaviors in the music classroom may help prepare preservice teachers to understand trends with early adolescent behavior.

The indicators that inform school connectedness may guide music teacher educators in multiple areas of preservice music teacher development, including teacher reflection, observation protocols, peer teaching demonstrations, fieldwork teaching, and student teaching or internships. Incorporating language and topics associated with school connectedness and climate during foundational coursework experiences may heighten preservice music teacher's awareness of the importance of respect and belonging in the classroom. Facilitating discourse on school connectedness and its related indicators may elevate preservice teachers' understanding from the basic level of *what* and *how* instruction to higher levels of noticing the student's level of understanding and engagement. These are important components of pedagogical practice that should be considered in the future.

Suggestions for Future Research

This section of the chapter highlights suggestions for future research examining adolescent bullying behaviors and perceptions of school connectedness with music populations. First, suggestions for future research investigating bullying behaviors and peer victimization are discussed. Next, future directions examining adolescent perceptions of school connectedness are imagined. This section of the chapter concludes with suggestions for methodological advancements with analytic procedures that may be utilized investigating these behaviors and constructs.

Future Research Investigating Bullying Behaviors and Peer Victimization

The foundational research in music education reviewed in Chapter 2 identified a need to study instances of peer victimization; however, evidence from this study suggests that only few instances of peer victimization occurred within the two schools under investigation. The results from the current study clarify that adolescents from these two schools report relatively low average frequencies of bullying behaviors and peer victimization. Moreover, there is a statistical difference between the frequencies of these behaviors when ensemble participants are compared to non-ensemble participants. Despite the results, new distinctions may be necessary for future investigations. For instance, comparing participants in band with participants in choir, orchestra, or a music appreciation course may reveal interesting trends related to ensemble dynamics or instrumentation. Moreover, researchers should consider including controls for socio-economic status and self-reported race, and perhaps diversify the sample by including additional populations from metropolitan centers.

The results from research question one revealed that participants in the current study experienced relatively low levels of both bullying behaviors and moderately low levels of peer victimization. However, further research is needed to extend and clarify the results in order to understand how the interactions of dynamic social-ecological factors such as schools, their policies, practices, faculty, peer groups, and community may protect against elevated levels of bullying. Specific evaluative research about the music programs selected for the current study may illuminate, clarify, and explain why relatively low frequencies of bullying behaviors and peer victimization exist with this population from central Illinois. Future research might examine questions such as the following: What are the pedagogical practices of the music education profession that motivate students to perpetrate aggressive behaviors? What elements of the

atmosphere of the music classroom will inform an in-service music teacher's impressions of a positive classroom climate?

Researchers in music education may also choose to replicate the current study with a larger sample from various geographic regions. Replication of the current study with a larger and more diverse sample will better inform researchers in music education about the generalizability of bullying behaviors across populations. Similarly, further study of aggression and connectedness within varying educational settings including parochial, private, and single-sexed school environments will be helpful in understanding these important issues. These educational settings are underrepresented in the extant research on bullying in schools, and thus such research may reveal new information about how music populations within these environments are both perpetrating bullying behaviors and experiencing peer victimization.

A prominent focus of some researchers investigating bullying in schools has been examining behaviors associated with victimizing LGBTQ adolescent populations (Espelage & Swearer, 2010). Research suggests that victimization as a result of homophobia is not necessarily limited to LGBTQ-identified individuals, but may create a hostile school environment for all students as it promotes and maintains masculine/feminine gender norms (Epstein, 2001). Although the focus of the current study was not to investigate homophobic name-calling or other behaviors directed at LGBTQ-identified individuals, issues of victimization related to subverting gender norms or gender atypicality are prominent in music education research. Abeles and his colleagues (2014), Buttu (2008), Conway (2000), Sinsabaugh (2005), and Taylor (2009) all suggest that adolescents who perform musical instruments atypical to their gender may be targets for bullying behaviors and harassment by their peers. Future research may seek to learn more

about homophobic bullying or victimization with music populations, and if music participation is associated with or predicts LGBTQ peer-victimizing experiences during adolescence.

Future Research Investigating School Connectedness

The latent construct of school connectedness was measured in this study using four items from Goodenow's (1993) Psychological Sense of School Membership (PSSM) Scale, including: *The teachers here respect me, I am treated with as much respect as other students are, There is at least one teacher or other adult in this school I can talk to if I have a problem,* and *I feel proud of belonging to this school*. One limitation from research question two may be that only four indicators were used to inform the construct of school connectedness. A pool of 20 items were located from the Add Health student survey (Sieving et al., 2001) that capture the facets of connectedness among adolescents as identified by Goodenow. All four indicators included in the current study were found in the pool of 20 items. Future studies may consider utilizing additional indicators to inform the construct.

The results from this study, when compared to the work of Miksza (2010), indicate a need for more research on the topic of school connectedness in music education. For instance, to what extent, if any, does geographic location and socio-economic status contribute to music participation and feelings of belonging? Moreover, do peer relationships or social networks contribute to participation in music and indicators of school connectedness? There are many possible future directions for researchers in music education on the topic of school connectedness. An investigation examining a broader conceptualization of connectedness to inform school climate is suggested. The broad construct of school climate subsumes school connectedness and therefore, provides an optimistic path for new lines of inquiry for the profession. For example, federal programs such as *No Child Left Behind* (NCLB, 2001) have

specifically recognized school climate as a target for future research. These initiatives allocate substantial grant monies available for researchers interested in pursuing this work. Interdisciplinary authorship with teams of researchers in the fields of educational psychology, public health, nursing, and adolescent development is recommended in order to properly interpret data collected from music students. Regrettably, at the time this study was conducted, the National Longitudinal Study of Adolescent Health (Add Health) survey did not generate information about music participation of adolescents. In future years, music education professionals should advocate for inclusion of music variables in the Add Health survey.

Suggestions for Methodological Advancement

Descriptive investigations assist any field of study in understanding populations of interest and adding to the overall narrative about the topic or phenomenon under examination. More descriptive studies with varying populations are needed to understand the complex phenomenon of bullying, peer victimization, and school connectedness. However, a goal of this research should also be to inform potential prevention and intervention strategies. Therefore, the creation and analysis of longitudinal data with demographic variables that identify students enrolled in music courses may be extremely valuable in informing such behavioral prevention and intervention strategies.

Future research might utilize longitudinal techniques to track participant enrollment in music alongside bullying behaviors, both face-to-face and on cyber platforms. This information would be beneficial to the field of music education, as it may inform how music participation may be a protective factor against peer victimization within specific geographic regions or populations. Moreover, examining those participants who elected to either stop or increase their school-based musical education may help elucidate these findings. With the current sample,

school connectedness did not mediate the associations with music ensemble participation and bullying perpetration/victimization; however, other factors may be explored in future investigations. For example, empathy may be a mediating factor in explaining the association with music ensemble participation and cyberbullying.

Future researchers need to examine the contextual influences that may contribute to this difference. Through additional mediation analyses, it was determined that the construct of school connectedness was not the mediating factor explaining the effect of music ensemble participation on relatively low bullying perpetration and peer victimization experiences with this sample of middle school participants. Further studies are needed to replicate and confirm this result. The examination of additional constructs, including peer connectedness, empathy, and self-efficacy as mediating factors may elucidate the effect of music ensemble participation in middle school on bullying behaviors and peer victimization. Moreover, family characteristics may be of future interest to researchers in music education.

<center>**Limitations**</center>

Design and Internal Validity

There are several important limitations to discuss that pertain to the overall study's design and internal validity. First, adolescents enrolled in a music ensemble course were of primary interest in this study, whereas students enrolled in non-performing music classes were categorized within the non-ensemble group. Conceptually, music ensemble performing experiences are similar for band, orchestra, and choir class in middle school. Non-performing music classes in middle school do not share these similarities.

Next, this study utilized data from a large, in progress study to answer the research questions. Although I was able to contribute and author specific questionnaire items for use in

<center>142</center>

this study, there are limitations to this collaborative approach. The first, and primary, limitation is that the data was collected by a research team dedicated to the purpose of the parent study described in Chapter 3. Particular aggression, victimization, and connectedness measures used in this questionnaire were abbreviated because the overall project was designed to serve multiple purposes in order to support a multidisciplinary team. This dataset provided a breadth of constructs available; however, another related limitation was the depth of measurement. Demographic information about home life (e.g., single or double parent household, parent work schedule) or socio-economic status (SES) was not an aim of the study from which this dataset was generated, and, therefore, was not available for use within this current study.

Another limitation is that behaviors on this questionnaire were self-reported by adolescents. Adolescents may have reason to report socially acceptable answers to adults despite the researcher's promising of participant anonymity. Results from research question one indicated that participants are less likely to report bullying perpetration and more likely report instances of peer victimization. Despite these limitations, the data collected provides insight into the perceptions of connectedness and bullying perpetration and victimization.

External Validity and Generalizability

This study is limited to a survey of two middle schools located in a large Midwestern city in central Illinois. Adolescents were invited to participate in this study and, therefore, volunteer bias may be considered a limitation to making inferences past the school population. For instance, these samples only include respondents who chose to participate, whereas a random sample would need to include people whether or not they chose to volunteer. Often, volunteer samples oversample people who have similar opinions or perceptions and under sample people who do not understand or care about the researched topic. Participants who were the perpetrators

of antisocial-aggressive behaviors and bullying may be hesitant to report their perceptions accurately due to social dynamics of the adolescent group. Therefore, volunteer samples are not as trustworthy as conclusions based on a random sample of the entire population under investigation. Because of this, researchers may cautiously interpret the results beyond the current study.

Sampling procedures associated with the current study may impact the generalizability of the results beyond the schools included in the study. In Chapter 3, I outlined the sampling method and offered criteria that support selecting two schools for this study. Additionally, I also provided justification for the limited response rate for School A. A limitation of this study may be including School A within the dataset; thus, cautious interpretations of the results are encouraged.

Analyses

A missing data pattern analysis was conducted in Statistical Package for the Social Sciences (SPSS 22.0 for Mac). Since missingness can bias a sample (Davey, Savla, & Lao, 2005; Rubin, 1976), it was necessary to account for the missing values to best represent the music ensemble and non-ensemble student populations. The data for the current sample was approached as Missing at Random (MAR) because the missingness on any give variable was not related to itself, but the pattern may be related to another measure variable (Enders & Peugh, 2004). Schafer and Graham (2002) contend that MAR is an assumption and "there is no way to test whether MAR holds in a dataset" because data is not available from non-responders (p. 152). Moreover, Collins, Shafer, and Kam (2001) argued that the MAR assumption has minimal impact on estimates and standard errors.

A final limitation is the potentially low reliability of the final model fits for multiple-group SEM analyses. According to Acock (2013), several model fit indices demonstrated that all models met the threshold for "minimally acceptable fit." However, specific academic disciplines may have more stringent recommendations for acceptable model fit. The theoretical structural models displayed with Chapter 3 graphically represent and explain relationships explicated by past empirical investigations. Although the current models demonstrate a "minimally acceptable fit", there may be methods of improving the model fit. My analytic approach was theoretically driven and therefore, additional relationships that exist with the data were not investigated. Data driven methods of modifying parameters to improve fit indices were not utilized in the current study.

Conclusion

The purpose of this study was to examine the relationship between school connectedness and youth aggression with middle school students enrolled and not enrolled in a school-based music ensemble. In this dissertation, details about the paradox between aggression and connection in school music ensemble culture and dominant theories and correlates of bullying and school connectedness were reviewed, and attempts were made to discover how these behaviors exist within a school-based music ensemble classroom. The school-based music ensemble classroom is a complex learning environment. Studies by Adderley (2009) and Adderley et al. (2003) explored the culture of one particular ensemble, the school band, and found that youth perceive the band classroom as a "home away from home" (p. 190). However, adolescents also report instances of verbal aggression targeting peers enrolled in music classes (Abeles, et al., 2014; Buttu, 2008; Carter, 2011, 2013; Conway, 2000; Elpus & Carter, 2013; Sinsabaugh, 2005; Taylor, 2009, 2011). Thus, there are complexities between the traditions,

beliefs, and values of the school-based music ensemble classroom, which may promote feelings of connection to school, and the tensions of practice with the music ensemble classroom, which may promote conflict and aggression between peers.

Structural equation modeling analyses were conducted utilizing data from a moderately large sample of middle school students located in central Illinois. Results from these analyses indicate that the level of associations between school connectedness and bully perpetration/victimization did significantly differ for adolescents enrolled in a music ensemble course during middle school; however, these associations were not found to be significant for non-ensemble youth. This result suggests that participation in a music ensemble class during middle school impacts the relationship between the perceived feelings of school connectedness and self-reported experiences of peer victimization and perpetration of bullying behaviors. Moreover, the level of associations between school connectedness and Internet Harassment perpetration/victimization were significantly associated with the current sample regardless of enrollment in a school-based music ensemble. A final mediation model revealed that school connectedness did not mediate the relationship between music ensemble participation on self-reported behaviors associated with bullying, peer victimization, or Internet Harassment perpetration and victimization. Future research needs to expand these models to include mediators and moderators of this association and identify points of intervention.

In this dissertation, I also discussed how advances in theoretical frameworks and research have important implications for research in music education. Attachment, social-ecological, social learning, control, and capital theories have the potential to frame within music education how adolescents perceive their connections to school and participate in antisocial-aggressive behaviors, as a perpetrator, victim, or both. Perpetrators are hypothesized to exert dominance

over others because of nested and dynamic influences that may influence their behaviors. Multiple theoretical approaches can help guide future music education researchers to understand the mediating factors that contribute to relatively low frequencies of perpetration and victimization of bullying behaviors with band and possibly other music populations.

There are still many unknown influences that may affect adolescent antisocial-aggressive behaviors. However, researchers continue to investigate multiple avenues for determining potential prevention and intervention with adolescent populations. Future research on these important topics in music education may help to extend the results of this study to learn whether participation in band and music courses during middle school serves to protect youth from perpetrating bullying behaviors or experiencing peer victimization.

Appendix A

Data Use Agreement
Dorothy L. Espelage, Ph.D., Principle Investigator (PI)
University of Illinois, Urbana-Champaign
Project:

I, _____Jared Rawlings_____, on this date, ___12/15/2014___, willingly agree to take
responsibility for the approved datasets, listed below, and agree to the following stipulations:

  1. I will not distribute the datasets, or any portion of the data within the datasets, to the public in any manner.

  2. I will not disseminate results of any analyses in a public or private manner without the inclusion or agreement of the PI.

  3. I will not submit any dissemination to any governing body or organization without the inclusion or agreement of the PI.

  4. I will not use the datasets or the results of analyses within presentations, educational courses, or publications without the inclusion or agreement of the PI.

  5. I will store the datasets on a computer hard drive. The datasets may not be stored on a detachable storage device such as a flash drive or online storage software (i.e., Google Drive, Dropbox, etc.).

  6. I will only analysis data related to the bullying and sexual violence experiences and school sense of belonging (DVs) for the independent variable that assessed enrollment in music classes.

  7. I will refer to the CDC grant number on all writings of these data.

In addition, by signing this agreement, you understand that the PI may remove access to the approved datasets at any time for any reason. Failure to comply with the stipulations above will constitute immediate removal of access.

I hereby agree to the above stipulations.

Dataset recipient signature:_____ Date: 12/15/2014

Principle Investigator signature: _____ Date: ___12/21/201 4___

148

Appendix B

Email requesting music department information

Dear Music Teacher,

Thank you for offering to provide a brief background about your music department. As you know, your school is participating in the *Second Step* program or *Second Step* including *Shifting Boundaries* program under the supervision of Dr. Dorothy Espelage. Consequently, I am conducting a study about students enrolled in music classes that will be simultaneously collected. The purpose of my investigation is to examine the relationship between connectedness and youth aggression with band and non-band middle school students. In order to understand the possible response options for music students, I am seeking information about what courses are offered at your school. For example:

- Describe the ensemble(s) you teach (i.e., ability level, number of concerts per year).
- List the music courses that are offered during the school day and outside of the school day.

Thank you for your time and support with this project.

Sincerely,

Jared R. Rawlings
PhD Pre-Candidate – The University of Michigan

Appendix C

Music Variable

Q1 Are you taking any music classes? If so, please select the class.

- No music class (0)
- Band (1)
- Choir (2)
- Orchestra (3)
- Non-performance music course (e.g., theory, appreciation, creative arts) (4)

References

Abeles, H. F., Hafeli, M., & Sears, C. (first online, 2014). Musicians crossing musical instrument gender stereotypes: A study of computer-mediated communication. *Music Education Research*, 1–21. doi:10.1080/14613808.2014.906395

Abril, C. R. (2013). Perspectives on the school band from hardcore American band kids. In P.S. Campbell, & T. Wiggins (Eds.), *The Oxford handbook of children's musical cultures* (pp. 435-448). New York: Oxford University Press.

Achenbach, T. M. (1991). *Integrative guide for the 1991 CBCL/4-18, YSR, and TRF profiles.* Burlington, VT: University of Vermont, Department of Psychiatry.

Acock, A. C. (2013). *Discovering structural equation modeling using Stata*. College Station, TX: Stata Press.

Adderley, C., Kennedy, M., & Berz, W. (2003). "A Home Away from Home": The world of the high school music classroom. *Journal of Research in Music Education*, *51*, 190-205. doi:10.2307/3345373

Adderley, C. (2009). Music in motion: An overture to the student experience in the high school marching band. In J. Kerchner and C. R. Abril (Eds.), *Musical experience in our lives: Things we learn and meanings we make* (pp. 239-253). Lanham, MD: Rowman and Littlefield.

Adelman, H., & Taylor, L. (2011). Center for Mental Health in Schools. Embedding bullying

    interventions into a comprehensive system of student and learning supports. School Mental

    Health Project, Department of Psychology, UCLA.

Adler, P. A., & Adler, P. (1995). Dynamics of inclusion and exclusion in preadolescent cliques.

    Social Psychology Quarterly, *58*(3), 145–162.

American Educational Research Association (2013). *Prevention of bullying in schools, colleges,*

    and universities: Research report and recommendations. Washington, DC: Author.

American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders*

    (4th ed., text revision). Washington, DC: Author.

Astor, R. A., Meyer, H. A., Behre, W. J. (1999). Unowned places and times: Maps and

    interviews about violence in high schools. *American Educational Research Journal, 36,* 3-

    42. doi: 10.3102/00028312036001003

Atlas, R. S., & Pepler, D. J. (1998). Observations of bullying in the classroom. *Journal of*

    Educational Research, 92, 86-99. doi: 10/1177/0143034300211002

Bandura, A. (1973). *Aggression: A social learning analysis.* Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1977). *Social learning theory.* New York: General Learning Press.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*.

    Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual review of*

    psychology, *52*(1), 1-26. doi: 10.1111/1467-839x.00024

Barber, B. K., & Olsen, J. A. (1997). Socialization in context: Connection, regulation, and

    autonomy in the family, school, and neighborhood, and with peers. *Journal of Adolescent*

    Research, 12(2), 287-315. doi: 10.1177/0743554897122008

Barber, B. K., & Schluterman, J.M. (2008). Connectedness in the lives of children and

    adolescents: A call for greater conceptual clarity. *Journal of Adolescent Health, 43*, 209-

    216. doi: 10.1016/j.jadohealth.2008.01.012

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social

    psychological research: Conceptual, strategic, and statistical considerations. *Journal of*

    Personality and Social Psychology, *51*(6), 1173-1182.

Belsky, J., Friedman, S. L., & Hsieh, K. H. (2001). Testing a core emotion-regulation prediction:

    Does early attentional persistence moderate the effect of infant negative emotionality on

    later development? *Child Development, 72*, 123-133. doi: 10.1111/1467-8624.00269

Bejerot, S., Edgar, J., & Humble, M. B. (2011). Poor performance in physical education – a risk

    factor for bully victimization: A case-control study. *Acta Pædiatrica, 100,* 413-419. doi:

    10.1111/j.1651-2227.2010.02016.x

Bejerot, S., Plenty, S., Humble, A., & Humble, M. B. (2013). Poor motor skills: A risk marker

    for bully victimization. *Aggressive Behavior, 9999,* 1-9. doi: 10.1002/ab.21489

Blanton, W. L. (1962). *An experimental application of language theory, learning theory, and*

    personality theory to evaluate influence of music in language learning (Unpublished

    doctoral dissertation). The University of Texas.

Blum, R. W., & Libbey, H. (2004). School connectedness: Strengthening health and educational

    outcomes for teens: Executive summary. *Journal of School Health, 74*(1), 231-232.

Bowlby, J. (1969). *Attachment: Vo. 1. Attachment and loss.* New York: Basic Books.

Bracher, M. (2000). Adolescent violence and identity vulnerability. *Journal of the*

    Psychoanalysis of Culture & Society, 5, 189-211.

Bridges, L. J., & Connell, J. P. (1988). *Student performance and commitment index (SPCI), I:*
Calibration of middle school and high school starts and flags. Unpublished technical report.
Philadelphia, PA: Institution for Research and Reform in Education.

Brinkley, C. (2014, July 27). Ohio State's marching band culture: Innocent fun or abuse? *The*
Columbus Dispatch. Retrieved from
http://www.dispatch.com/content/stories/local/2014/07/27/blurred-lines.html

Britton, A. (1961). Music education: An American specialty. In P.H. Lang (Ed.), *One hundred*
years of music in America (pp. 211-229). New York: Schirmer.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and*
design. Cambridge, MA: Harvard University Press.

Bronfenbrenner, U., & Morris, P. (1998). The ecology of developmental processes. In R. M.
Lerner (Ed.), *Theoretical models of human development. Vol. 1 of the handbook of child*
psychology (5th ed., pp. 993-1028). New York: Wiley.

Bryne, B. (1994). Bullies and victims in a school setting with reference to some Dublin schools.
The Irish Journal of Psychology, 15, 574-586. doi: 10.1080/03033910.1994.10558031

Buhs, E. S., Ladd, G. W., & Herald-Brown, S. L. (2010). Victimization and exclusion: Links to
peer rejection, classroom engagement, and achievement. In S. R. Jimerson, S. M. Swearer,
& D. L. Espelage (Eds.) *Handbook of Bullying in Schools: An International Perspective* (pp.
163-172). New York: Routledge.

Buttu, S. H. (2008). *Perceptions of female students in a same-sex school: Gender stereotypes*
and musical instruments (Unpublished thesis). University of Michigan, Ann Arbor.

154

Carlyle, K. E., & Steinman, K. J. (2007). Demographic differences in the prevalence, co-occurrence, and correlates of adolescent bullying at school. *Journal of School Health, 77*(9), 623-629. doi: 10.1111/j.1746-1561.2007.00242.x

Carter, B. A. (2011). A safe education for all: Recognizing and stemming harassment in music classes and ensembles. *Music Educators Journal*, *97*(4), 29–32. doi:10.1177/0027432111405342

Carter, B. A. (2013). "Nothing better or worse than being Black, Gay, and in the band": A qualitative examination of gay undergraduates participating in Historically Black College or university marching bands. *Journal of Research in Music Education*, *61*, 26–43. doi:10.1177/0022429412474470

Catalano, R. F. et al. (2003). Raising healthy children through enhancing social development in elementary school: Results after 1.5 years. *Journal of School Psychology (41)*1, 143-164.

Catalano, R. F., Haggerty, K. P., Oesterle, S., Fleming, C. B., & Hawkins, J. D. (2004). The importance of bonding to school for healthy development: Findings from the Social Development Research Group. *Journal of School Health, 74*, 252–262. doi: 10.1016/s0022-4405(03)00031-1

Centers for Disease Control and Prevention (2009). *School connectedness: Strategies for increasing protective factors among youth.* Atlanta, GA: U.S. Department of Health and Human Services.

Clark, S. L. (2011). *Factors related to school violence victimization: The role of extra-curricular activities* (Unpublished doctoral dissertation). University of Iowa, Iowa City.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (*3rd ed.). New York: Academic Press.

Cohen, J. (2009). Transforming school climate: Educational and psychoanalytic perspectives. *Schools: Studies in Education, 6*(1), 99-103. doi: 10.1086/597659

Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 779-862). Hoboken, NJ: Wiley.

Coleman, J. S. (1990). *Foundations of social theory.* Cambridge, MA: Harvard University Press.

Collins, L. M., Schafer, J. L., & Kam, C-M. (2001). A comparison of inclusive and restrictive strategies missing data procedures. *Psychological Methods, 6*(4), 330-351. doi: 10.1037//1082-989X.6.4.330

Conn, K. (2004). *Bullying and harassment: A legal guide for educators*. Alexandria, VA: Association for Supervision and Curriculum Development.

Conway, C. M. (2000). Gender and musical instrument choice: A phenomenological investigation. *Bulletin of the Council for Research in Music Education, 146,* 1-15.

Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., & Sadek, S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School Psychology Quarterly*, *25*(2), 65-83. doi: 10.1037/a0020149

Craig, W. M., & Pepler, D. J. (1997). Observations of bullying and victimization in the schoolyard. *Canadian Journal of School Psychology, 13*(2), 41-59. doi: 10.1177/082957359801300205

Craig, W. M., Pepler, D. J., & Blais, J. (2007). Responding to bullying: What works? *School Psychology International, 28*(4), 465-477. doi: 10.1177/0143034307084136

Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66*, 710-722. doi: 10.2307/1131945

Currie, D. H., Kelly, D. M., & Pomerantz, S. (2007). The power to squash people: Understanding girls' relational aggression. *British Journal of Sociology of Education, 28*(1), 23-37. doi: 10.1080/01425690600995974

D'Esposito, S. E., Blake, J., & Riccio, C. A. (2011). Adolescents' vulnerability to peer victimization: Interpersonal and intrapersonal predictors. *Professional School Counseling, 14*(5), 299-309. doi: 10.5330/psc.n.2011-14.299

Dale, A., Arber, S., & Procter, M. (1988). *Doing secondary analysis*. London, UK: Unwin Hyman.

Davidson, J. W., Howe, M. J. A., Moore, D. G., & Sloboda, J. A. (1998). Characteristics of music teachers and the progress of young instrumentalists. *Journal of Research in Music Education*, *46*, 141-160. doi:10.2307/3345766

Dewey, J. (1916/2004). *Democracy and education: An introduction to the philosophy of education.* Mineloa, NY: Dover Publications.

Dillman, D. A., Eltinge, J. L., Groves, R. M., & Little, R. J. A. (2002). Survey nonresponse in design, data collection, and analysis. In R. M. Groves, D. A. Dillman, J. L., Eltinge, & R. J. A. Little (Eds.), *Survey nonresponse* (pp. 1-26). New York, NY: Wiley.

Eccles, J. S., & Barber, B. L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research*, *14*(1), 10–43. doi:10.1177/0743558499141003

Eccles, J. S., & Roeser, R. W. (2011). School and community influences on human development. In M. H. Bornstein & M. E. Lamb (Eds.), *Developmental science: An advanced textbook* (6th Ed., pp. 571-643). New York: Psychology Press.

Elgar, F. J., Craig, W., Boyce, W., Morgan, A., & Vella-Zarb, B. A. (2009). Income inequality and school bullying: Multilevel study of adolescents in 37 countries. *Journal of Adolescent Health, 45*, 351-359. doi:10.1016/j.jadohealth.2009.09.004

Elpus, K. (2014). *Arts education and positive youth development: Cognitive, behavioral, and social outcomes of adolescents who study the arts.* Manuscript in preparation.

Elpus, K., & Carter, B. A. (2013, April). Are arts students more likely to be bullied? The prevalence of bullying among arts participants. Paper presented at the Annual Meeting of the American Educational Research Association. San Francisco, CA.

Enders, C. K. (2009). A primer on maximum likelihood algorithms available for use with missing data. *Structural Equation Modeling: A Multidisciplinary Journal, 8*(1), 128-141. doi: 10.1207/S15328007SEM0801_7

Epstein, D. (2001). Boyz' own stories: Masculinities and sexualities in schools. In W. Martino, & B. Meyenn (Eds.), *What about the boys? Issues of masculinity in schools* (pp. 96-109). Philadelphia: Open University Press.

Eslea, M., Menesini, E., Morita, Y., O'Moore, M., Mora-Merchán, J. A., Pereira, B., et al. (2003). Friendship and loneliness among bullies and victims: Data from seven countries. *Aggressive Behavior, 30,* 71-83. doi: 10/1002/ab.20006

Espelage, D. L., & Holt, M. K. (2001). Bullying and victimization during early adolescence: Peer influences and psychosocial correlates. In R. Geffner & M. Loring (Eds.), *Bullying behaviors: Current issues, research, and interventions.* Binghamton, NY: The Haworth Press.

Espelage, D. L., & Horne, A. (2007). School violence and bullying prevention: From research-based explanations to empirically based solutions. In S. Brown & R. Lent (Eds.), *Handbook of counseling psychology* (4th ed., pp. 588-606). Hoboken, NJ: Wiley.

Espelage, D. L., & Swearer, S. M. (2003). Research on school bullying and victimization: What have we learned and where do we go from here? In S. M. Swearer & D. L. Espelage (Eds.), Bullying prevention and intervention: Integrating research and evaluation findings [Special issue]. *School Psychology Review*, *32*(3), 365-383.

Espelage, D. L., & Swearer, S. M. (2010). A social-ecological model for bullying prevention and intervention. In S. R. Jimerson, S. M. Swearer, & D. L. Espelage (Eds.) *Handbook of bullying in schools: An international perspective* (pp. 61-72). New York: Routledge.

Espelage, D. L., Holt, M. K., & Poteat, V. P. (2010). Individual and contextual influences on bullying. In J. L. Meece & J. S. Eccles (Eds.), *Handbook of research on schools, schooling, and human development* (pp. 146-159). New York: Routledge.

Espelage, D. L., Rao, M. A., & Craven, R. G. (2013). 5 theories of cyberbullying. In S. Bauman, D. Cross, & J. Walker (Eds.), *Principles of cyberbullying research: Definitions, measures, and methodology* (pp. 49-67). New York: Routledge.

Fagan, J., & Wilkinson, D. L. (1998). Guns, youth violence and social identity. In M. Tonry & M. H. Moore (Eds.), *Youth violence* (pp. 373-456). Chicago: University of Chicago Press.

Farb, A. F., & Matjasko, J. L. (2012). Recent advances in research on school-based extracurricular activities and adolescent development. *Developmental Review*, *32*(1), 1–48. doi:10.1016/j.dr.2011.10.001

Felix, E. D., & Green, J. G. (2010). Popular girls and brawny boys. In S. R. Jimerson, S. M. Swearer, & D. L. Espelage (Eds.) *Handbook of bullying in schools: An international perspective* (pp. 173-185). New York Routledge.

Fettrow, E. A. (2013). *An analysis of the relationship between bullying others, perceived school connectedness, academic achievement, and selected demographics among female high school athletes* (Unpublished doctoral dissertation). Kent State University.

Finkbeiner, C. (1979). Estimation for the multiple factor model when data are missing. *Psychometrika, 44*, 409-420. doi: 10.1007/bf02296204

Freiberg, H. J., (Ed.). (1999). *School climate: Measuring, improvising and sustaining healthy learning environments.* Philadelphia: Falmer.

Frey, K. S., Hirschstein, M. K., & Edstrom, L. V. (2009). Observed reductions in school bullying, nonbullying aggression, and destructive bystander behavior: A longitudinal evaluation. *Journal of Educational Psychology, 101,* 466-481. doi: 10.1037/a0013839

Gall, M. D. Gall. J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Boston: Allyn & Bacon.

Gano-Overway, L. A. (2013). Exploring the connections between caring and social behaviors in physical education. *Research Quarterly for Exercise and Sport*, *84*, 104–114. doi:10.1080/02701367.2013.762322

Gardner, R. D. (2006). *The development of a theoretical model to predict retention, turnover, and attrition of K-12 music teachers in the United States: An analysis of the Schools and Staffing Survey and Teacher Follow-up Survey (1999-2001).* (Unpublished doctoral dissertation). University of Rochester.

Gladden, R. M., Vivolo-Kantor, A. M., Hamburger, M. E., Lumpkin, C. D. (2013). *Bullying surveillance among youths: Uniform definitions for public health and recommended data elements, version 1.0.* Atlanta, GA; National Center for Injury Prevention and Control, Centers for Disease Control and Prevention and U.S. Department of Education. Retrieved from http://www.cdc.gov/violenceprevention/youthviolence/bullyingresearch/index.html

Goldweber, A., Wassdorp, T. E., & Bradshaw, C. P. (2013). Examining the link between forms of bullying behaviors and perceptions of safety and belonging among secondary school students. *Journal of School Psychology, 51*, 469-485. doi:10.1016/j.jsp.2013.04.004

Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30,* 79-90.

Gravetter, F. J., & Wallnau, L. B. (2004). *Statistics for the behavioral sciences* (6th ed.). Belmont, CA: Wadsworth.

Hamann, D. L., Mills, C., Bell, J., Daugherty, E., & Koozer, R. (1990). Classroom environment as related to contest ratings among high school performing ensembles. *Journal of Research in Music Education, 38*, 215-224. doi: 10.2307/33345185

Hamburger, M. E., Basile, K. C., & Vivolo, A. M. (2011). *Measuring bullying victimization, perpetrator, and bystander experiences: A compendium of assessment tools.* Atlanta, GA: Center for Disease Control and Prevention, National Center for Injury Prevention and Control.

Hawkins, J. D. et al. (1999). Preventing adolescent health-risk behaviors by strengthening protection during childhood. *Archives of Pediatrics and Adolescent Medicine 153*(3), 226-234. doi: 10.1001/archpedi.153.3.226

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new

   millennium. *Communication Monographs*, *76*(4), 408-420.

Heaton, J. (2012). What is secondary data analysis? In J. Goodwin (Ed.) *SAGE secondary data*

   analysis (pp. 1-21). London, UK: Sage.

Hinduja, S., & Patchin, J. W. (2009). *Bullying beyond the schoolyard: Preventing and*

   responding to cyberbullying. Thousand Oaks, CA: Sage Publications.

Hirschi, T. (1969). *Causes of delinquency*. Berkeley, CA: University of California Press.

Hoffer, C. R. (2008). *Introduction to music education* (3rd ed.). Long Grove, IL: Waveland Press,

   Inc.

Hoffman, A. R. (2008). *"Like who you are": Socially constructed identity in the middle school*

   band (Unpublished doctoral dissertation). University of Maryland, College Park.

Hong, J. S., & Espelage, D. L. (2012). A review of research on bullying and peer victimization in

   school: An ecological system analysis. *Aggression and Violent Behavior*, *17*, 311–322.

   doi:10.1016/j.avb.2012.03.003

Hood, B. S. (1973). *The effect of daily instruction in public school music and related experiences*

   upon nonmusical personal and school attitudes of average achieving third-grade students

   (Unpublished doctoral dissertation). Mississippi State University.

Hoy, W. K. (1990). Organizational climate and culture: A conceptual analysis of the school

   workplace. *Journal of Educational and Psychological Consultation, 1*(2), 129-168. doi:

   10.1207/s1532768xjepc0102_4

Hughes, T. (1968). *Tom Brown's schooldays.* New York: Airmont Publishing. (Original work

   published 1857).

Humphreys, J. T. (1995). Instrumental music in American Education: In service of many masters. *Journal of Band Research*, *20*(2), 39–70.

Humphreys, J. T. (2011). Observations about occupational identity among public school music teachers: Past and present. In P. M. Ward-Steinmann (Ed.), *Advances in social-psychology and music education research.* (pp. 127–138). London, UK: Ashgate.

Humphreys, J. T. (2012). Commentary: Ensembles. In G.E. McPherson, & G.F. Welch (Eds.), *The Oxford handbook of music education, volume 1* (pp. 785-789). New York: Oxford University Press.

Hyman, H. H. (1972). *Secondary analysis of sample surveys: Principles, procedures, and potentialities.* New York: John Wiley & Sons.

Hymel, S., Rocke-Henderson, N., & Bonanno, R. A. (2005). Moral disengagement: A framework for understanding bullying among adolescents. *Journal of Social Sciences, 8*, 1-11.

Illinois State Board of Education (2014). Illinois school report card. Retrieved August 26, 2014, from Illinois State Board of Education Web site:
http://webprod.isbe.net/ereportcard/publicsite/getsearchcriteria.aspx

James, L. R., & Brett, J. M. (1984). Mediators, moderators, and tests for mediation. *Journal of Applied Psychology*, *69*(2), 307-321.

Jose, P. E., Ryan, N., & Pryor, J. (2012). Does social connectedness promote a greater sense of well-being in adolescence over time? *Journal of Research on Adolescence, 22*(2), 235-251. doi:10/1111/j.1532-7795.2012.00783.x

Judd, C. M., & Kenny, D. A. (1981). Process analysis estimating mediation in treatment evaluations. *Evaluation Review*, *5*(5), 602-619.

Karcher, M. J. (2002a). The cycle of violence and disconnection among rural middle school

students: Teacher disconnection as a consequence of violence. *Journal of School Violence, 1*(1), 35-51. doi: 10.1300/j202v01n01_03

Karcher, M. J. (2002b). Connectedness and school violence: A framework for development

interventions. In E. Gerler (Ed.), *Handbook of school violence*, (pp. 7-42). Binghamton, NY:

Haworth Press.

Kempf, L. K. (1993). The empirical status of Hirschi's control theory. In F. Adler & W. S.

Laufer (Eds.), *New directions in criminology theory* (Vol. 4. pp. 143-185). New Brunswick,

NJ: Transaction.

Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to

student engagement and achievement. *Journal of School Health, 74*(7), 262–273. doi:

10.1111/j.1746-1561.2004.tb08283.x

Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York:

Guilford Press.

Kosciw, J. G. (2004) *The 2003 national school climate survey: The school-related experiences of

our nation's lesbian, gay, bisexual, and transgender youth.* New York: GLSEN.

Lagerspetz, K. M. (1982). Group aggression among school children in three schools.

Scandinavian Journal of Psychology, 23, 45-52. doi: 10.1111/j.1467-9450.1982.tb00412.x

Laine, K (2007). *American band: Music, dreams, and coming of age in the Heartland*. New

York: Gotham Books.

Lease, M. L., Musgrove, K. T., & Axelrod, J. L. (2002). Dimensions of social status in

preadolescent peer groups: Likeability, perceived popularity, and social dominance. *Social

Development, 11*, 508-533. doi: 10.1111/1467-9507.00213

Lee, W. R., & Worthy, M. D. (2012). North American school ensembles. In G.E. McPherson, & G.F. Welch (Eds.), *The Oxford handbook of music education, volume 1* (pp. 807-825). New York: Oxford University Press.

Lerner, R. M. (1991). Changing organism-context relations as the basic process of development: A developmental contextual perspective. *Developmental Psychology, 24*(1), 27-32. doi: 10.1037//0012-1649.27.1.27

Libbey, H. (2004). Measuring student relationships to school: Attachment, bonding, connectedness and engagement. *Journal of School Health, 74*(4), 274-283. doi: 10.1111/j.1746-1561.2004.tb08284.x

Libbey, J. (2007). *School connectedness: Influence on educational attainment and emotional distress* (Unpublished doctoral dissertation). University of Minnesota, Minneapolis.

Little, T. D. (1997). Mean covariance structures (MACS) analyses of cross-cultural data: Practical and theoretical issues. *Multivariate Behavioral Research, 32*, 53-76.

Little, T. D., Lindenberger, U., & Nesselroade, J. R. (1999). On selecting indicators for multivariate measurement and modeling with latent variables: When "good" indicators are bad and "bad" indicators are good. *Psychological Methods, 4,* 192-211.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, *9*, 151-172. doi: 10.1207/S15328007SEM0902_1

Low, S., Frey, K. S., & Brockman, C. J. (2010). Gossip on the playground: Changes associated with universal intervention, retaliation beliefs, and supportive friends. *School Psychology Review, 39*(4), 536-551.

Luengo, J., García, S., & Herrera, F. (2010). A study on the use of imputation methods for

    experimentation with radial basis function network classifiers handling missing attribute

    values: The good synergy between RBFNs and event covering method. *Neural Networks,*

    23, 406-418. doi: 10.1016/j.neunet.2009.11.014

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and

    determination of sample size for covariance structure modeling. *Psychological Methods, 1*,

    130-149. doi: 10.1037/1082-989x.1.2.130

MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on

    student achievement. *International Journal of Leadership in Education, 12*(1), 73-84.

    doi:10.1080/13603120701576241

Mantie, R. (2012). Striking up the band: Music education through a Foucaultian lens. *Action,*

    Criticism, and Theory for Music Education, 11(1), 99-123. Retrieved from

    http://act.maydaygroup.org/articles/Mantie11_1.pdf

Marini, Z., Fairburn, L., & Zuber, R. (2001). Peer harassment in individuals with developmental

    disabilities: Towards the development of a multidimensional bullying identification model.

    Developmental Disabilities Bulletin, 29, 170-195.

Matthews, W. K., & Kitsantas, A. (2007). Group cohesion, collective efficacy, and motivational

    climate as predictors of conductor support in music ensembles. *Journal of Research in*

    Music Education, *55*, 6–17. doi:10.1177/002242940705500102

Mayer, D. (2008). Cyberbullying: An ethnographic case study of one Australian upper primary

    school class. *Youth Studies Australia, 27*, 50-57.

McNeely, C. A., & Falci, C. (2004). School connectedness and the transition into and out of

    health risk behaviors among adolescents: A comparison of social belonging and teacher

support. *Journal of School Health, 74*(1), 284-292. doi: 10.1111/j.1746-
1561.2004.tb08285.x

McNeely, C., Whitlock, J., & Libbey, H. (2010). School connectedness and adolescent well-
being. In S. L. Christenson & A. L. Reschly (Eds.) *Handbook of school-family partnerships*
(pp. 266-286). New York: Taylor & Francis.

Meece, J. L., & Schaefer, V. A. (2010). Schools as a context of human development. In J. L.
Meece & J. S. Eccles (Eds.), *Handbook of Research on Schools, Schooling, and Human
Development* (pp. 3-5). New York: Routledge.

Merrell, K. W., Gueldner, B. A., Ross, S. W., & Isava, D. M. (2008). How effective are school
bullying intervention programs? A meta-analysis of intervention research. *School
Psychology Quarterly*, *23*(1), 26-42. doi: 10.1037/1045-3830.23.1.26

Miksza, P. (2010). Investigating relationships between participation in high school music
ensembles and extra-musical outcomes: An analysis of the Education Longitudinal Study of
2002 using a bioecological development model. *Bulletin of the Council for Research in
Music Education, 186,* 7-25.

Mishna, F. (2012). *Bullying: A guide for research, intervention, and prevention*. New York:
Oxford University Press.

Monks, C. P., & Coyne, I., (2011). A history of research into bullying. In C.P. Monks & I.
Coyne (Eds.), *Bullying in Different Contexts*. New York, NY: Cambridge University Press.

Morrison, S. J. (2001). The school ensemble a culture of our own. *Music Educators Journal*,
88(2), 24-28. doi:10.2307/3399738

Morrison, S. J., & Demorest, S. M. (2012). Once from the top: Reframing the role of the

    conductor in ensemble teaching. In G.E. McPherson, & G.F. Welch (Eds.), *The Oxford*

    handbook of music education, volume 1 (pp. 826-843). New York: Oxford University Press.

Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001).

    Bullying behaviors among US youth: Prevalence and association with psychosocial

    adjustment. *Journal of the American Medical Association*, *285,* 2094-2100. doi:

    10.1001/jama.285.16.2094

National Research Council and Institute of Medicine (2002). *Community programs to promote*

    youth development. Committee on community-level programs for youth. J. Eccles & J. A.

    Gootman (Eds.), Board on Children, Youth, and Families, Division of Behavioral and Social

    Sciences and Education. Washington, DC: National Academy Press.

No Child Left Behind (NCLB) Act of 2001. Pub.L.No. 107-110, € 115, tat. 1425 (2002).

O'Brennan, L. M., & Furlong, M. (2010). Relations between students' perceptions of school

    connectedness and peer victimization. *Journal of School Violence, 9*(4), 375-391.

    doi:10.1080/15388220.2010.509009

Olweus, D. (1991). Bully/victim problems among schoolchildren: Basic facts and effects of a

    school based intervention program. *The development and treatment of childhood*

    aggression, *17*, 411-448.

Olweus, D. (1993). *Bullying at school: What we know and what we can do.* Oxford, UK:

    Blackwell.

Osterman, K. F., (2001). Students' need for belonging in the school community. *Review of*

    Educational Research, 70(3), 323-367. doi: 10.3102/00346543070003323

Parada, R. H. (2000). *Adolescent peer relations instrument: A theoretical and empirical basis for the measurement of participant roles in bullying and victimization of adolescence: An interim test manual and a research monograph: A test manual.* Penright South, DC, Australia: Publication Unit, Self-concept Enhancement and Learning Facilitation (SELF) Research Centre, University of Western Sydney.

Pellegrini, A. D. (2002). A longitudinal study of bullying, dominance, and victimization during the transition from primary to secondary school. *British Journal of Developmental Psychology, 20,* 259-280. doi: 10/1348/026151002166442

Perry, A. (1908). *The management of a city school*. New York: Macmillan.

Pitts, S. E., Davidson, J. W., & McPherson, G. E. (2000). Models of success and failure in instrumental learning: Case studies of young players in their first 20 months of learning. *Bulletin of the Council for Research in Music Education, 146*, 51-69.

Planty, M., Hassar, W., Snyder, T., Kena, G., Dinkes, R., Kewal Ramani, A. J. et al. (2008). *The conditions of education 2008* (NCES 2008-31). Washington, DC: National Center for Educational Statistics, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://nces.ed.gov.

Power, A. (2008). What motivates and engages boys in music education? *Bulletin of the Council for Research in Music Education, 175*, 85-102.

Prinstein, M. J., & Dodge, K. A. (Eds.). (2008). *Understanding peer influence in children and adolescents*. New York: Guilford Press.

Puhl, R. M., Peterson, J. L., & Luedicke, J. (2013). Strategies to address weight-based victimization: Youths' preferred support interventions from classmates, teachers, and

parents. *Journal of Youth and Adolescence*, *42*(3), 315–327. doi:10.1007/s10964-012-9849-5

Rawlings, J. R. (2014). Understanding bullying from inside the band classroom. Manuscript submitted for publication.

Rawlings, J. R. (2015). Traversing the terrain of music competition: Curricular mapping with adjudicated events in mind. In C. M. Conway (Ed.) *Focusing on Musicianship in Designing Curriculum and Assessment*. Chicago: GIA.

Rawlings, J, R., & Stoddard, S. A. (2013). *The contagion of cruelty: A critical review of anti-bullying programs.* Manuscript submitted for publication.

Rawlings, J. R., & Stoddard, S. A. (2014a). *Peer connectedness in the middle school band classroom.* Manuscript submitted for publication.

Rawlings, J, R., & Stoddard, S. A. (2014b). *School connectedness in the middle school band classroom.* Manuscript in preparation.

Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., ... & Udry, J. R. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *JAMA, 278*(10), 823-832. doi: 10.1001/jama.278.10.823

Rigby, K. (2002). *New perspectives on bullying.* London, UK: Jessica Kingsley.

Rugg, H. (1969). *Curriculum-making: Past and present*. New York: Arno Press & The New York Times.

Saltzman, L. E., Fanslow, J. L., McMahon, P. M., & Shelley, G. A. (2002). *Intimate partner violence surveillance: Uniform definitions and recommended data elements: Version 1.0.*

Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury

    Prevention and Control.

Scherr, T. G., & Larson, J. (2010). Bullying dynamics associated with race, ethnicity, and

    immigration status. In S. R. Jimerson, S. M. Swearer, & D. L. Espelage (Eds.) *Handbook of*

    Bullying in Schools: An International Perspective (pp. 223-234). New York: Routledge.

Sieving, R. E., Beuhring, T., Resnick, M. D., Bearinger, L. H., Shew, M., Ireland, M., & Blum,

    R. W. (2001). Development of adolescent self-report measures from the National

    Longitudinal Study of Adolescent Health. *Journal of Adolescent Health*, *28*(1), 73–81.

    doi:10.1016/S1054-139X(00)00155-5

Silveira, J. M., & Hudson, M. W. (2014, April). Hazing in the college marching band. Poster

    presented at the Biennial Meeting of the National Association for Music Education. St.

    Louis, MO.

Sinsabaugh, K. (2005). *Understanding students who cross over gender stereotypes in musical*

    instrument selection (Unpublished doctoral dissertation). Teachers College, Columbia

    University, New York.

Sloboda, J. (2005). *Exploring the musical mind*. Oxford, UK: Oxford University Press.

Smith, P. K., Cowie, H., Olafsson, R. F., & Liefooghe, A. P. D. (2002). Definitions of bullying:

    A comparison of terms used, and age and gender differences in a fourteen-country

    international comparison, *Child Development, 73*(4), 1119-1133. doi: 10.1111/1467-

    8624.00461

Stata Corporation. (2014). *Stata Statistical Software 13.0*. College Station, TX: Stata

    Corporation.

Stewart, D. W., & Kamins, M. A. (1993). *Secondary research: Information sources and methods* (2nd ed.). Newbury Park, NJ: Sage.

Stone, S., & Han, M. (2005). Perceived school environments, perceived discrimination, and school performance among children of Mexican immigrants. *Children and Youth Services Review, 27,* 51-66. doi: 10.1016/j.childyouth.2004.08.011

Streeck-Fischer, A., & Van der Kolk, B. A. (2000). Down will come baby, cradle and all: Diagnostic and therapeutic implications of chronic trauma on child development. *Australian and New Zealand Journal of Psychiatry, 34*, 903-918. doi: 10.1080/000486700265

Suler, J. (2004). The online disinhibition effect. *CyberPsychology & Behavior, 7*, 321-326. doi: 10.1089/1094931041291295

Swearer, S. M., Espelage, D. L., & Napolitano, S. A. (2009). Bullying prevention and intervention: Realistic strategies for schools. New York: Guilford Press.

Swearer, S. M., Espelage, D. L., Vaillancourt, T., & Hymel, S. (2010). What can be done about school bullying? Linking research to education practice. *Educational Researcher, 39*(1), 38-47. doi: 10.3102/0013189X09357622

Taylor, D. M. (2009). Support structures contributing to instrument choice and achievement among Texas all-state male flutists. *Bulletin of the Council for Research in Music Education, 179,* 45-60.

Taylor, D. M. (2011). Bullying: What can music teachers do? *Music Educators Journal*, *98*(1), 41–44. doi:10.1177/0027432111411717

Thompson, M. B. (2015). Mallory Thompson. In M. Camphouse (Ed.) *Whatsoever things…The life and teachings of John P. Paynter* (pp. 191-199). Chicago: GIA.

Trzesniewski, K. H., Donnellan, M., & Lucas, R. E. (2011). *Secondary data analysis: An introduction for psychologists*. Washington, DC: American Psychological Association.

Ttofi, M. M., & Farrington, D. P. (2012). Risk and protective factors, longitudinal research, and bullying prevention. *New Directions for Youth Development, 133*, 85-98. doi: 10.1002/yd.20009

Vance, J. (2014). *Findings from the field: A pedagogical and cultural study of the North American drum and bugle corps experience*. (Unpublished doctoral dissertation). Teachers College, Columbia University, New York.

Vreeman, R. C., & Carroll, A. E. (2007). A systematic review of school-based interventions to prevent bullying. *Archives of Pediatrics & Adolescent Medicine*, *161*(1), 78-88. doi: 10.1001/archpedi.161.1.78

Wang, J., Iannotti, R. J., & Nansel, T. R. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal of Adolescent Health, 45*, 368-375. doi:10.1016/j.jadohealth.2009.03.021

Wang, M. C., Haertel, G. D., & Walberg, H. J. (1997). Learning influences. In H. J. Walberg, & G. D. Haertel (Eds.), *Psychology and educational practice* (pp. 199-211). Berkley, CA: McCuthan.

Weisberg, H. I. (2010). *Bias and causation: Models and judgment for valid comparisons.* Hoboken, NJ: John Wiley & Sons.

Wilson, G. B., & MacDonald, R. A. R. (2012). The sign of silence: Negotiating musical identities in an improvising ensemble. *Psychology of Music*, *40*(5), 558–573. doi:10.1177/0305735612449506

Wingspread Declaration on School Connections. (2004). *Journal of School Health, 74,* 233-234.

Whitlock, J. L. (2006). Youth perceptions of life at school: Contextual correlates of school connectedness in adolescence. *Applied Developmental Science, 10*(1), 13-29. doi: 10.1207/s1532480xads1001_2

Whitwell, D. D., & Dabelstein, C. (2011). *A concise history of the wind band*. Austin, TX: Whitwell Publishing.

Wolff, K. L. (2004). The nonmusical outcomes of music education: A review of literature. *Bulletin of the Council for Research in Music Education, 159*, 74-91.

Ybarra, M., Espelage, D. L., & Mitchell, K. (2007). The co-occurrence of Internet harassment and unwanted sexual solicitation victimization and perpetration: Associations with psychosocial indicators. *Journal of Adolescent Health, 41*(6, Supplement), S31-S41. doi: 10.1016/j.jadohealth.2007.09.010

Ybarra, M., Boyd, D., Korchmaros, J., & Oppenheim, J. (2012). Defining and measuring cyberbullying within the larger context of bullying victimization. *Journal of Adolescent Health, 51*(1), 53-58. doi: 10/1016/j.jadohealth.2011.12.031.

Yoon, J. S. (2004). Predicting teacher interventions in bullying situations. *Education and Treatment of Children, 27*(1), 37-45.

Yoon, J. S., & Barton, E. (2014). *The role of teachers in school violence and bullying prevention*. Manuscript in publication.

You, S., Furlong, M. J., Felix, E., Sharkey, J. D., & Tanigawa, D. (2008). Relations among school connectedness, hope, life satisfaction, and bully victimization. *Psychology in the Schools, 45*(5), 446-460. doi:10.1002/pits

Young, D. H. (2004). *Does school connectedness predict bullying? An analysis of perceptions among public middle school students* (Unpublished doctoral dissertation). Capella University.

Young, R., & Sweeting, H. (2004). Adolescent bullying, relationships, psychological well-being, and gender-atypical behavior: A gender diagnosticity approach. *Sex Roles, 50*, 525-537. doi: 10.1023/b.sers.0000023072.53886.86

Zervoudakes, J. & Tanur, J. M. (1994). Gender and musical instruments: Winds of change? *Journal of Research in Music Education, 42*, 58-67. doi: 10.2307/3345337

Zullig, K. J., Koopman, T. M., Patton, J. M., & Ubbes, V. A. (2010). School climate: Historical review, instrument development, and school assessment. *Journal of Psychoeducational Assessment*, *28*(2), 139–152. doi:10.1177/0734282909344205