CHARACTERISTICS OF TENACIOUS TEACHERS IN ALABAMA: A COMPARISON AND MEASUREMENT OF BAND DIRECTORS’ GRIT AND SELF-EFFICACY IN LOW, MEDIUM, AND HIGH SES SCHOOLS

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ABSTRACT

Research has shown that band programs at schools serving mostly low-income students have low student participation and depressed academic achievement. Furthermore, these same programs have reported difficulty recruiting and retaining band directors as they seem to prefer schools with access to more resources and support (Bruenger, 2010, Madsen & Hancock, 2002). Understanding the characteristics of band directors who choose to work in low socioeconomic (SES) schools may provide teacher trainers and professional associations with a means to identify individuals with a propensity and interest in working in schools serving predominantly low SES students. Moreover, accounting for teaching experience may help ensure SES is the primary factor being examined.

In order to determine whether a relationship between those band directors employed at schools serving financially advantaged and disadvantaged students was related to their teaching experience and personality traits (i.e., grit and self-efficacy), I created a survey and conducted two studies to address four research questions. The purpose of the first study to compare the grit and self-efficacy of band directors teaching in schools enrolling primarily low, moderate, and high SES students while accounting for band directors' teaching experience. The purpose of the second study was to confirm whether the components comprising grit and self-efficacy, revealed in the first study, were applicable to band directors drawn from the entire membership of the Alabama Bandmasters Association.

One-hundred and four band directors attending the Alabama All-State Festival voluntarily filled out a 31-question survey derived from prior research on Grit and Self-Efficacy
(Duckworth, 2013; Sherer, Maddux, Merdandante, Prentice-Dunn, Jacobs & Rogers, 1982). An exploratory factor analysis of the participants' responses revealed the presence of two Grit factors representing Consistency of Interests and Perseverance of Effort, and five Social Self-Efficacy factors comprising Perception of Reaction to Adversity, Perception of Tenacity, Perception of Ability, and Confidence for Self-Efficacy. These scores served as dependent variables and results from an analysis of covariance revealed no differences between socioeconomic groups for any of the factor scores. In general, public school band directors in Alabama demonstrated a high degree of grit and self-efficacy despite the SES of their school assignments.

Factors that emerged for Grit and Self-Efficacy were then examined using a confirmatory factor analysis to determine the stability of the structure with a larger pool of Alabama Band Directors. Three-hundred and seven band directors who were members of the Alabama Bandmasters Association were invited to participate in an online survey that was functionally identical to the one used previously. Results verified factor structure revealed in the first study Grit and Self-efficacy. Detailed analysis revealed item loadings for Grit and Self-Efficacy were similar to other populations supporting the use of Grit and Self-Efficacy with Alabama Band Directors in future research.
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And to my family, you have been patient and helpful throughout the entire process. I am proud of all of you and I am blessed.
<table>
<thead>
<tr>
<th>Abbreviation</th>
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<tr>
<td>ANCOVA</td>
<td>Analysis of covariance</td>
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<td>CFA</td>
<td>Confirmatory Factor Analysis</td>
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<td>EFA</td>
<td>Exploratory Factor Analysis</td>
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<td>SES</td>
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DEFINITION OF TERMS

Alabama Bandmasters Association. Professional association of band directors in Alabama, a division of the Alabama Music Educators Association, a state level division of the National Association for Music Education

ANCOVA. Analysis of Covariance is a general linear model, which blends Analysis of Variance and Regression by including a covariate in the analysis

Confirmatory Factor Analysis. A second analysis of items for reduction of variables on a sample of individuals not contained in the first analysis; has a predetermined number of components established in the first analysis; results are subjectively analyzed for similarities of meaning with the prior measurement

Covariate. Variable that is possibly predictive of the outcome under study and may be of direct interest, may be a confounding, or interacting variable

Eigenvalues. Measures the variance in all the variables which is accounted for by a factor

Emerging Factor. Variable not known until statistical processes show evidence of interaction with other variables indicating that separate items in a measurement act as one

Exploratory Factor Analysis. An analysis of items for reduction of variables that has no preconceived components or groupings that is to be repeated on a second sample

Factor Analysis. Methods for reducing a set of variables to a lesser number of new variables with unique statistical interactions

Factor. Explanatory variable examined by the experimenter

Free and Reduced Lunch Rate. The combined percentage of students in a school who receive discounted or no cost meals through the National School Lunch Program

grit. A noun or adjective (gritty) used to describe a person who has tenacity or firmness of character

Grit. Quantified measure of the trait of an individual to work toward success in their professional goals for extended periods, working to overcome barriers longer than others will persist

Homoscedasticity. Having equal variance
**Kaiser Normalization.** Process of factor analysis where the loadings of each variable are divided by the square root of their communalities to ensure that each variable has equal influence on the rotation process

**Levene’s Test of Equality Error Variances.** An inferential statistic used to assess the equality of variances for a variable calculated for two or more groups

**Loading.** Statistical placement of items on a component or factor

**Principal Component Analysis.** Statistical procedure that uses an orthogonal transformation to convert a set of observations of possibly correlated variables into a set of values of linearly uncorrelated variables

**Priori.** Knowledge gained through previous deduction

**Pure Factor.** In factor analysis, a latent variable containing no items that also appear in another latent variable

**School Teaching Experience.** The total number of academic years, not including this school year that an individual has worked in their current band directing position

**Scree Plot.** Graphical display in Eigenvalues of the variance of each component in the dataset

**Self-Assessment.** To participate in a measurement of characteristics in first person

**Self-Efficacy.** A quantified measure of the tendency of an individual to succeed in areas where they believe themselves to be capable of success

**Socioeconomic Status.** An economic and sociological measure of an individual's or family's position in relation to other persons or groups, based on income, education, and occupation

**Teaching Experience.** The total number of academic years, not including this school year, an individual has worked as a middle school or high school band director

**Test between Subject Effects.** SPSS table showing results of ANOVA or ANCOVA

**Varimax Rotation.** Orthogonal rotation of the factor axes identified in the initial extraction of factors, in order to obtain simple and interpretable data factors
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CHAPTER 1
INTRODUCTION

“Education is the civil rights struggle of our time.”

President George W. Bush

“All kids living in the United States have the right to a free public education. And the Constitution requires that all kids be given equal educational opportunity no matter what their race, ethnic background, religion, or sex, or whether they are rich or poor, citizen or non-citizen.”

American Civil Liberties Union

Regardless of political affiliation or preferred interventions, the political leaders and legal community of our country acknowledge there are steps required to solve educational deficiencies that are harming the future of many students. These quotes (Bush, 2010; American Civil Liberties Union, 2003) are from divergent identities in American culture, both of which are aware of achievement gaps evident for race and wealth. By referring to the civil rights struggle, President Bush draws parallels with the justified efforts of many who have and are working for everyone to have equal access to benefits of our society. The American Civil Liberties Union is a political force in the United States that attempts to secure the rights of the individual. They consider education to be one of their “key issues,” with ongoing cases concerning fairness and equal access to educational opportunity (American Civil Liberties Union, 2014).

There is a pattern of school funding, staffing, and capital improvements where low-income students are not offered the same opportunities as wealthy students (Lankford, Loeb & Wyckoff, 2002; Summers & Wolfe, 1976). Researchers have determined that the means to secure funding for all schools to address these inequities is possible. However, increased funding alone may not be enough to equalize educational opportunities for all students (American Civil...
Liberties Union, 2003; Caldas & Bankston, 1997; Duncan & Magnuson, 2005; McDaniels, 2014; Summers & Wolfe, 1976). Obviously, decisions must be made in a world of finite resources.

It has been widely understood that the foundation of a democracy is built on the education level of the people with the understanding that individuals and society rise together. Through the adoption of new philosophies and forward-looking legislation, modern democracies acknowledged that providing educational opportunities to everyone encourages the development of a shared base of cultural and intellectual capital (Guisepi, 2014; LWVUS The Education Study, 2014). Implied in these efforts is the underlying value that all children hold great promise and should have the opportunity to reach their potential.

However, in recent decades, standardized testing and teacher assessments have compromised these tenets and it has been sharply felt in schools that are compelled to sacrifice arts and other programs to acquire additional time to prepare students for high-stakes testing. Indeed, it has been reported that administrators feel pressured to emphasize tested academic courses over non-tested courses (Abril & Gault, 2006). And as standardized test scores are increasingly the prevailing measure used for school and administrator evaluations by school systems, tested subjects continue to assume higher importance (McNeil, 2000) and arts courses in turn receive less funding or are eliminated from the curriculum (Beveridge, 2010). Other schools were reported to purposefully reduce time allotted for arts education altogether, which stands in stark contrast to the position of arts advocacy groups such as The National Association for Music Education (Music Educators National Conference, 1950).

“As their right, all children must receive the finest possible education in music, every child must have an equal opportunity to study music, and the quality and quantity of children’s music instruction must not depend upon their geographical location, social status, racial or ethnic status, urban/suburban/rural residence, or parental or community wealth.”
This quote originated in a policy statement entitled, *The Child’s Bill of Rights in Music* and obviously draws upon the historical significance of the *Bill of Rights* found in the *US Constitution*. Nonetheless, this statement is not the earliest known effort to illustrate students’ right to music education. Lowell Mason advocated its inclusion in public schools as far back as 1838 (National Association for Music Education, 2014). Since then, music educators have come together multiple times to advocate for every child to receive sequential-based music instruction from a certified music teacher to secure the position of the arts in public schools (e.g., Contemporary Music Project, the Yale Seminar, the Tanglewood Symposium the National Standards for Music Education, the Housewright Symposium-Vision 2020, Tanglewood II: Charting the Future). Unfortunately, there are still vast achievement gaps which need to be filled in music education and education in general (Donald, 2012; Fiese & Decarbo, 1995; Kinney, 2008; Reardon, 2011; Woolhouse, 2013; Zdzinski, 1992). Minority and low SES students continue to have lower levels of achievement when compared to students with greater financial resources. These limitations continue to perplex educators despite overt efforts to improve.

Historically, access to a systematic and quality education was limited by gender, race, and SES (Clare Boothe Luce Policy Institute, 2014; Guisepi, 2014; National Women’s History Museum, 2014; Whitehead, 1999). Wealthy families secured teachers, tutors, and experiences for their offspring, while less wealthy families struggled to provide learning opportunities for their own. Less wealthy families were governed or employed by the educated and the wealthy. However, great strides have been made toward mitigating these differences through publicly funded schools. In an ideal world, every child has access to an education, regardless of the financial or cultural background of their family. Paths to personal improvement through
education allowed a person’s efforts and natural ability determine their success. Providing an opportunity for all students is considered the life’s work of many dedicated educators.

**Poverty in Schools**

In recent years, poverty has become a problem for urban, rural, and suburban schools as low-income families reportedly migrate into established middle class, suburban communities, causing the percentage of low SES student enrollments to rise (Arnold, Newman, Gaddy, & Dean, 2005; Barley & Beesley, 2007; Broomhall & Johnson, 1994; Gandara, Gutierrez, & O'Hara, 2001; Grayson & Alvarez, 2007; Hunt, 2009; Iceland, 2006; Lee, 2011; Reeves & Bylund, 2005; Summers & Wolfe, 1976). The effects of these changes reportedly can be measured by high faculty turnover and resistance of teachers to fill vacated teaching positions (Edmunds, 2006; American Psychological Association, 2013; Jacob, Vidyarthi, & Carroll, 2013; Kelly, 2005). Intuitively, as a school succumbs to high turnover, student-teacher and teacher-teacher interactions are stifled, which may affect the sustained student progress expected in multiyear programs (Burke, 1997; Black, 2000; Guest & Schneider, 2003; Nichols & Nichols, 2003).

Preservice and currently employed music teachers seem to recognize that fewer barriers are present in schools with fewer low SES students (Bruenger, 2010; Cost-Giomi & Chappell, 2007; Deisler, 2011; Kinney, 2008; Scheib, 2004; Schmidt, Baker, Hayes, & Kwan, 2006). For example, it is widely surmised that music teachers in high SES communities seem to experience greater degrees of success, job satisfaction, and teacher retention (Bruenger, 2010; Chester & Beaudin, 1996; Deisler, 2011; Guest & Schneider, 2003; Kelly, 2003, 2005; McNeal, 1998; Sachs, 2004) and band programs in low SES schools experience decreased teacher participation, student musicianship, performance assessments, and teacher retention reflecting depressed
educational expectations and limited community engagement (Cost-Giomi & Chappell, 2007; Deisler, 2011; Fiese & DeCarbo, 1995; Hunt, 2009; Mixon, 2005). Moreover, it is widely believed that the quality of music programs parallels the quality of other academic areas in lower SES schools and as the mean SES of a school rises so does the quality of music and academic programs (Albert, 2006; Cost-Giomi, 2007; Daniel, 2005; Deisler, 2011).

In Alabama music programs, a similar relationship seems to exist. For example, when data from the Alabama Bandmasters Association (2010, 2011, 2012, 2013) were crossed with SES data from the Alabama State Department of Education (2013), results suggested concert bands from schools with more high SES students were more likely to participate in statewide music assessments and achieved higher ratings than concert bands from schools with more low SES students. Interestingly, a small percentage of concert bands from schools serving mostly low SES students also earned high ratings, which suggests some music educators were able to teach students to meet and exceed the performance standards set by the ABA despite innate barriers and profound challenges (e.g., Cost-Giomi & Chappell, 2007; Deisler, 2011; Fiese & DeCarbo, 1995; Mixon, 2005). Identifying how these music educators are able to develop successful band programs and musical performances in low SES schools may help colleges prepare preservice music teachers for successful careers in such schools. To begin to understand this phenomena, perhaps an important first step is to consider which teacher characteristics and traits of were related to band directors in low SES schools (e.g., Teachout, 1997) and whether those characteristics are similar or unique when compared with directors teaching in schools serving predominately moderate and high SES students. This study analyzes the prevalence of Grit and Self-Efficacy among band directors employed in low, middle, and high SES schools. Grit and Self-Efficacy are two measurable characteristics that are often associated with successful
individuals in a multitude of disciplines (e.g., Bandura, 1994; Duckworth & Quinn, 2009; Pajares, 1997; Robertson-Kraft & Duckworth, in press).

**Grit**

Grit has been defined as the trait of an individual to work toward professional goals for extended periods, striving to overcome barriers longer than others will persist (Duckworth & Eskreis-Winkler, 2013; Lehrer, 2009; Robertsson-Kraft & Duckworth, in press). Grittier individuals have been found to have greater accomplishment in academic activities, the military, and in music performance (Duckworth, Peterson, Matthews & Kelley, 2007). These results were found when subjects were considered in equalized samples. For instance, students with similar SAT scores were grouped together. Those with elevated Grit scores achieved higher GPAs. Another study (Duckworth & Eskries Winkler, 2013) found talent and innate ability were negatively related to Grit scores. Grit was the stronger predictor of accomplishment.

**Self-Efficacy**

Self-Efficacy is the tendency of a person to be more successful in areas where they believe themselves to be capable of success (Bandura, 1993, 1994). Competence is a strong positive mediator, helping individuals to see themselves as successful in a given situation, leading to greater levels of accomplishment. Other positive mediating factors include encouragement, overcoming difficulties, increased control over extraneous factors, and limitation of distractions from given tasks (Bandura, 1993, 1994; Cereser, 2012).

In music education, studies have revealed increasing levels of Self-Efficacy with age and experience (Cereser, 2012). There also have been applications to performance levels and practice habits, showing correlations with high efficacy and high performance levels or better practice.
habits (Bandura, 1993, 1994; Chester & Beaudin, 1996; Nielsen, 2004; Ritchie & Williamon, 2007).

**Experience**

Factors of vocational longevity have a bearing on the improvement of bands. More experienced teachers perceive musical situations differently and teach differently. General competence in vocational fields improves as experience increases (Butler, 2001; Goolsby, 1996; Melnick & Meister, 2008; Teachout, 1997).

Increased experience is correlated with increased personality scores. Grit scores increase with age and experience (Soto, John, Gosling & Porter, 2011; Donnelan & Lucas, 2008). Self-Efficacy scores increase with experience, as competencies improve (Bandura, 1993; Barnes, 1998; Pajares, 1997).

Low SES schools generally have a problem recruiting and keeping qualified teachers. This results in students receiving instruction from less qualified teachers (Lankford, Loeb & Wyckoff, 2002; Lee, 2011; Scafidia, Sjoquist, and Stinebrickner, 2007). Low SES teachers shift to wealthier schools with fewer barriers to instruction or leave the profession. The result is many low SES schools become short-term job assignments for young teachers. The experience level of faculty in low SES schools is generally lower than high SES schools, a further example of inequity in educational opportunity for low SES schools.

**Measurements**

For comparisons within this study, public school band directors in Alabama will be surveyed using the 8 Item Grit Study (Duckworth, 2013), a Self-Efficacy Scale (Sherer, et al., 1982), and a Director’s Questionnaire (Appendix A) about experience in the field, longevity at
the rated school, and SES of the students they currently teach. Interactions between high SES and low SES directors will be observed.

The constructs need to be examined to determine if their application to band directors is functionally similar or dissimilar to the psychometric properties established for teachers in other settings. A factor analysis process was used to establish psychometric properties of Grit and Self-Efficacy (Duckworth & Quinn, 2009; Duckworth, Quinn & Seligman, 2009; Sherer, et al., 1982). This study will undertake a similar process with an examination of public school band directors in Alabama. Interactions between internal components of the constructs established through factor analysis processes will be explored to verify the usefulness of these constructs in instrumental music education. Support for the use of these constructs in instrumental music education will be evident if these internal structures parallel previously established components of Grit and Self-Efficacy.

Purpose

The purpose of this study was to compare the grit and self-efficacy of band directors teaching in schools enrolling primarily low, moderate, and high SES students while accounting for band directors' teaching experience. A secondary purpose was to examine the application and validity of using published measures of Grit (Duckworth, 2013) and Self-Efficacy (Sherer, et al., 1982) with public school band directors in Alabama.

Research Questions

In order to address the purposes of the study, the following research questions were examined:

1. Do band directors teaching in Alabama schools with low, medium, and high socioeconomic students have the same amount of grit and self-efficacy?
2. Are grit and self-efficacy related to the number of years an Alabama band director has been in service as a music teacher?

3. What factors comprise the measurement of Grit and Self-Efficacy for Alabama band directors?

4. Are the measured factors of Grit and Self-Efficacy for Alabama band directors different from results obtained in previous research by Duckworth (2013) and Sherer, et al. (1982)?
CHAPTER 2
LITERATURE REVIEW

Introduction

To examine Grit and Self-Efficacy of public school band directors in Alabama with levels of experience and SES of the students they teach requires a national and state level understanding of related issues. As previously stated, there are inequities in educational opportunity. These inequities are evident in public schools in general and in music education in particular. The current condition of music education will provide an understanding of the differences that exist in opportunity. The conditions of poverty for students, schools, and music educators will provide an understanding of the unique barriers involved. Understanding how a director is evaluated, trained, and nurtured will provide insight into professional differences and pressures evident in schools varied by SES. Transiency of teachers, also varied by SES, will be described. An understanding of those that have found success in high-poverty schools can provide both a basis for improvement for other programs and evidence that inherent barriers can be overcome. Psychological constructs, as reviewed, provide insight into identifying traits of individuals that may be unique to differing economic situations and employment choices. Experience as a variable will be described as it pertains to vocational differences and the SES of schools. The literature chosen for review will follow the framework indicated in Figure 1.
Figure 1. Taxonomy of the literature review showing major and minor areas.
State of Music Education

National. Carey, Kleiner, Porch, and Farris (1999-2000) performed a survey of principals and teachers to provide a national sample of the state of arts education in the US for use by the US Department of Education. Information gathered was used to develop national data for public elementary and secondary schools concerning staffing, funding, availability of courses, programs, activities, and administrative support. Music was taught in 94% of elementary schools. Fifty-five percent of the elementary schools that offered music used full-time specialists. Seventy-six percent of the elementary schools that offered music had a dedicated classroom. Seventy-seven percent of the elementary schools offered field trips in the arts. In secondary schools, music courses were available in 90% of the schools surveyed. Ninety-one percent of secondary schools employed full-time music specialists who taught in a dedicated classroom. Including secondary and elementary teachers, specialists taught six classes daily and received 3.4 hours of preparation time daily. Forty-six percent of music specialists strongly agreed that parents support their programs. Fifty-eight percent strongly agreed that administrators support their programs. There were more music instructors employed and more music courses offered in large schools than in small. Cities were more likely to employ more than one music instructor than rural areas. Low SES schools were more likely to employ more than one music instructor than high SES schools. Most schools operated from a district-level, approved music curriculum guide, aligned with state and national standards. The majority of elementary schools reported no outside funding for music. Forty-seven percent of secondary schools reported outside funding, with decreasing levels for increased minority populations and low SES schools. Thirty-four percent of secondary schools reported outside funding as the primary support system for their music program. There was no division in instrumental, choral, orchestral, or other types of music
programs in this study. There were 70,700 elementary music instructors in US public schools. The majority were full-time instructors. Thirty-two percent had more than 19 years of experience. Thirty-four percent had 10-19 years of experience. Twenty percent had four to nine years of experience. Fourteen percent had three or fewer years of experience. "Nearly all" music teachers had a bachelor's degree in field. Forty-five percent had a master's degree in field. Over 90% of elementary teachers were certified. The majority of music teachers participated in area-specific professional development. All music teachers participated in school-wide professional development, with a small percentage related to music instruction in the regular classroom. Approximately half of elementary music instructors taught in more than one school. Elementary teachers taught four different classes weekly, averaging 450 students per week. Forty-four percent of elementary music teachers rated their equipment and electronics as adequate. About half of elementary music teachers rated their instructional time as adequate. About half of elementary music teachers worked with regular teachers for integration of music into the classroom. The majority of elementary music teachers reported music reading and a varied repertoire as a primary teaching emphasis, with less support for other national standards, preferring secondary teachers to emphasize these areas. Music teachers were more likely than teachers of other arts to participate in music activities away from the school. There was more data presented for elementary music instruction than secondary.

Abril and Gault (2006) performed a survey of elementary school principals' beliefs about the role and implementation of music programs in their schools, whether they were meeting academic goals, whether the conditions were ideal, and whether variables within the school had an effect on implementation of music programs. Respondents (N = 214) were chosen from a random selection of 350 principals. The results indicated that principals generally considered
listening and cross-subject support to be high goals. Music teachers considered music making to be their highest goal and cross-subject considerations to be less important. The principals did consider NCLB, standardized testing, and scheduling to be detrimental to arts programs. Principals believed that increased funding and knowledge of the benefits of music education was important to improvement. Over 90% of the schools reported employing a music specialist. There were concerns expressed about the response rate and its effects on the accuracy of the results.

**Alabama.** Hancock and Womack (2013) performed a large-scale survey of the majority of music teachers in Alabama \( (N = 856) \) and provided descriptive statistics of the state of music education in Alabama. The average teaching experience for music teachers in Alabama was 17.8 years, with an average of 9.3 years in their current position. Eighty-three percent were full time, 12% were itinerant, and 5% were part time. Forty-six percent were general music teachers, 35% instrumental (primarily band), and 12% choral. Nearly all teachers had a bachelor's degree in field, 64% had a master's, and 9% were nationally board certified. Of the programs in the state, 64% received no funding from the school system but relied on fundraisers, boosters, donors, and other outside sources of funding.

**Other Studies.** A similar study was performed in Indiana (Schmidt, et al., 2006). This study sought to provide an overview of music in Indiana schools by collecting data on general music, choral, band, and strings. Responses were collected by school systems and music teachers. After surveys were removed from the sample for cause, the sample size was 391 music teachers that provided information on demographics, teaching load, class length, class frequency, ensemble type, timing of musical topics/instructional methods, and educational level of instructors. General music, taught by specialists and ensemble directors, met 37-50 minutes
weekly for grades 1-6. Kindergarten and grades 6-7 met less often, if at all. Singing and music reading received the most instructional time and improvisation the least. Choral music results were presented, but a caution was given because of low response rate, bringing accuracy into question. Elementary, middle, and high school instructional time was analyzed. Time on choral literature and instructional time increased as grades increased. The vast majority of teachers were certified, with between 10 and 20 years of experience. Approximately a fourth participated in festivals and most received the highest possible ratings, mirroring the percentage receiving high ratings statewide. Instrumental teachers also typically had certification and 10-20 years of experience. The majority of band programs were grades 6-12, with some one year before and one year after grade 6. The greatest number of performances for bands was related to marching activities, followed by concert and jazz. A larger percentage of bands participated in concert festivals. Mirroring choral statistics, the majority received the highest possible rating. Sixteen percent of Indiana schools offered string programs in primarily larger school systems, similar to the national trends. Elementary string programs reported 73 minutes per week of instruction, increasing to 267 minutes of instruction for high school ensembles. Most ensembles were homogeneous, string only. Band participation was described as robust and other areas more moderate. There was a negative correlation with bands receiving higher festival ratings and low SES of students. Four to eight percent of music teachers were non-certified. This study acknowledged its limited depth, indicating a greater need to explore correlations and parallel data between music teaching specialties, as well as calling for a deeper, longitudinal approach.

Poverty

**National and State Levels.** Data on the state of Alabama reveal a SES lower than average in the US. The per capita income in Alabama is $23,483. The national average is
$27,915. The median household income in Alabama is $42,934. The national average is $52,762. This places Alabama in the lower quartile of income nationally (US Census, 2004). The free and reduced lunch thresholds for 2012/13 are based on a formula multiplying the poverty level by 1.3 for free lunch and 1.85 for reduced lunch. Most relevant to this study, a single-person family begins receiving benefits at $27,665. Each dependent adds $7326 to that income threshold (US Department of Health and Human Services, 2013). There are counties in Alabama that exceed 90% of the students on free lunch, the lower of the income thresholds, representing very low SES (Alabama State Department of Education, 2013). Of 1350 public schools, the average school in Alabama has 63.8% of the students on free and reduced lunch. The national average for free and reduced lunch enrollment is 42.9% (National Council for Educational Statistics, 2009). There are school systems in Alabama with a free and reduced lunch rate below 10%, with one school system as low as 1%. The diversity of economic status within Alabama schools is a variable within this study.

Lee (2011) described modern trends of growth and migration of poverty by describing the movement of poverty in metropolitan Atlanta. This study sought to explain the movement of poverty from traditional urban areas to polycentric areas of employment and housing in larger metropolitan areas, resulting in poverty increases in suburbs and the determinants of this movement. Changes between 1970 and 2010 were used as the basis for this study. Increasing racial diversity throughout the area is notable in this study. Decreases in urban poverty and increases in close-to-city-center suburban poverty may be caused by those in poverty moving out of the city center and employed professionals moving to the city center. Outer suburbs decreased in poverty with the migration of the upper-middle class. Increased single-parent families and employment issues explained increases in poverty levels across minorities. Employment centers
away from the city center showed decreased poverty rates in the outer rings as these areas developed. Inner suburban rings saw increased poverty as relocation occurred for the city center. Previously, the primary employment area was the city center. Increases in Hispanic populations and migrations of minorities from the city center were most affected by employment and affordable rental housing. Public investment in rental housing and development of employment centers throughout the metro area were encouraged, to decrease poverty across all racial and SES groups.

Kneebone and Berube (2013) discuss how suburbs have increased in poverty to a "tipping point." Currently, the largest population of individuals in poverty in America live in the suburbs. This was because of economic difficulties, moving industry, revitalization of urban areas, and immigration.

Berube and Kneebone (2006) documented changes in poverty rates in suburbs and cities by comparing data from the 2000 U.S. Census long form (n=17,000,000) and the 2005 American Community Survey (n=3,000,000), restricting the study group to the 100 largest communities. First the authors define what a suburb is. They found in their study that the total number living in poverty in the suburbs increased and surpassed that of central city areas during the five years of the study. However, as a percentage of the general population, poverty rates were higher in central city areas. Families-with-children poverty rates increased disproportionately, resulting in a larger than average increase in childhood poverty. Immigration of poverty from the central city to the suburbs and changing economic conditions were documented as reasons for increased poverty in the suburbs.

**Psychological Effects.** The American Psychological Association (2000) stated specific actions the organization would take to support other stakeholders in improving mediators for
those in difficult SES environments. These included documenting differences in socioeconomics with the general population by gender, by ethnic group, by immigration status, and by familial status. Physical and psychological damage caused by poverty were discussed. Unequal access to health care and prejudice was documented. The professional responsibility of the members in these regards was reiterated. Lack of adequate research was documented. Resolutions were made to address these issues with research, building inner-agency partnerships, increasing college courses on poverty, increasing efforts to improve education, job offerings, access to health care, intervention, and child care.

Further, the American Psychological Association (2013) crafted a position statement concerning the effect SES has on society and education. Data was provided concerning educational problems in low SES schools. Effects were documented for society and education. Problems of familial educational support, school staffing, including experience level, and training of teachers, academic achievement of students, and problems of psychological health were detailed. Recommendations were made to researchers and legislators to consider low SES children in developing future studies and legislation.

Iceland (2006) presented current trends to ameliorate poverty and how they differed from previous efforts. Economic changes and growing inequality of income were stated as the greatest causes. Mediation by the government has thus far only been moderately effective, receiving only a small part of the US budget.

**Poverty Effects on Students**

Caldas and Bankston (1997) sought to measure the influence of peer groups on academic achievement regardless of SES, using current research literature to document the role of peer groups on individuals. Data provided by the state of Louisiana provided demographic and
academic achievement levels for over 40,000 high school students. Whites and blacks not tested as special education students, 96% of the population tested, were chosen as the sample. Correlations were found between races and test scores, SES and test scores, and family SES or educational status and test scores. Race was found to have a negative effect on test scores. Unexpectedly, the effect of race, SES status, and family on test scores could be partially negated by placing disadvantaged students in schools with higher SES. Strong negative correlations with race still exert a strong influence on students. The admittedly controversial conclusion was that minority students from low SES environments benefited from diversity but non-minority students from high SES environments might show negative effects from diversity. The researchers suggested exploring low SES, independent of race, as a further area of study and raised the possibility that integration based on SES could prove helpful.

Data do not consistently support increased spending and placement of more highly qualified staff and effective mediators. Summers and Wolfe (1976) authored a paper related to a lawsuit over discriminatory distribution of resources in the Philadelphia school system, Hobson vs. Hansen, requiring less than a 5% deviation from the mean for dollars spent per pupil in schools within the same system. Definitions of equity were questioned. Most notably, does equality of money correlate with equality of opportunity? Do strong teachers choose to work in better schools? If so, should there be financial benefits for working in low SES schools? Schools with fewer blacks and fewer low SES students had teachers and administrators with higher levels of education and experience. There were consistently more job vacancies in low SES schools. There was a lower student-teacher ratio in low SES schools to attempt to compensate for problems. There were more state and local funds for the low SES schools. There continued to be
lower levels of perceived achievement, higher levels of disruption, and higher teacher/administrative transiency rates at low SES schools.

Extra-curricular programs and the arts have been documented as potential mediators, with varying degrees of success. A general consensus of music education revealed that most schools have music programs, but that staffing and student participation decline with increased minority enrollment and decreased SES of students (Carey, et al., 1999-2000). Increased academic achievement was correlated with increased extracurricular participation levels in high minority, low SES schools. In this study, music was grouped with extracurricular activities. Sports rated higher among students as a mediator than music. Participation levels were higher for sports than music, possibly skewing the results, as all participants rated both activities (Guest & Schneider, 2003).

**Demographics of School.** In a longitudinal study, Reeves and Bylund (2005) studied public schools in Kentucky to determine if rural schools were inferior to urban schools, a topic not settled in research studies. By using school accountability data, schools were analyzed by their organizational performance and location. Location was not a solid predictor of success. Low SES situations were a predictor of success. Spending per student was not a predictor of success. Schools with larger minority populations showed a negative effect. The researcher observed that the state had properly defined the problems of schools in various areas but that solutions were not implemented evenly. Student-teacher-ratio was a key predictor. School-level predictors were found to be more useful than district- or area-wide predictors. This study did not effectively determine if the rural schools were superior because educational reform continues to the levels of measurement.
Reardon (2011) compared achievement and income differences for the highest and lowest 10% of SES. Differences occurred steadily over the last four decades and increased by 40% since 2001. Fifty years ago there was a large achievement and income gap between minority groups. Now, the educational and achievement gaps are greatest between socioeconomic groups. The differences are credited to increased educational levels for middle and upper-class students, based on parental involvement in the educational process. This factor has remained stable in the low SES schools. Well-educated parents have children with high levels of education and future income. Income and education of the parents are now better predictors of future SES of children than race.

Woolhouse (2013) reported similar results. Children from higher income families who are more involved are achieving a higher level of education and experiencing increasingly high college graduation rates, increasing the life achievement gap between the wealthy and the poor. Lower income families have parents working longer hours, leaving less time for involvement in the educational process. Students from lower income families believe themselves to be incapable of attending private colleges or colleges of higher rank.

Arnold, et al. (2005) sought to document deficiencies in research methodology, topics, funding, and lack of literature in fields related to rural education. Three areas were chosen for presentation: Topics and frequency of rural education research, quality of rural education research, and discussion of ways to improve rural education research and applications to improving rural schools. Four hundred ninety-eight studies were classified into 40 topics. These topics are broken down into applicable subtopics for presentation in tables and flow charts. Studies were classified as single-group pretest-posttest, causal-comparative, quasi-experimental, and experimental designs. Their quality was assessed using a measurement for quality of
research developed by Mid-Continent Research for Education and Learning (McREL), a division of the U.S. Department of Education. Over half of the articles were non-comparative, with only 4.5% achieving high-quality evaluation standards. Those receiving medium- and high-quality evaluation standards were classified by topic and application. The author concludes that the few articles of medium and high quality about given topics in rural education do not provide an adequate knowledge base for implementation of researched conclusions. The McREL recommendations for rural education research were documented. Opportunities to learn, school size, academic achievement, teacher quality, administrator quality, school capacity, school finance, organizational structures, and community concerns were chosen as major topics for recommended research.

Broomhall and Johnson (1994), using human capital theory, documented the influence of family, personal, and community relationships in the development of human capital in rural areas. Human capital theory assumes that continued education stops when the costs of that education exceed its potential financial benefit. Mathematical equations are used to represent income, changes in income, costs of education, expectations, risks, stability of income, costs of relocation, etc. There is an assumption that higher paying jobs may not be available, requiring people to move to improve their economic status when they have improved their education. A flow chart illustrates influences on the student pertaining to attitude and achievement in education. Likert-based surveys were done of 760 seniors or dropouts of four school districts in Kentucky. An ordered probit model was used to determine the maximum likelihood the students would continue in education. Four hypotheses were studied: Parents’ value of education influences child, local employment influences child, willing mobility influences child, and higher value of education implies higher performance. All four hypotheses were proved correct.
Contrary to researchers’ assumptions, socioeconomics of the parents did not have a measurable influence. Mobility of many high earners/achievers was found to be a factor in the lowering of community expectations as high achievers departed, leaving lower achievers in the community. The result is that regardless of educational achievement, those choosing to remain have less access to health care, lower incomes, lower community expectations for their children, and other factors.

Gandara, et al. (2001) sought to explore the differences between rural and urban low SES students in their perspectives on continued education. This study focused on school environment, the role of significant others, descriptions of the development process, and differences between rural and urban students in these regards, using qualitative and quantitative methods. This was a longitudinal study focusing on high school students from 1997-2001 in four California high schools, two rural and two urban. Differences in the environment and demographics at the two school classifications were described. A lack of appreciation for results of behavior was noted as significant in early high school grades and less so in later high school grades. Boys reported more pressure to use drugs and alcohol. Rural studies unexpectedly showed conflicts between students and parents because of traditional views of parents and social pressures at school. However, rural parents still remained a higher influence on students than did urban parents. Rural students were less likely to attend college but had many vocational programs available to them. Urban students showed expected negative desires to be known as a strong student. Rural schools had differing views of racial issues than urban students. All students felt urban schools were racially stratified. White students felt rural schools were not stratified. Minorities in rural settings did report a stratified school structure.
**Demographics of Music.** Rural schools have been studied to identify patterns of privilege and oppression and to reveal specific problems in music teaching (Bates, 2011). This case study recommends a model where the majority of students in a small community participate in music activities. The tradition of involvement can become self-fulfilling with support from administration, parents, and community. A busy schedule, accommodated by multiple campuses, is involved (Wilcox, 2005). Problems of low enrollment are discussed. Combining with other schools, developing small ensemble literature, rewriting music, and traveling, like other bands, is recommended. Finding administrative and parental support and participating in the master schedule process are recommended for improvement and sustainability.

Urban schools have issues of enrollment and participation. Mixon (2005) provided an annotated bibliography of resources for evaluating urban music programs and shared the experiences of the author. The author shares Mixon’s recommendations for the use of school-owned instruments, recruiting, retention, practice time, relationships with the students, difficulty with non-immediate rewards versus attitudes of poverty, cultural relevance, different types of cultural ensembles, parental contact, transportation difficulties, language barriers, instrument issues, supplies issues, and administrative issues.

Isbell (2005) discussed problems of low enrollment, common in rural schools, and also recommended combining with other schools, developing small ensemble literature, rewriting music, and traveling, like other bands. Again, finding administrative and parental support and participating in the master schedule process are recommended for improvement and sustainability.

Hunt (2009) studied data from an open-ended survey of the stakeholders related to urban and rural school districts. No inferences were made to broader areas within music education.
Four school districts were chosen for study, two urban and two rural. Teachers, administrators, and parents were interviewed. They were allowed to edit transcripts and critique the final draft. Advantages and challenges of both school types, rural and urban, were explored. Music teacher preparation, retention and recruiting were discussed. Implications for improvement from this survey and other research were included. One of the goals of this study was to improve outlook, staffing, and retention.

Seeking to explore differences in band offerings, enrollment, and accomplishment in a large Texas school district, 25 of 27 of the head band directors in the district completed a questionnaire (Cost-Giomi & Chappell, 2007). The survey included demographic and educational information about the director, organizational and demographic information about the band program, and director perceptions about support of the administration, support of the parents, and inequalities within band programs in the district. Schools were classified by socioeconomic status and minority population. Results paralleled similar data from other surveys. Band programs with low SES had lower ratings for parent support, fees, private lesson participation, access to outside funding, instrument maintenance, enrollment, travel opportunities, and technology. Texas has a state law that places greater financial resources in low SES schools, but this has not equalized support within band programs. Teachers were found to be educationally and professionally similar, but access to music education for the students was not.

Fiese and Decarbo (1995) discussed the results of comparing level of education, vocational area, and experience of the teachers as demographics of 20 successful music teachers in urban schools in several states. The primary question was preparedness to teach in urban schools. Many felt musically prepared but not educationally prepared for students with difficult
emotional, socioeconomic, vocational, and family situations. Professors more closely linked to urban environments and with greater field experiences in those environments were recommended improvements. Many of the teachers surveyed felt better prepared from conferences, in-service programs, non-music-related seminars, and experience than from the college experiences. Student leadership within the learning process was a major plus. Teachers touted mentors, support groups, supervisors, and others as primary to achievement in urban schools. Relationships and respect between the teachers, students, parents, staff and administrators were expressed as vital to the process. Providing a multicultural approach to music education was considered a necessary improvement in college music education instruction.

Poverty Effects on Teachers

Transiency. Data were collected from the Georgia Department of Education across several years, documenting the reasons for teacher mobility. Personal financial concerns were not a strong predictor of teacher mobility. Teachers leaving the teaching profession were more likely to leave schools with a higher minority population and lower test scores, common to low SES schools. Race was the strongest predictor (Scafidia, et al., 2007).

Deisler (2011) performed a comparative study of successful band programs from high socioeconomic and low socioeconomic programs in Florida. Ten schools were surveyed, with a total student band population of 410. The focus of the study was the perceptions of students, parents, directors, and administrators as to reasons for success. Characteristics of the directors and tradition of success were rated as most influential in the success of both socioeconomic groups.

Jacob, et al. (2013) discussed teacher retention differences for high and low performing schools, as well as difficulty in replacing strong teachers with equally strong instructors. Surveys
further revealed perceived differences in classroom effectiveness as rated by students. The likelihood of replacing an average teacher with a stronger teacher was discussed. Weak teachers often remain in the classroom from year to year, despite administrative pressure to "self-select out." Strong teachers leave at a higher rate than weaker teachers, resulting in a downward spiral, further compounded by problems of low SES schools. It is noted that administrators do little to prevent strong teachers from leaving. Comparisons were drawn between academic cultures of schools and teacher-perceived quality of student education. Poor evaluation systems, fixed compensation systems, few pathways to advancement, blind layoff rules, forced placement, and arbitrary dismissal rules were presented as problems. Because of length of service and the spiral, often weaker teachers received greater compensation. The consequences of lack of change were discussed. These include lack of performance in schools and degradation of the profession.

Grayson and Alvarez (2007) explored primary reasons for teacher burnout and possible mediators. Burnout is defined in terms of Emotional Exhaustion, Depersonalization, and Reduced Personal Accomplishment. Further implications include the damage done to the teacher as a person, the attitude they express, and damage to the learning environment. This cycle leads to increasing separation between the teacher and the students. Similar separations were also evident between the teacher and other faculty members. There is measurable data indicating that female and younger teachers experience burnout to a greater degree. The risk of burnout was increased by teacher perceptions and unrealistic goals, leading to perceived lack of accomplishment. Disrespect by students and student inattentiveness were measurable factors of teacher burnout. Administrative requirements and remuneration were also a factor. This study sought to identify and rank risk factors, in hopes that individualized interventions could be developed. Using predominantly white professionals (N = 320) in 17 rural Ohio schools,
measurements were taken of the school environment, teacher satisfaction and teacher burnout. Emotional Exhaustion was most closely linked to parent, community, student, and peer relations. Females were more susceptible in this regard. Personal accomplishment was most related to uninterrupted instructional time. IEP, mental health programs, and other administrative duties were seen as distractors. Students most interested in subject matter had the most positive relationships with teachers. Teachers who felt supported by administrative decisions experienced the least burnout. Increased community, parental and administrative support as well as positive relationships with students mediated burnout. Increased comparative situations with standardized testing increased burnout.

A professor at a university serving students from Hispanic, urban schools (not exclusively) was troubled by a lack of interest among graduates in working in urban schools (Bruenger, 2010). The graduates in question refused employment opportunities in urban schools, preferring suburban schools, some with similar socioeconomic make-ups. The study sought to answer five questions: Why do these new teachers choose or choose not to work in urban environments, what incentives would influence them to work in urban environments, what is the participant’s view of success, and do the participants wish to teach in environments similar to their own experience? Eleven subjects were chosen in the senior class of the university in question. An action research design was used based on a demographics survey and informal questioning. The results showed little interest in financial incentives for teaching in urban environments. The few that were willing to teach in the urban environment cited lack of administrative support and social problems as deterrents. Many of the participants did choose to teach in areas dissimilar to their own public school experiences. Several chose to teach in financially disadvantaged, suburban settings, termed "midurban." The deciding factor for those
choosing this "midurban" environment was support for the arts. The professor used this action research to alter field experiences to include more urban opportunities and to allow the music majors to be taught by the music faculty for their introductory field experience courses, emphasizing urban environments. Urban music teachers were asked to speak with future music education classes.

Kelly (2003) sought to determine if several factors influenced where music educators chose to work: Do family, cultural, student experiences, and student teaching experiences have an effect on the choices of music educators? Does a cultural diversity course assist in these matters? A 21-question survey was given to music education majors at four major universities ($N = 304$) that had completed cultural diversity training, all of which showed low levels of diversity. A cultural diversity course was required. Most subjects had attended predominantly white, suburban schools, followed by private/religious schools. Most subjects preferred suburban, comprehensive music programs for their teaching assignments but were willing to teach in private/religious schools. Most students preferred schools similar to their experiences, despite diversity training. Small numbers of minority students within the programs were noted. This, combined with the tendency to work in environments similar to ones’ own experiences, could limit music education possibilities in minority environments. Added diversity of preservice training was recommended.

Further, Kelly (2005) sought to determine professional and social factors that influence where preservice teachers choose to teach. Music education majors near completion at five major universities ($N = 129$) were surveyed. Professional and musical growth was rated as the highest influence, while racial/ethnic demographics of student population were rated lowest. Other professional and social influences were discussed. Quality of life, cost of living, location, and
spousal considerations were notable influences on desired teaching location. As in previous research, prior school experiences affected choices. Though professional influences showed the greatest effect, social influences carried considerable weight. The "goodness of fit" is a factor to consider when placing students in educational environments.

Explanations for the high level of teacher transiency in low-performing schools have been studied (Boyd, Lankford, Loeb & Wycoff, 2005). Acknowledging low retention of highly qualified teachers in low SES, high minority schools and the prevalence of low-performing teachers in those schools, this study sought to examine decisions to resign or transfer from these schools. All teacher moves in New York City (NYC) between 95/96 and 03/04 were analyzed, considering scores of teachers, schools, distance from school to work, and whether the teacher was from NYC, moved in, or commuted for the job. Transfers and resignations were considered. Blacks were less likely to transfer based on race. Whites were more likely to transfer based on race. Resident teachers were less likely to transfer or resign than those commuting from outside of the city. Males were more likely to transfer or resign to move to high SES or lower minority percentage schools than females. Higher scoring teachers were more likely to be in higher performing schools and vice versa. NYC was chosen because of a standardized pay scale, eliminating variance in compensation as a factor. The author cautioned against drawing conclusions because all factors of the school were not considered, specifically, administrative differences, other factors of school environment, and faculty cohesion.

Similar results were found in Georgia (Scafidia, et al., 2007). This study sought to determine characteristics of a school most likely to cause teacher mobility. Data were collected from the Georgia Department of Education across several years. Personal financial concerns were not a strong predictor of teacher mobility. Teachers leaving the profession were more likely
to leave schools with a higher minority population and lower test scores. Race was the strongest predictor.

Studies also showed concern over loss of teachers due to the changing testing and assessment environment (Tye & O’Bien 2002; Kohn, 2000). Mandated curriculum and high-stakes testing might be among the reasons for this unusual pattern of attrition.

Hancock (2008) showed similar but not identical results to national trends. Music teacher attrition problems were prevalent. Age was a measured factor and showed decreased attrition problems as age increased, but experience was not a significant variable. Females and minorities showed increased attrition issues. Contrary to research previously reviewed, compensation was indicated as a possible mediator. Administrative issues ranked high as a negative influence on teacher retention. Madsen and Hancock (2002) ranked administrative problems high for reasons to leave the profession, along with unstated personal reasons. The rates of leaving the profession, which were similar to other academic areas, revealed a 6% loss rate yearly. A significant portion of those that left the profession were planning to return (Hancock, 2009).

Scheib (2004) sought to bring attention to the reasons music teachers leave the profession. A national shortage of teachers and alternative certification programs were documented. Surveys were sent to band directors the author knew to be leaving music education for other careers in education, outside of education, or for retirement. There were eight responses. The author also cited scholarly research to support his claims. The reasons from the respondents and from cited literature were working conditions, low salary, lack of administrative support, poor public perception of teaching, and unequal position of music in the curriculum. A “call to arms” was sounded to help music teachers overcome the obstacles mentioned and to encourage participation in professional organizations.
A similar study by Gardner (2010) investigated teachers that have left or moved within the profession. Job satisfaction issues related to work conditions, desire to move to a better assignment in music, lack of full-time employment, and lack of administrative support were reported as common reasons for leaving. Subjects reported being more pleased with new job assignments, in or out of field.

**Curriculum.** Alabama public schools function under the standards of the Alabama Course of Study (Alabama State Department of Education, 2006), a document of specific tasks and concepts for students K-12. This document is based on National Standards for Music Education (National Association for Music Education, 2014), which evolved from national movements in music education. Local curricula are designed to meet these standards, and lesson planning documents are to reflect alignment (Alabama State Department of Education, 2006). As in other states, application is not consistent (Baker, 2009; Carey et al., 1999-2000; Hancock & Womack, 2013; Maranzano, 2000).

Music Education Standards and Assessments (Alabama State Department of Education, 2006) details courses and requirements for graduation in Alabama. By law, all K-6 students must receive music instruction, with minimum hours per week specified. All students are required to have an instructional unit (70 hours of instruction for a half-credit) in order to graduate. The Course of Study (Alabama State Department of Education, 2006) is referenced. Levels of emphasis within the classroom are described as “produce,” “respond,” or “understand.” “ Produce” requires mastery of the topic, “respond” requires knowledge of a subject that can be discussed, and “understand” requires presentation of the concept without application to a graded or performance situation.
Understanding the development of music curricula is necessary to understand the current status of instrumental music education in Alabama. The Child’s Bill of Rights in Music (1950), the founding of the American School Band Directors Association (1953), the Contemporary Music Project (1959), the Comprehensive Musicianship (1965), the Manhattanville Music Curriculum Project (1970), the Hawaii Music Curriculum Program (1965), the Yale Seminar (1963), the Tanglewood Symposium (1967), the GO Project (1969), the Multicultural Symposium in Music Education (1990), the National Standards for Music Education (1994), the Housewright Symposium-Vision 2020 (2000), No Child Left Behind (2001), and Tanglewood II: Charting the Future (2007) are the milestones chosen for review.

The Child’s Bill of Rights in Music (MENC, 1950) was a statement by the Music Educators National Conference (MENC, now the National Association for Music Education) that urged government agencies and administrators to “recognize and guarantee” that all children received a quality music education. Qualified music teachers, equal footing with other academic subjects, music for students of every demographic, vocal music, instrumental music, multicultural music, historical and theoretical understanding, and musical growth were the major topics of the statement.

The American School Band Directors Association (2014) was founded as the first large-scale, national association specifically for band directors. It is referred to as the beginning of the band movement. Its primary purposes are to promote concert band activities and influence the direction of music in the schools. The association has sponsored projects and publications concerning band advocacy and improvement. Specific to curriculum development, they have published curriculum guides, guides for administrators, and a list of recommended literature.
The Contemporary Music Project (Keene, 2010), sponsored by the Ford Foundation, placed composers and performers in public schools to help with acceptance and understanding of contemporary music. They later partnered with the MENC and expanded. Composers realized that music educator training in contemporary music was inadequate and recommended changes in music teacher education. Northwestern University hosted the Seminar on Comprehensive Musicianship (1965) to improve the education of music teachers. The Procedures for the Evaluation of Music in Contemporary Education were published from this seminar. The document included guidelines for evaluation through Comprehensive Musicianship and Complimentary Activities.

The Manhattanville Music Curriculum project was a fully developed, multi-grade project with related materials for grades K-12 (Thomas, 1970). In response, 23 workshops for music educators were sponsored nationally to help educators understand and implement the curricula standards.

The Hawaii Music Curriculum Project (Burton, 2014) developed and implemented a sequential and organized curriculum of music, sponsored by the University of Hawaii. National publications repeated and explored the use of the curriculum. Comprehensive Musicianship was the basis for an "all-inclusive and all-embracing discipline of knowledge."

The Yale Seminar (Werner, 2009) was a reaction to previous reports and projects. Recommendations were made in 10 areas: musicality, repertory, music as literature, performing activities, advanced courses, musicians in residence, community resources, national resources, audio-visual aids, and teacher training. The teacher training recommendations were aimed at undergraduate, graduate, and currently working teachers.
The Tanglewood Symposium (Mark, 2014) was a conference for educators, performers, music industry and publishing representatives, and other stakeholders to make recommendations about the direction of music education for the Music Educators National Conference. The Tanglewood Declaration was the product of these meetings. Recommendations included choosing music with integrity and using all forms of music in the curriculum. Further, time should be allotted for music at every level of schooling, technology should be emphasized, emphasis should be placed on each student’s goals, inner city concerns should be addressed, and training for high school courses in history and literature should be implemented.

The GO (Goals and Objectives) Project (Mark, 2014) was related to the recommendations of the Tanglewood Symposium. Eight goals were agreed upon: music education for all students, varied programs of study, assist teachers in identifying relevant musical behaviors, music for all students through grade six and two years further through graduation, qualification standards for music teachers, greater student involvement, assumption of leadership roles in curriculum and assessment, and ensuring time and staff for music education.

MENC, the Society for Ethnomusicology (K12 Academics, 2014), and the Smithsonian Institution sponsored a three-day symposium to increase cultural awareness and provide materials, models and techniques for teaching music of varied cultures to all students. This was in response to the increasing diversity of American culture.

The National Standards for Music Education (National Association for Music Education, 2014) were composed as part of national agencies creating standards for core subjects. The standards include knowledge skills and understanding for all students as the basis for music curricula. Specific skills include singing, playing instruments, improvising, composing, reading,
notation, listening and analyzing, evaluating, understanding other arts disciplines, understanding history, and understanding culture.

The Housewright Symposium, Vision 2020 (National Association for Music Education, 2014) issued a report discussing the future status of music education. Music education philosophers, researchers, and educators contributed works to a combined document. Topics included the human value of music, reasons for studying music, teaching the national standards, all people being involved meaningfully in music, societal and technological changes, and schools relating to other sources of music learning.

No Child Left Behind (NCLB) (Vermont Agency of Education, 2014), a standards-based educational reform program of the U.S. Department of Education, included the arts as a core subject and placed them within the highly qualified teacher requirements of the program. This is important to music education because of the placement of the arts in the core curriculum of schools. Enforcement of this has not been consistent, and arts courses are not used for school or system evaluation. Not all results of inclusion with the guidelines stated have been beneficial. The inclusion in the core is the precedent most beneficial to music education.

Beveridge (2010) documented the effect of NCLB on the arts, specifically because of a lack of testing requirement within these sublets. Documented effects include funding, professional development and scheduling. The process for achieving annual yearly progress was discussed and shown to affect the conditions for the arts, which have included cuts to arts funding and elimination of programs. Negative effects on scheduling, though anecdotal, include allowing students to attend the arts when remediation is not required or as a fun course, not equal to other subjects. Scheduling has been also been shown to favor tested subjects. There has been some discussion about the political aims of NCLB as possibly being a vehicle to fail schools,
leading to privatization of public schools. Increased advocacy and further research are encouraged regarding the effect of NCLB on the arts.

Tanglewood II (Mark, 2014) was a celebration and symposium looking back at 40 years since the Tanglewood Symposium. Technological, cultural, and demographic changes were acknowledged. A new statement was presented with the following topics: humans and music, music and meaning, development of musicianship, quality of music experience, equity of access, curricular change, research relevance, music faculty responsibilities, admissions and graduation requirements, and mentoring and professional development.

**Literature Selection.** Literature selection is a matter of controversy within the profession, with leaders attempting to improve music performed by students. Problems of music selection have dominated the literature of school bands (Budiansky & Foley, 2005). Anecdotal evidence and stories have been used to define the problem. Studies presented quantitative evidence and definitions of quality music. Choosing music to meet educational goals was discussed. "Poor choices" are made because of reluctance to make judgments, publisher’s influence, and lack of teacher instruction. Recommended solutions include instructing teachers, limiting music publishers, supporting transcriptions, resisting musical isolationism, and viewing performance as a means to an end. Minton (Rarus, 2008) published guidelines that included recommendations of worthwhile texts or subjects, being well written, graspable by students, needs of the listener and other factors. Factors influencing student preference for music include familiarity, performance literature preferences, social influences, approval of teachers, modeling, and the role of music education (Droe, 2006).

The Teaching Music through Performance series of books (teachingmusic.org, 2014) represents a large-scale reaction within the profession. This series of texts started with volume 1,
a band director’s reference of quality in graded music (Blocher, Corporon, Cramer, Lautzenheiser, Lisk & Miles, 2007). The series initially began as an attempt to identify quality music for grades one through four levels of difficulty, acknowledging the lack of teacher knowledge of literature in less demanding music for younger grades. The series expanded to multiple volumes and areas of music education.

Without citing individual examples, it can safely be stated that literature review and presentation have been regular topics in documents of professional associations, conventions, industry publications, concert selections, and other sources. Some of these presentations attempt to make quality judgments, and some simply let the director know of recently music published.

Persellin (2000) invited chosen music educators to give advice on music selection. Principles of music selection presented include selecting music of good quality that is teachable and contextually appropriate, with appropriate range, tessitura, and difficulty level, while considering programming considerations. Repertoire should be chosen that represents the national standards (Apfelstadt, 2000). Developing lists of core repertoire for chosen ensembles was encouraged. State lists and other resources may be helpful. Programming concerts to present the core music appropriate to the ensemble with the students as the central focus was recommended. Avoiding traps was discussed. Networking for advice from friends, colleagues, the music industry, and professional organizations was discussed. Continued music and professional growth was encouraged (Reynolds, 2000).

**Assessment.** Assessment in music occurs at multiple levels. The major categories are assessment of the student, assessment of the ensemble, and assessment of the music teacher.

Student assessment is a practice affected by current trends in education. Shuler (2011) described current trends and recommendations concerning student assessment. The need for
assessment was acknowledged, with the goal of improving teaching and learning. The process indicated is objective description in which evaluation takes place and action for improvement is taken, similar to the concept of formative assessment. Formal, standards-based assessments are recommended by grade level, in system, state, or national groupings. Records retention for individual students is encouraged, possibly in a personal portfolio, benefitting teachers and individual students. Students must be able to self-evaluate for improvement. Understanding the next steps for improvement is important. This individualized process is for students to improve themselves. Students tend to be motivated by praise and contest ratings, but eventually need to be satisfied from experiencing music.

Shuler (2012) further described assessment as a process to improve instruction. It is acknowledged that undergraduate training does not adequately prepare students for the vocation; thus, self-directed professional improvement is important. A teacher evaluation process of using various forms of presentation, evaluation, record keeping, and improvement with formal evaluation from administrators is described as the long-time standard. The current trend is changing to evaluation by student achievement. To avoid group evaluation of the arts with the evaluation of the entire school, peer-reviewed alternatives have been adopted. Assessment is not only an evaluation of the student or teacher but a wider evaluation of the profession, in that an accountable system should be in place. Music educators should lead in developing this system. A well-defined curriculum, measuring the application of the curriculum and helping students achieve is the goal of the process and is defensible as a valid academic process.

Guidelines for music teachers in implementing assessment have been established (National Association for Music Education, 2014). Among the recommendations are documentation of the process and justification for grading, serious interest in assessment tools,
and collaborative assessments from within the local, state, and national systems reporting results for individuals where appropriate and in aggregate form to larger groups of stakeholders. Inclusion of this aggregate data with data about the school supports developments of standards for music and other core areas. Advocating for evaluation of other core subjects to minimize negative impacts and use of technology to record and assist with instruction are recommended.

Standardized evaluation within music education is not accepted by all within the profession (Fisher, 2008) but is vital to acceptance of music as a core subject in the current educational environment. Resistance is centered on reluctance to alter traditional forms and practices and to avoid the negative aspects of standardized testing on other core subjects and the arts.

Specific applications in the classroom were presented by Goolsby (1999). Placement, summative, diagnostic, and formative evaluation were discussed. Placement evaluation is commonly considered to be chair placement and other auditions or tests for rank. Summative evaluation is likely to involve concerts and festivals where the final product is evaluated. Diagnostic evaluation involves frequent measurements to determine where difficulties exist. Individual checklists to monitor individual students are encouraged, possibly assisted by technology. Worksheets and other traditional handouts and testing are valuable in assessing individual student knowledge of basic notation, form, historical, and theoretical aspects. The use of recordings for self-evaluation and teacher evaluation is encouraged.

Assessments of learning-for-learning and learning-as-learning are other ways to look at current trends (Scott, 2012). Assessment of learning is traditional, done to the student, competitive, criterion-referenced, and centered on the teacher. Assessment for learning is constructivist, done for the student, collaborative, criterion-referenced, and centered on the
Assessment as learning is self-reflective, done by the student, personal, criterion- and self-referenced, and centered on self. Checklists and portfolios are recommended for learning and record keeping.

Music educators have resisted overemphasis on and reforms to competition (Austin, 1990). The question of whether competition helps or hinders the placement of music in the core academic subjects of schools was considered. Further consideration was given to shifting to student achievement. "Myths" about the value of competition were presented. Competition was discussed as positive for a few and detrimental to many. A shift to individual achievement in a non-competitive environment would lead to more success. Varied seating plans, peer tutoring, and alphabetical listing of participants were recommended. A parallel to sports was discussed, where the majority of students dropped competitive sports by age 17.

Outcomes, music selection, analyses, strategies, and assessment were discussed as major areas of modern application of the Comprehensive Musicianship through Performance Model (Northwest Area Education Agency, 2011). Music selection followed as a logical extension of establishment of outcomes. Student analysis of the composition was described. Teacher-facilitated strategies were discussed. Individual student assessment was used to enhance student learning and to provide the teacher information for classroom adjustment. Applications of the model do not always align between teacher intent and student application (Sindberg, 2007).

Rating relationships with classroom environment revealed increased ratings for festivals and student-centered activities (Hamann, Mills, Bell, Daugherty & Koozer, 1990). In general, higher ratings on the Classroom Environment Scale led to higher festival ratings. Organized activities, student perception of teacher concern for their well-being, and friendships within ensemble activities were related to higher ratings.
Formal assessment of ensembles may become a part of teacher evaluation in the current educational environment (Hash, 2013). Group contest ratings may become part of the evaluation as a third-party assessment. Statistical analysis of festival ratings revealed stronger correlations for inter-rater reliability for sight reading than for on-stage performance (Hash, 2012). The analysis process was demonstrated to be an effective measurement device.

King and Burnsed (2009) analyzed marching festival ratings from five cites and varied judging panels. Overall, judging reliability was acceptable. Smaller bands were rated lower. The level of agreement was criticized as possibly lacking validity and examination of the evaluation form was recommended.

Price and Chang (2005) attempted to evaluate conductor and ensemble expressivity as related to festival ratings. Both studies revealed a lack of relationship between expressivity and ratings.

Norris and Borst (2007) compared adjudication forms and found different ratings between a traditional assessment and a more descriptive assessment. The more descriptive form had increased inter-rater reliability. Continued development of language and application of a more descriptive form was recommended.

Performance rubrics for evaluation were compared: a traditional form and a multidimensional, weighted performance rubric (Latimer, Bergee & Cohen, 2010). Results revealed similarities in ratings, with the performance rubric being recommended as having improved utility.

Mentoring. Beginner teacher induction involved professional development specifically for new teachers (Conway, Krueger & Robinson, 2005). Programs described generally did not include content-specific programs for arts teachers. When content-specific teachers were
available, their input was preferred. Getting to know the mentors in informal settings increased success. Mentors are often not assigned until after school begins, even though many music teachers begin in the summer. Off-subject mentors were not preferred, but mentors being assigned to the same campus with the mentee was helpful. Increased professional development specific to music was recommended. Few states used mentors as evaluators. When mentors do evaluate, it diminishes their perceived effectiveness to the inexperienced teacher. Since a music teacher is often a specialist on a campus, isolation becomes a problem. Mentors do diminish this problem. Being able to have release time to work with the mentor is helpful. State music organizations have been attempted but are hindered in practical application. Local university mentors are being considered but lack funding and practical application. Johns Hopkins Peabody Institute (2014) is involved in mentoring music teachers. The lack of appropriate mentors may be contributing to retention issues with music educators. Publications to assist in the process are available (Conway, 2003; Conway, Smith & Hodgman, 2010).

Mentor programs of 13 school districts were examined using multiple methods. Inconsistencies in implementation were discussed. Teacher opinions were presented. The need for mentors was discussed. Recommendations were made to identify mentors early and schedule so that mentors can work with mentees (Conway, 2003).

**Teacher Training.** Accredited music schools and colleges of education work together to provide paths for music education majors to receive degrees recognized within the arts community and fulfill the certification requirements of public schools. The college of education traditionally is accredited by the National Council for the Accreditation of Teacher Education Programs (NCATE) (National Council for the Accreditation of Teacher Education Programs, 2014). This organization details methods and professional courses for education majors. Many
disciplines’ basic pedagogical courses are in the college of education, as per guidelines of NCATE.

The music education major is typically administered through the music department or music school. NCATE states a specific exception for this to occur: Some programs may be administratively located outside of the school, college, or department of education (e.g., school counseling may be located in the School of Counseling and Social Work, or music education may be located in the Music Department). All programs included in the NCATE scope are expected to contribute to the unit’s meeting of the six NCATE standards.

Music education majors typically attend most courses with music performance and education students and attend the professional courses required for graduation in the college of education. These courses typically include psychology, organization and structure of schools, special education courses, legal processes, etc.

The students function under the National Association of Schools of Music (NASM) for most of their course work (National Association of Schools of Music, 2013). NASM controls the organization, course offerings, and standards of accredited schools. Music Education requirements include that 50% of courses must be in music. Personal attributes and specific competencies required for graduation are detailed. An approved five-year program provides for multiple bachelor’s-level grouping with other areas of music, typically performance, and music education. Graduate programs and their organizational and philosophical bases are discussed. Methods courses are typically taught by applied instructors on various instruments and experienced K-12 classroom teachers employed by the school of music. These experienced
classroom teachers may be adjunct or regular faculty members with appropriate previous experience.

There are fifth-year programs available for those with a bachelor’s degree in field that result in a person receiving a master’s degree and master’s level teacher certification (EducationDegree.com, 2014). These programs typically involve a student teaching requirement.

Accredited college programs required for certification are structured to assure appropriate levels of knowledge and teaching abilities. However, many directors of low SES bands have not felt adequately prepared by these programs (Fiese & DeCarbo, 1995). Many felt musically prepared but not educationally prepared for students with difficult emotional, socioeconomic, vocational, and family situations. Professors more closely linked to urban environments and greater field experiences in those environments were recommended improvements. Many of the teachers surveyed felt better prepared from conferences, in-service opportunities, non-music related seminars and experience than from the college experiences. Student leadership within the learning process was recommended. Teachers described mentors, support groups, supervisors, and others as central to achievement in urban schools. Relationships with and respect between the teacher and students, parents, staff, and administrators were described as vital to the process. Understanding a multicultural approach to music education was considered a necessary improvement in college music education instruction.

**Succeeding in Economically Disadvantaged Schools**

Barley and Beesley (2007) sought to study leadership, instruction, professional community, and school environment in high-performing, high-needs rural schools by studying 13 factors believed to clarify these four areas. The research questions dealt with local definitions of success, attributions of that success, and importance of these factors. Midwestern schools were
identified by accomplishment and low SES. Phone surveys of 21 principals were conducted. High expectations, structural support, use of data, and curriculum alignment were found to be of highest importance, with teacher retention, professional development, and strength of principal also considered important. Site visits to six of the chosen schools followed the initial data collection. Principals, teachers, and community stakeholders were interviewed in focus groups using open-ended questions to assist in discerning reasons for success. Transcripts were analyzed to determine ranking of reasons for success at each school. Strongest reasons were strong links with the community, high teacher retention, and high expectation, followed closely by administrative leadership, support, and supervision.

Fech (2009) sought to determine traits of principals of highly successful, high-poverty schools, commonalities of these leaders, and the concepts of moral leadership. Relationships with stakeholders, commitment to professional development, community and cultural awareness, collaboration, support, mission and vision were analyzed through the lens of a principal leadership program.

Kannapel, Clements, Taylor, and Hibpshman (2005) sought to establish commonalities of successful low SES schools and their differences with struggling schools in low SES environments. Eight elementary schools in Kentucky were chosen. A state-approved academic audit system was used to collect data. Common traits included high expectations, emphasis on relationships, emphasis on academic instruction, emphasis on state- and building-based assessments, faculty morale and ethics, and teacher recruitment/retention/assignment. Unexpectedly, there was little difference noted in administration; the schools did not score well on state-designed planning and technology was under-utilized. Impoverished students were
treated much the same as regular students. There was faculty agreement on instructional direction and content.

Lezotte (2014) presented a history of the Effective Schools Movement. The movement began as a protest against educational thought in the 1960s that parents and family were the primary determinant of student success and that schools did not make much difference.

Upon closer inspection, the researchers found that all of these especially effective schools had strong instructional leadership, a strong sense of mission demonstrated effective instructional behaviors, held high expectations for all students, practiced frequent monitoring of student achievement, and operated in a safe and orderly manner.

Reeves (2014) sought to establish commonalities of high performing, low SES schools in Kentucky. Further, the study sought to document differences between high performing, low SES schools and similar schools with less success. Eight schools were chosen that met specific economic guidelines. An audit was performed to profile these schools and eight under-performing schools in similar areas. High performing schools scored higher on curriculum alignment, tailoring to individual needs, caring/nurturing environment, professional development related to student data, and efficient use of resources. Common characteristics of high-ranking schools included clearly communicated high expectations, respectful relationships, instructional focus, student assessment, strong leadership decision-making, faculty work ethic, teacher recruitment and retention. Unexpected commonalities included little difference between leadership in high and low performing schools, not following state expectations, not using technology effectively, and district influence was less than expected.

Strahan (2003) analyzed data for three elementary schools whose scores were above stated norms in low SES environments. This was a re-analysis of previously collected data from
the North Carolina Lighthouse Schools Study, a longitudinal study of successful low SES schools. The study examined collaborative efforts and professional learning communities. Data from site visits, classrooms observations, yearly academic and demographic data, and interviews from the first two years of the study were used in this study. Detailed, non-statistical descriptions of each school were presented, with direct quotes from interviews and explanations of instructional practices within each school. Collaborative efforts, high expectations, and adaptations to student needs and interests based on assessment and encouragement were common among all three schools. All three schools adopted a framework from outside sources to use as a tool in reform. These programs used literacy emphasis, character education programs, and a professional reform program. A process of data, dialog, reform, and repeat was described as the basis for all three programs.

McNeal (1998) sought to establish which groups participated in high school extra-curricular activities in order to establish who was benefitting and how to eliminate barriers to under-represented groups. Positive results of extra-curricular activities were discussed. Access to these activities was limited by financial concerns, selections of faculty, and academic prerequisites. Activities requiring prior participation were considered closed, and those without this requirement were considered open. The NELS88 study was used as a source for data. Females had higher participation rates in all areas except athletics. Blacks and Hispanics had higher participation rates than whites when compared in similar SES groups but lagged behind because of a greater number of minorities in low SES groups. Asians were higher in academic and service participation. Athletics, fine arts, and cheerleading were most closed. Eliminating or allowing fine arts and athletics to operate on a "pay-to-play" system will harm low SES and minority participation in activities that could greatly influence these groups.
Grit

**Development of Construct.** Personality testing for prediction of job selection and satisfaction has its foundation in the belief that the descriptive terms of language contain taxonomy capable of describing personality traits. Psychologists used the words of language, listed possible personality descriptors, and attempted to classify them. The process was as simple, and long, as going through dictionaries to classify terms. Galton compiled a list of thousands of descriptive terms late in the nineteenth century (Lehrer, 2009). Later, Baumgartner (1933) and Allport and Odbert (1936), using an unabridged dictionary of the English language, expanded the list to as many as 18,000 terms, and divided it into four lists of 4,500 terms each. Norman divided the terms into seven categories in 1967. Chaplain, John and Goldberg (1988) delineated the lists in three groups, States, Traits and Activities, believing the earlier classifications to be arbitrary (Goldberg, 1990; John, Robinson & Pervin, 1999; Thorndike & Thorndike-Christ, 2010).

Cattell (1943) used the list of 18,000 terms for classification. Acknowledging that a practical classification system was needed for research purposes, Cattell singled out one of the classifications of 4,500 terms. Through assuming synonyms within this classification, Cattell was able to bring the entire category down to 35 terms, and then to 16 personality factors. Cattell published these as a 16 Personality Factors Questionnaire (1977) that he claimed was valid across self-reports, peer ratings, and objective tests. Other researchers confirmed Cattell’s work, and the questionnaire became commonly used in research (Goldberg, 1990; John, et al., 1999; Thorndike & Thorndike-Christ, 2010).

Fisks (1949), using Cattell’s variables, established five variables, later referred to as the Big 5. Norman (1963), Borgatta (1964), and Digman (1981) used Cattell’s 35 terms to reaffirm
the Big 5 (Goldberg, 1990; John et al., 1999; Thorndike & Thorndike-Christ, 2010). The Big 5 are Emotional Stability versus Neuroticism, Conscientiousness, Extraversion or Assurgency, Agreeableness, and Intellect or Openness. The acronym OCEAN has been frequently used: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

During the 1970s and 1980s, researchers replicated adjective lists and applications of personality tests over a wide breadth of areas to confirm the unchanging use of the Big 5 and support the application. This led to the Big 5 Inventory, based not on single adjectives but on short phrases. For instance, the term “perseveres” was used in the phrase “perseveres until the task is finished.” These phrases were thought to be less ambiguous in their application (John, 2009; John, Donahue, & Kentle, 1991; John et al., 1999; Thorndike & Thorndike-Christ, 2010).

Seibert and Kraimer (2001) sought to apply the principles of the Big 5 to career success across varied occupations. A history of research included measures of extrinsic and intrinsic success, measured across age, gender, demographic, human capital theory, and other variables. This study measured the statistical interaction of each of the Big 5 with success when various career types are factored. College alumni ($N = 668$) were surveyed. Each self-reported on a measurement tool to define their personality within the Big 5. Occupations were classified by interaction with others. Neuroticism had a negative relationship with career satisfaction. Extroversion had a positive relationship with intrinsic and extrinsic success. Agreeableness had a negative relationship with career satisfaction. Openness had a negative relationship with intrinsic and extrinsic success. These findings are not consistent with all previous studies.

Other personality tests were developed using the Big 5 as their foundation. There was considerable research correlating the Big 5 with these other tests, confirming the validity of the Big 5 and the other questionnaires. The Big 5 Inventory became the most commonly used of
Grit. More recently, Duckworth defined Grit as a trait that is identifiable, measurable, valid on self-studies, applicable across a wide range of occupations, and predictive of success on long-term objectives, especially those tasks deemed less desirable. The Big 5 test, with its pre-established acceptance as being accurate, was used concurrently with early Grit research to assist in establishing validity of the new measurement. High Grit scores consistently coincided with high Conscientiousness scores from the Big 5. The Grit study can be seen as a next step in identifying potential vocational success and satisfaction over a long period of time as an outgrowth of the Big 5 (Duckworth & Eskreis-Winkler, 2013; Duckworth, et al., 2007; Lehrer, 2009). Grit was emphasized in a number of studies and applications establishing validity and reliability as a self-study. The first version was the 12-Item Grit Study (Duckworth, 2007) that was later shortened to the 8-Item Grit Study (Duckworth, 2013). The 8-Item Grit Study was found to be more valid and have stronger psychometric properties (Duckworth, 2013, 2013; Duckworth & Quinn, 2009; Lehrer, 2009).

Duckworth presented Grit in a series of studies in academic environments linking Grit, a measure of perseverance and passion, to the traits measurable in the Big 5 (Duckworth, et al., 2007). Stamina was noted as a characteristic of those with grit. Grit was noted as not necessarily being linked to talent for outcome. Statements of admiration were made for those with less ability but more perseverance. Of the traits measured in the Big 5, Conscientiousness was most closely related to success. Current scales of measurement for Grit and related synonyms were discussed and found to be related but not specific to the tasks of this study. In Study 1, individuals over 24 were assessed by documented highest level of education received, to assess if...
Grit "grew with age" by aligning with questions of tasks completion, time on jobs, etc. Grit was concluded to grow with age and education level. Further, it was, to some degree, inherited with no delineation between environmental or genetic factors. Study 2 explored Grit beyond Conscientiousness and considered the number of career switches. Age and Conscientiousness were further supported. Fewer career changes were incrementally aligned with Grit. For Study 3, successful undergraduate students were surveyed and ranked by SAT scores. Those with lower scores but equal or higher class rank were shown to be "grittier." Study 4 focused on vigorous summer activities at West Point as related to completion, retention, and academic success. Grit was a measurable predictor of success, but self-control was a stronger predictor. Study 5, using a population of students that had completed summer training at West Point, showed that Grit was a stronger predictor of success than Conscientiousness. Study 6 was a longitudinal study of spelling bee finalists. Conclusions drawn from these studies found that Grit was a predictor of accomplishment. Self-control was not a predictor. IQ was a predictor of success. When equivalent IQ was grouped with Grit, Grit was a further predictor of success. The measurement of Grit did prove to be a stronger predictor of success than the Big 5 Conscientious measurement. An example was provided describing piano students of equal potential but not described in a full study. One was predicted to be more successful based on number of hours given to one instrument versus changing instruments or not practicing as many hours. A further musical reference was made to delineate the accomplishment of "prodigies" versus those working consistently for extended periods for similar musical accomplishment.

Novice teachers were studied using Grit as a measurable trait (Robertson & Duckworth, in press). This study examined predictive qualities of novice teachers using psychological data on Grit, a disposition toward perseverance, and passion for long-term goals. Measuring variance
and retention was one of the goals of the study. Grit was the only reliable predictor of success. Measurements were taken at time of interview, followed by a longitudinal study to follow progress and retention. There was acknowledgement of the frustration of young teachers starting with little guidance in a "sink or swim" situation and the fact that a large percentage leave in the first several years. There is an explanation of the differences between Grit, perseverance, Conscientiousness, leadership, and resilience. According to Study 1, unique to Grit is stability of interest over time, especially in difficult circumstances: teachers, effective, less effective and resigned, provided resumes for analysis using trained raters. There was more data collected from cooperating universities of student activities and academic records. Grit correlated with successful teachers. Study 2 was a similar study using resumes and trained raters from varied demographics of teachers. Both studies revealed evidence of passion and perseverance leading to increased student progress. Difficulty in seeing results was acknowledged as frustrating for young teachers, especially those in low SES schools. Since the Grit rating was based on varied resumes, a standard form was suggested, with a rating rubric for application, to assist in teacher hiring.

Research was performed using technology and outside observers in an attempt to measure Grit (Schechtman, Debarger, Dornsife, Rosier, & Yarnall, 2013). This study sought to define and quantify the non-cognitive factors of Grit, perseverance, and tenacity, acknowledging their importance level as similar to intelligence and content knowledge, being documented in the materials of various agencies, illustrations, and the Common Core. The study attempted to incorporate technology issues. This application of technology was in line with the purpose of the researchers’ department, U.S. Department of Education Office of Educational Technology. For the purposes of examining grit within this report, the following questions were discussed: What
are grit, tenacity, and perseverance? What are the key components of these competencies? What psychological and contextual factors support and promote them? How are these factors measured currently? Extensive definitions from current applications were discussed and cited, and the final definition, for the purposes of this study, was offered: “Perseverance to accomplish long-term or higher-order goals in the face of challenges and setbacks, engaging the student’s psychological resources, such as their academic mindsets, effortful control, and strategies and tactics.”

Understanding Grit is useful in understanding progress and the development of students from difficult backgrounds. The study stated and sought to document that these traits are teachable and malleable for the improvement of the student. The definition was discussed as two different assumptive points of view, as a disposition or set of processes. As a disposition, it was described as a tendency to persevere. Studying how this tendency interacts with other areas of the individual is considered to be a worthy pursuit. As a set of processes, measurements may be physiological, behavioral, emotional, and observable over time. Data mining and effective computing, aided with technology, are being researched to help develop measurements within the field. Self-reporting (insightful but possibly biased), observation of others (less biased but subjective and requires trained observers), academic records (indicate attendance and evaluation but not a complete picture) and behavioral tasks reports (technology-based, new, and requires additional resources/interpretation) are the areas currently available for measurement. The newness of measuring these traits was discussed, with possible breakthroughs in measuring schools, as well as studying ways to promote these traits and ethical concerns. The framework assumed within this study was a blend of an extension of literature/research review and compilation of expert interviews. Self-affirming statements were made about why an individual may continue (mindsets): I can succeed, my abilities grow with my efforts, challenge is
inevitable, work is in line with my image and goals, and I belong in this community. Effortful control was described as deliberate practice. There was an extensive bibliography offered for current studies in this field.

Grit was originally studied in a 12-Item Grit Study (Duckworth, 2007) that was later shortened to an 8-Item Grit Study (Duckworth, 2013). This study seeks to validate the short version of the previously validated 12-Item Grit Scale (Duckworth and Quinn, 2009). The short test has four fewer items and improved psychometric properties. This version tested positively for adults with few career changes, adolescents with GPA inverse to hours of TV, military cadets with retention, and spelling participants with round in spelling bee attained. In this study, most predictive items from Grit-O (12-Item Grit Study) were identified. An Internet survey was used to compare Grit-S, Grit-O (8-Item Grit Study), and the Big 5. Consensual validity was established. A one-year retest was performed. New samples of military cadets and spelling bee participants repeated similar studies to the original Grit-O. In these studies, Grit-O performed similarly to Grit-S and, at times, better. The study assumed that participants actually pursued success in their given fields. The authors found the short form to be more accurate than the long form.

Grit studies have found use in varied vocational and academic areas, including the military, all levels of education, medical sciences, general job success and satisfaction, and as a predictive measurement for success in personnel decision making. Most relevant to the current study, Grit studies were used for predictive purposes in identifying teachers for low SES schools in core academic subjects (Duckworth et al., 2007; Shechtman, et al., 2013; Singh & Jha, 2008). There is no known current research citing the Grit study as a predictor in music education.
Self-Efficacy

Stated in general terms, Self-Efficacy is a belief in your own personal competence level to accomplish a specific goal, relationship, or task. A person may have a high sense of Self-Efficacy for one task and not another. Though Self-Efficacy is not a measurement of competency, but rather a measurement of belief about competency, it still has a measurable effect on the outcome. There are numerous benefits to high Self-Efficacy and few potential problems. There are numerous barriers within low Self-Efficacy.

Bandura was the initial researcher and author on the subject. A general description of Self-Efficacy, as stated by Bandura, is “people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-Efficacy beliefs determine how people feel, think, motivate themselves and behave. Such beliefs produce these diverse effects through four major processes” (Bandura, 1994). Bandura presents the positive effects of high Self-Efficacy in conjunction with the negative beliefs of low Self-Efficacy as a regular part of his writings. The four Efficacy-Activated Processes are Cognitive Process (forethought for valued goals), Motivational Process (effort over ability), Affective Process (perceived ability to handle stress--mentally and physically) and Selection Process (high Self-Efficacy increases belief in success and therefore influences the choices a person deems appropriate).

High efficacy leads to judgment of accomplishment as effort based. Low Self-Efficacy leads to judgment of accomplishment as ability based. Mastery and guided mastery are major factors in raising Self-Efficacy. There are changes in Self-Efficacy over time with aging, mastery improvement, and maturity (Bandura, 1993, 1994).
There has been criticism of stated benefits of high Self-Efficacy as it may lead to inflated judgment about one’s abilities and the tendency to stay on a flawed path, beyond what is prudent, because of belief in ability to master beyond what is actually true (Pajares, 1997). Further, there are questions about the separation of Self-Efficacy and Self-Concept as constructs. Self-Concept is a general measure that is not task-specific, though it may be topic-specific. Self-Efficacy is more targeted. For instance, Self-Concept questions could include the phrase, “I am good at ____.” Self-Efficacy questions could include, “How confident are you about _______?” (Pajares, 1997). The distinctions and relations of these concepts are a matter of research (Bandura, 1986; Schunk, 1991).

In education, Self-Efficacy studies have centered on improving teacher efficacy by improving mastery and the stated Four Efficacy Activated Processes (Bandura, 1994). Further, studies have centered on the belief that high efficacy teachers increase belief in learners by allowing development of self-guided and discovery activities that do not just build knowledge within the student but actually allow for at least the beginning levels of mastery. The students become high efficacy learners and increase accomplishment early in the educational process (Pajares, 1997).

Relevant to this paper, efficacy studies have dealt with teaching in general and teaching in low SES schools. These studies have recommended ways to improve efficacy by collaboration, increased control over academic environment, improving administrative relations, and other possible solutions. High Self-Efficacy has been shown to be a measurable characteristic of successful people (Chester & Beaudin, 1996; Raudenbush, et al.,1992; Sachs, 2004).
As a predictor of longevity or success, the outcome has not been as strong as researchers intended (Sachs, 2004). Validity concerns and small sample sizes were discussed. It is possible that low-success teachers gave socially acceptable answers, skewing the results. It is possible that the low-success teachers developed parallel skills for survival in a difficult situation but did not actually practice those skills adequately in the classroom. It may take perseverance and other admirable qualities to function for long periods of time in difficult educational settings. These qualities may skew the results. As stated before, the teacher may perceive they are more successful than an outside, third-person observer would perceive. They may perceive, simply by survival and genuine good will, that they are competent, skewing the results (Pajares, 1997).

In music, there are studies related to efficacy in performance and development that parallel many of the predicted outcomes in Bandura’s (1994) text. The high efficacy student practices harder for the goal and mastery is higher (Nielsen, 2004; Ritchie & Williamson, 2007). Musicians can be evaluated on Self-Efficacy scales in a similar manner as other subjects (Zelanak, 2010). Through Factor Analysis, a Music Performance Self-Efficacy Scale was developed based on the constructs described by Bandura. Psychometric properties were established and variables defined through FA. Recommendations for further validation and application were made. A further attempt to create and validate Self-Efficacy as a usable measurement in music performance revealed that performers are more confident toward learning in music than performing, with stage fright referenced as a potential barrier (Ritchie & Williamson, 2007).

Studies linking Self-Efficacy to music education are limited. There is the belief that highly efficacy teachers benefit from their belief. There has been some research on Self-Efficacy in conjunction with non-verbal communication and servant leadership (Steele, 2010). In a
comparative study of music performance and music education majors, music education majors were found to have lower Self-Efficacy than music performance majors (Welch, Marshall, Purves & Hargreaves, 2003).

Self-Efficacy scales are created for many purposes and vocations. There are commonly used Self-Efficacy scales and instructions on developing content-specific efficacy scales. For the purposes of this study, a Self-Efficacy scale (Sherer, et al., 1982) was used, though randomly mixed with the 8-Item Grit Study (Duckworth, 2009). This scale is a general application, non-situation-specific scale. As originally applied, there were 36 items. After repeated applications, only 23 were found to identify measurable differences. Psychometric properties have been established (Sherer, et al., 1982). These 23 items will be used as part of this study.

**Other Personality Testing in Music Education**

There were numerous personality tests used in vocational areas during the twentieth century. The other most common is the Myers-Briggs Type Inventory (MBTI). This instrument was based on the work of Carl Jung. Jung classified personalities into four categories, Introversion-Extroversion, Sensation-Intuition, Thinking-Feeling, and Judging-Perceiving. Katrina Briggs and her daughter, Isabelle Briggs-Myers developed the MBTI, applying Jung’s categories to the emerging personality testing field (Furnham, 1996; Myers & Briggs Foundation, 2013). The MBTI has been used in music education in a variety of applications. It has been used to classify music educators, both working and preservice (Wubbenhorst, 1991). It has been used to compare music education students to music therapy students (Steele & Young, 2008), and music education students to performance majors (Wubbenhorst, 1994). In both cases, more similarities than differences in scores were established. Private instructors were rated using the MBTI and a rating scale for private instructor activities. Correlations were explored
The MBTI was correlated with a commonly used interview format, GPA, ACT scores, and applied jury ratings to establish predictive measures for music educators. Only GPA was found to be an effective predictor (Bergee, 1992). Kemp (1982) used the MBTI with different results. Introversion was found to be more closely aligned with music performance, and extroversion, realism, and tough-mindedness were more closely aligned with music education majors.

Holland developed six categories of personality and six categories of environment. Behavior was believed to be the result of interaction of personality and environment using these categories. Teachout (2001) used these personality categories to attempt to predict success in music education. None of them were found to be applicable.

Working music professionals were surveyed to understand their view of the most important traits for predicting success levels of preservice teachers. Teaching skill was rated as the highest required trait, personality as second, and musicality third. The importance of personality was acknowledged but no recommendation made for which instrument to use or method of application (Rohwer & Henry, 2004).

Wubbenhorst (1994) studied personality differences in educators and performers using Myers-Briggs and the Bem Sex-Role Inventory. Few differences were found between the groups. More similarities were found than differences.

**Experience**

Experience is generally referred to as a positive attribute or vocational qualification. As previously detailed, retention of teachers in low SES schools is a problem for schools in general and for music educators. If job performance is proven to increase with experience, and since it is
shown that low SES schools generally have teachers with less experience, combating the inequity in placement of experienced teachers is an area of research to consider.

A meta-analysis of job performance and experience documented positive correlations between experience level and higher job performance (Quinones, Ford & Teachout, 1995). More experienced employees correlated in areas of job performance related to views of peers and employers. Higher evaluations were supported by survey of colleagues and employer evaluations regarding hard and soft measures of job performance.

Career commitment increased as teachers moved out of the novice phase, and as skill level increased (Ayree, Chay & Chew, 1994). This paralleled skill development as a factor of Self-Efficacy, as was previously reviewed. Intentions to change jobs or careers decreased as the skill level and satisfaction increased.

In teaching, there are documented differences in the way teachers perceive and handle stressful situations. Teachers showed higher stress factors when dealing with disciplinary and parent issues (Melnick & Meister, 2008; Yagil, 1998). Stress perceived by experienced and inexperienced teachers toward workload and job evaluation was similar.

Low SES schools tend to be assigned less experienced teachers with lower qualifications (American Psychological Association, 2013; Summers & Wolfe, 1976; Lankford, et al., 2002). These teachers tend to change schools or leave the profession more often than teachers in high SES schools.

Chester and Beaudin (1996) studied identity traits of teachers in high SES and low SES schools that affect efficacy during the first year of employment. Further, the study sought to define strategies to improve efficacy or at least mediate the normal drop that occurs. Age and experience generally resulted in greater efficacy than younger, less experienced teachers
expressed. Increased positive collaboration with experienced teachers and administrators was an effective mediator.

Inexperienced music teachers showed differences with expert or experienced teachers in perception and practice. Novice and expert teachers prepared identical works differently, with the expert teacher talking less, allowing the group to continue uninterrupted longer, and commenting more on tone, intonation, and balance (Goolsby, 1999). Time use differs between preservice, novice, and experienced teachers (Goolsby, 1996). Verbal instructions vary with levels of experience (Goolsby, 1997).

Barnes (1998) correlated professional music educator self-efficacy with preservice teachers. Preservice teachers were measured three times, related to field experiences with students. Self-efficacy increased as experience and mastery increased.

Recordings of live music were analyzed by preservice teachers, stratified by year in college, novice teachers, and expert teachers (Stanley & Madsen, 1991). Scores increased as experience increased. Experience was the only factor where differences were attributed. Evaluations of preservice teachers of varied experience levels were compared with working music educators by evaluating recordings of an elementary music class from the student and teacher perspectives. Working teachers made more negative comments about the lesson than did students (Madsen & Cassidy, 2005). Teachout (1997) compared the opinions of preservice and experienced teachers and found both similarities and differences in their beliefs about important factors to music teachers. Both groups rated personal and teaching factors higher than musical factors. Classroom management and parent interaction varied between teachers with more experience and those with less (Melnick & Meister, 2008).
CHAPTER 3

METHODOLOGY

In order to determine whether a relationship between those band directors employed at schools serving financially advantaged and disadvantaged students was related to their teaching experience and personality traits (i.e., grit and self-efficacy), I created a survey and conducted two studies to address the four research questions. The purpose of the first study to compare the grit and self-efficacy of band directors teaching in schools enrolling primarily low, moderate, and high SES students while accounting for band directors' teaching experience. The purpose of the second study was to confirm whether the components comprising grit and self-efficacy, revealed in the first study, were applicable to band directors drawn from the entire membership of the Alabama Bandmasters Association.

Participants

Pilot Study. A convenience sample of ten Alabama band directors served as a panel of experts to refine and verify the procedures used in the administration of the study. Individuals were invited to participate through an email message explaining the purpose of the study and expectations for participation.

Study One. Alabama band directors (N = 168) attending the Alabama All-State Festival served as the target population for the first study. Participants included 115 (68%) directors, however, directors who were retired, unemployed, or working in private schools were removed from consideration, resulting in useable data for 104 (62%) participants.
Study Two. The target population for the second study was members of the Alabama Bandmasters Association who did not participate in the first study ($N = 307$). Participants included 98 directors, however, 14 directors provided incomplete information, incorrect school classification (e.g., private school), or career status (e.g., retired band directors), as such, data for a group 84 (27%) public school band directors were used for the study.

Survey Instrument

The survey instrument used in the Pilot Study, Study One, and Study Two included a page of demographic questions with instructions (Appendix A), and a personality inventory (Appendix B), on separate pages. Both sections were assigned matching identification numbers before being given to respondents.

An online version of the survey was created using SurveyGizmo. Design of the online survey was purposefully designed to be functionally identical to the printed version. A copy is available in Appendices C and D.

Demographic Data. The demographic section included five questions about the number of years the participant taught instrumental music in their school(s) and the number of years the participant has taught instrumental music in a K-12 setting in a public or private school. Participant’s name, school(s), and school location(s) were used to identify the free and reduced lunch percentages (i.e., SES) of the students in the school(s). Appendix A shows the final form of the demographics section.

Personality Inventory. The Personality Inventory included eight questions from the 8-Item Grit Study (Duckworth, 2013) and 23 questions from the Self-Efficacy scale (Sherer, et al., 1982). Items from the Grit and Self-Efficacy instruments were knitted together and placed in a
randomized presentation order using a five point Likert scale (Appendix B). The chosen Likert scale read *Disagree, Slightly Disagree, Neutral, Slightly Agree, and Agree*.

**Grit Data.** Questions from the 8-item Grit Study (Duckworth, 2013) were used to quantify the perseverance dispositions of band directors. The documented reliability of the survey, as stated for two components within the scale, ranged from .60 to .78 for the factor Consistency of Interests and .73 to .79 for the Perseverance of Effort factor (Duckworth & Quinn, 2009).

**Self-Efficacy Data.** The 23 questions from the Self-Efficacy scale (Sherer, et al., 1982) were used as a self-perceived measure of a band director’s ability to perform expected tasks in the field. The reliability of the scale was, as stated for two components within the scale, was .86 for the factor General Self-Efficacy and .71 for Social Self-Efficacy.

**School Socioeconomic Status Data and Coding**

I obtained free and reduced lunch data from the Alabama State Department of Education (2013) to determine the average SES of students attending the schools employing the participating band directors. It was assumed these data were a practical proxy for SES, as shown in prior research by music educators (e.g., Abril & Gault, 2006; Fitzpatrick, 2006; Kinney, 2010). These data were entered into a spreadsheet and saved as an Excel file. Using SPSS (version 21), data were converted into a three-level categorical variable divided equally by SES into thirds by the standard distribution of percentages according to standard statistical practices (Altman & Bland, 1994; Orlando & Thissen, 2000).

**Institutional Review Board Approval**

Institutional Review Board (IRB approval) to conduct the final study was obtained from the University of Alabama (Appendix E). Per standards for the IRB, participants were informed
that there were no known risks for participating in the study beyond those involved in normal, daily activities, and that participating in the study included general benefits for the individual, the profession, and the students affected by the future professionals.

**Procedures**

**Pilot Study Procedures.** Ten band directors were used to refine the presentation of the study and determine the amount of time needed to read through an instructional script, describe the study, inform participants of their rights, and complete the survey.

A disinterested volunteer read the following instructional script to the volunteers before I administered the survey:

Mr. Aycock is performing a research project as part of his doctoral work at the University of Alabama. As a part of research, he is developing a survey that will align experience level and chosen psychological constructs of the director with socioeconomic data of the school(s) they serve.

In order to plan for implementation of this survey, Mr. Aycock needs to estimate the time it takes to complete the survey, analyze the results of the group for comparative purposes, and seek input concerning design and implementation.

It would be helpful if you volunteered to participate by taking a version of the survey to be used. If you are willing to participate, please answer the questions on the survey as accurately as possible.

Thank you for your time. There is no pressure or penalty related to participation in this survey. Questions in the survey are either demographic in nature or come from an established psychological measure with no known risks.

The disinterested volunteer and I recorded the amount of time each participant took to complete the survey and added our times together. The average of our combined times was 311 s ($SD = 55$ s). After all participants completed the survey, I conducted a panel discussion and asked them about the survey procedures, wording of the demographic questions, and overall form of the survey instrument. No comments were solicited about the wording of the Grit and Self-Efficacy questions to avoid reducing the psychometric properties of the instruments.
Recommended modifications to the process included reducing the time spent delivering the script, instructing the participants that items were on the front and back of the document, clarifying whether college instruction counted as experience, expanding the Likert scale to seven or nine levels of agreement (i.e., adding moderately disagree between *slightly agree* and *disagree*), and distinguishing whether the answers to questions were relevant to vocational or personal activities. Responses to these concerns included the following; a different script would apply to Study One, an indication was added to the survey instructing the subjects to answer questions on both sides of the document, and a clarification was added that only K-12 teaching experience in traditional public and private schools would be included in subject answers (Appendix F). There were no changes to the Likert scale or changes concerning vocational or personal activities.

**Study One Procedure.** Permission to conduct the study was obtained from the Executive Secretary of the Alabama Bandmasters Association (see Appendix G) and an exhibitor booth at the Alabama All-State Band Festival was secured to administer the survey (see Appendix H). An email invitation was sent to band directors registered to attend the All-State Band Festival for them to complete the survey in a designated exhibitor booth, as shown in Appendix I. In addition, during a general meeting at the All-State Festival, the Recording Secretary of the Alabama Bandmasters Association encouraged attendees to voluntarily participate in the study during their free time when visiting the exhibitor area of the festival.

To conduct the study, I recruited a disinterested volunteer, and both of us administered the survey to band directors who came to the conference booth. The booth was located in a high-traffic area of the exhibits of the conference. When a band director volunteered, they received a survey, cover letter, and were read the following script:
Mr. Aycock is performing a research project as part of his doctoral work at the University of Alabama. This study will align experience level and chosen psychological constructs of the director with socioeconomic data of the school(s) they serve. If you are willing to participate, please answer the questions on the survey as accurately as possible. There is no time limit. There is no pressure or penalty related to participation in this survey. Questions in the survey are either demographic in nature or came from an established psychological measurement with no known risks.

Your completion of the survey will be your implied consent to the study and the study conditions. If you choose not to complete the study, simply hand the form back to Mr. Aycock and you may go. If you intend to proceed, please fill out the following three pages. You should be able to complete the survey in eight minutes or less. When you are finished, please give the study to Mr. Aycock.

In order to protect the integrity of the study, please do not discuss the contents of the survey or speculate about the outcome with others prior to the completion of Mr. Aycock’s dissertation.

Thank you, and you may begin.

Completed surveys were placed in a sealed envelope. After each administration, I answered questions about the survey without discussing the specific items or the nature of grit and self-efficacy. Several participants asked whether they would have access to the results of the study. I explained that the results of the study would be available after the dissertation was accepted by the University of Alabama Graduate School, with individual results available upon request.

**Study Two Procedures.** An email list obtained from the Alabama Bandmasters Association’s website (2014). This list is available to all members of the association for professional use. The list contained all members of the association, including public school teachers, private school teachers, college instructors, retired members, private teachers, and those not currently employed. On the list, directors were labeled for most of these stated categories.

An elimination process was performed. First, all members designated as college instructor, retired, or a private teacher were removed. Then private school director’s email
addresses were eliminated by looking at the list of public schools in Alabama provided by the
Alabama Department of Education (2013). Then, responses from Study One were examined.
Any director who was a respondent in Study One was removed. In case there was error in the
process, there was a statement in the email invitation that only public school directors in
Alabama were to participate and that no one was to participate in the online survey if they had
participated at the All-State Festival. Using this reduced list, an email invitation was sent out (N
= 307), as shown in Appendix J. The invitation included a description of the study, purpose, and
contact information for the researcher. Potential participants were sent a reminder to participate
in the study three days after the initial email. The invitation included an email link to the online
version of the survey. Survey responses were collected over five days, and one reminder to
participate in the survey was sent two days after the initial invitation was emailed. The survey
was closed on June 2, 2014. Names were confirmed again as being directors at a public school in
Alabama and not being a participant in Study One before being included in the group for
analysis.

Data Analysis

Pilot Study Data Analysis. The purpose of the pilot study was to refine the survey
instrument and methods. No analysis of data collected was conducted.

Study One Data Analysis. Survey responses were entered into a computer spreadsheet
and imported into a statistics program (SPSS, version 21) for analysis. I merged these data with
the corresponding school socioeconomic status (SES) data obtained from the Alabama
Department of Education. Director and school names were not retained for the analysis.

Principal Components Factor Analyses with varimax rotation were employed to
determine if question items could be grouped in ways that represent underlying factors. Specific
procedures included examination of scree plots and measures of total variance to identify the eigenvalues of latent variables. A standard eigenvalue of 1.00 or higher was used as the threshold for defining usable components. A strategy of eliminating items loading on more than one factor was selected with the understanding that repeated computations may be needed to improve purity of components. Pure components were defined as those with no items presenting in multiple factors. Questions from the 8-Item Grit Study and the Self-Efficacy scale were analyzed separately to investigate the possibility that components within these two measures aligned with prior research investigating the psychometric properties of the scales.

To determine whether teaching experience or SES of the students affects Grit and Self-Efficacy scores, as stated in the Research Questions, data were analyzed using an analysis of covariance (ANCOVA) with the number of years a band director has served in their current position serving as a covariate and the school SES serving as the independent variable. The dependent variables included participants’ overall scores on the Grit and Self-Efficacy scales, as well as the scores on the underlying constructs for Grit and Self-Efficacy identified during the EFA.

**Study Two Data Analysis.** Research Questions Five and Six require an examination of the similarities between the EFA and CFA results to determine if Grit and Self-Efficacy are appropriate measures for the stated population. Data from the online survey were subjected to CFA procedures with maximum likelihood used as the extraction method. Only items related to the final rotated solutions for Grit and Self-Efficacy in Study One were examined to confirm the transferability of the factors to the data obtained in Study Two. The numbers of components revealed in Study One were used as the expected values for a chi-square goodness-of-fit test for Grit and Self-Efficacy.
CHAPTER 4

RESULTS

Study One

The purpose of this study was to compare the grit and self-efficacy of band directors teaching in schools enrolling primarily low, moderate, and high SES students. An additional measure accounted for band directors' years of teaching experience. Descriptive statistics for band directors’ responses to the survey questions are detailed in Table 1.

**Exploratory Factor Analysis on Grit.** Results from an EFA with varimax rotation on survey items originating from the 8-Item Grit Study revealed all items loaded on one of two factors (> .40) as shown in Table 2. Figure 2, a scree plot of eigenvalues, and Table 3, a representation of total variance, confirm the two factor solution from prior research (Duckworth & Quinn, 2009). Examination of the items from Study One loading on Component 1 were consistent with the factor *Consistency of Interests* and on Component 2 were consistent with the factor *Perseverance of Effort*. The items, identified by component number, are detailed in Table 2.

Seven of the eight items of the Grit scale grouped as found in previous research (Duckworth, 2013). Item 12, *I finish whatever I begin*, loaded under the factor Consistency of Interests in the present study. This item loaded under the component Perseverance of Effort in prior research. Naming of component titles was a subjective process and the names used in prior research were adopted because of the parallel results for seven of the eight items.
Table 1

Band Directors Descriptive Statistics for School SES

<table>
<thead>
<tr>
<th>Variable (SES)</th>
<th>n</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>104</td>
<td>18</td>
<td>39</td>
<td>29.28</td>
<td>4.91</td>
</tr>
<tr>
<td>Low</td>
<td>34</td>
<td>19</td>
<td>39</td>
<td>29.09</td>
<td>4.80</td>
</tr>
<tr>
<td>Middle</td>
<td>34</td>
<td>18</td>
<td>38</td>
<td>28.64</td>
<td>5.14</td>
</tr>
<tr>
<td>High</td>
<td>33</td>
<td>19</td>
<td>38</td>
<td>30.15</td>
<td>4.78</td>
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<tr>
<td>Self-Efficacy</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>104</td>
<td>24</td>
<td>63</td>
<td>52.37</td>
<td>6.58</td>
</tr>
<tr>
<td>Low</td>
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<td>24</td>
<td>62</td>
<td>50.48</td>
<td>7.18</td>
</tr>
<tr>
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<td>62</td>
<td>53.47</td>
<td>5.70</td>
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<tr>
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<td>38</td>
<td>63</td>
<td>53.09</td>
<td>6.43</td>
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<tr>
<td>Years at Current Position</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0</td>
<td>39</td>
<td>8.64</td>
<td>8.25</td>
</tr>
<tr>
<td>Low</td>
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<td>27</td>
<td>7.67</td>
<td>6.05</td>
</tr>
<tr>
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<td>30</td>
<td>6.92</td>
<td>6.85</td>
</tr>
<tr>
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<td>39</td>
<td>11.41</td>
<td>10.63</td>
</tr>
<tr>
<td>Total Years Teaching</td>
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<tr>
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<td>104</td>
<td>0</td>
<td>40</td>
<td>17.14</td>
<td>11.05</td>
</tr>
<tr>
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<td>40</td>
<td>17.58</td>
<td>10.86</td>
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<td>15.87</td>
<td>11.59</td>
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<tr>
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<td>1</td>
<td>39</td>
<td>18.12</td>
<td>10.83</td>
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<td>Free and Reduced Lunch %</td>
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<td></td>
<td></td>
<td></td>
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<tr>
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<td>91</td>
<td>44.35</td>
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<tr>
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<td>91</td>
<td>64.41</td>
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<td>53</td>
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<td>6.01</td>
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<tr>
<td>High</td>
<td>33</td>
<td>10</td>
<td>33</td>
<td>23.88</td>
<td>7.10</td>
</tr>
</tbody>
</table>
Table 2  

*Rotated Component Matrix for Exploratory Factor Analysis of Grit*

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>New ideas and projects sometimes distract me from previous ones.</td>
<td>.767</td>
</tr>
<tr>
<td>7</td>
<td>I finish whatever I begin.</td>
<td>.770</td>
</tr>
<tr>
<td>12</td>
<td>I have difficulty maintaining focus on projects that take more than a few months to complete.</td>
<td>.499</td>
</tr>
<tr>
<td>16</td>
<td>I often set a goal but later choose to pursue a different goal.</td>
<td>.645</td>
</tr>
<tr>
<td>24</td>
<td>I have been obsessed with a certain idea or project for a short time but later lost interest.</td>
<td>.650</td>
</tr>
<tr>
<td>4</td>
<td>Setbacks don’t discourage me.</td>
<td>.600</td>
</tr>
<tr>
<td>9</td>
<td>I am diligent.</td>
<td>.809</td>
</tr>
<tr>
<td>23</td>
<td>I am a hard worker.</td>
<td>.793</td>
</tr>
</tbody>
</table>


Table 3  

*Total Variance Explained for Grit Components*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Eigenvalues</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Variance %</td>
</tr>
<tr>
<td>Consistency of Interests</td>
<td>3.05</td>
<td>38.15</td>
</tr>
<tr>
<td>Perseverance of Effort</td>
<td>1.17</td>
<td>14.67</td>
</tr>
</tbody>
</table>
Figure 2. Scree plot of eigenvalues illustrating two components of Grit for the EFA.
**Exploratory Factor Analysis of Self-Efficacy.** Initially, question items for Self-Efficacy grouped under seven components with nine items grouping in more than one category. To improve factor purity, the factor analysis process was repeated, excluding items with multiple loadings until pure components emerged. The final stage resulted in no multiple loadings (> .40) and a five-factor solution, as shown in Table 4. By illustrating eigenvalues greater than one, Figure 3, a scree plot of eigenvalues, and Table 5, a representation of total variance, confirm the five-factors found in prior research (Sherer, et al., 1982).

The final rotation matrix suggested that 14 items loaded on five pure components (Table 4). Results indicate groupings similar to the two components, General Self-Efficacy and Social Self-Efficacy (Sherer, et al., 1982), in that all items in Components 2 through 5 are a part of the General Self-Efficacy. As such, component naming followed the conventions used by Sherer, et al. Component 1 was titled *Social Self-Efficacy* because all of the items grouped in this study are shared with the Social Self-Efficacy category, and no other components of the study share items from the Social Self-Efficacy category from previous research. Since components 2 through 5 shared all but one item with the factor General Self-Efficacy (Sherer, et al., 1982), component 2 was titled *Perception of Reaction to Adversity* as a part of General Self-Efficacy. The items all concern the level of a person’s reaction to difficulty. Component 3 was titled *Perception of Tenacity* as a part of General Self-Efficacy. The items all concern the belief a participant has in their level of accomplishment as related to long-term goals or unexpected problems. Component 4 will be titled *Perception of Ability to Focus* as a part of General Self-Efficacy, since the loading items (2 and 11) concerned difficulty of focus and insecurity. Component 5 was titled *Confidence* as a part of General Self-Efficacy. Loaded items were phrased in non-vague terms, where a subject describes themselves as *diligent* or *hardworking*. 
Table 4

**Final Rotated Component Matrix for Exploratory Factor Analysis of Self-Efficacy**

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>I have acquired my friends through my personal abilities at making friends.</td>
<td>.667</td>
</tr>
<tr>
<td>20</td>
<td>It is difficult for me to make new friends.</td>
<td>.823</td>
</tr>
<tr>
<td>10</td>
<td>If something looks too complicated, I will not even bother to try it.</td>
<td>.818</td>
</tr>
<tr>
<td>15</td>
<td>I give up on things before completing them</td>
<td>.688</td>
</tr>
<tr>
<td>19</td>
<td>Failure just makes me try harder.</td>
<td>.761</td>
</tr>
<tr>
<td>29</td>
<td>I do not handle myself well in social gatherings.</td>
<td>.811</td>
</tr>
<tr>
<td>25</td>
<td>I do not seem capable of dealing with most problems that come up in life.</td>
<td>.757</td>
</tr>
<tr>
<td>26</td>
<td>When unexpected problems occur, I don’t handle them well.</td>
<td>.765</td>
</tr>
<tr>
<td>28</td>
<td>When I set important goals for myself, I rarely achieve them.</td>
<td>.559</td>
</tr>
<tr>
<td>2</td>
<td>One of my problems is that I cannot get down to work when I should.</td>
<td>.731</td>
</tr>
<tr>
<td>11</td>
<td>I feel insecure about my ability to do things.</td>
<td>.707</td>
</tr>
<tr>
<td>30</td>
<td>If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.</td>
<td>-.534</td>
</tr>
<tr>
<td>21</td>
<td>I am a self-reliant person.</td>
<td>.776</td>
</tr>
<tr>
<td>22</td>
<td>When I make plans, I am certain I can make them work.</td>
<td>.800</td>
</tr>
</tbody>
</table>

Figure 3. Scree plot of eigenvalues illustrating five components of Self-Efficacy for the EFA.
Table 5

Total Variance Explained for Self-Efficacy Components

<table>
<thead>
<tr>
<th>Variable</th>
<th>Eigenvalues</th>
<th></th>
<th></th>
<th>Rotation Sums of Squared Loadings</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>Variance %</td>
<td>Cumulative %</td>
<td>Total</td>
<td>Variance %</td>
</tr>
<tr>
<td>Social Self-Efficacy</td>
<td>3.49</td>
<td>24.96</td>
<td>24.96</td>
<td>2.03</td>
<td>14.47</td>
<td>14.47</td>
</tr>
<tr>
<td>Perception of Reaction to Adversity</td>
<td>1.95</td>
<td>13.89</td>
<td>38.85</td>
<td>1.95</td>
<td>13.94</td>
<td>28.40</td>
</tr>
<tr>
<td>Perception of Tenacity</td>
<td>1.30</td>
<td>9.32</td>
<td>48.17</td>
<td>1.94</td>
<td>13.85</td>
<td>42.26</td>
</tr>
<tr>
<td>Perception of Ability</td>
<td>1.10</td>
<td>7.88</td>
<td>56.05</td>
<td>1.53</td>
<td>10.95</td>
<td>53.21</td>
</tr>
<tr>
<td>Confidence</td>
<td>1.04</td>
<td>7.44</td>
<td>63.49</td>
<td>1.44</td>
<td>10.28</td>
<td>63.49</td>
</tr>
</tbody>
</table>
A direct comparison of the emergent factors and those in prior research (Sherer, et al., 1982) revealed that Component 1 from this application shared every item with the category Social Self-Efficacy from prior research, while Components 2 through 5 shared all but item 30 with the category General Self-Efficacy. Item 30 was the only item remaining in consideration for CFA that showed negative score as the basis for its statistical relationship with the other items in its category. If the placement of item 30 in Component 4 was redeemed as an anomaly, all remaining items from this study grouped with items from either of the broader categories General Self-Efficacy or Social Self-Efficacy.

Component 1, Social Self-Efficacy, accounted for 14.47% of the variance shown. The remaining factors, all concerning General Self-Efficacy, cumulatively accounted for 49.02% of the variance, as shown in Table 5. Though Social Self-Efficacy has a higher eigenvalue than any other single factor, General Self-Efficacy accounts for a larger proportion of the variance when items of Components 2-5 are combined into a single factor. This was similar to prior research on Self-Efficacy (Sherer, et al., 1982).

Analysis of covariance. ANCOVA was used to examine the differences and relationships between Grit, Self-Efficacy, Teaching Tenure, and School SES. Total years of experience served as a covariate.

Grit. To compare the effects of a school’s SES (low, middle, high) on a director’s Grit score, data were analyzed using a one-way analysis of variance with a covariate of total years of experience in the profession. A Levene’s test of the equality of variance was not significant ($p = .512$). Results revealed the main effects of .,SES of the school's student population, $F (2, 93) = .297, p = .744, n_p^2 = .006$, was not significant. In addition, the covariate of years of teaching
experience was not significant, $F (1, 93) = .012, p = .912, n_p^2 = .00$. In general, the mean Grit score for the directors was 29.28 ($SD = 4.91$).

**Grit Factor 1, Consistency of Interest.** This component was analyzed as a factor of Grit using a one-way analysis of variance with a covariate of total years of experience in the profession to compare the same effects as Grit as a whole. A Levene’s test of the equality of variance was not significant ($p = .433$), which again met the basic assumption for running an ANCOVA. Results revealed the main effect of school SES, $F (2, 94) = .297, p = .993, n_p^2 = .000$, was not significant. In addition, the covariate of years of teaching experience was not significant, $F (1, 94) = .001, p = .982, n_p^2 = .00$. Participants’ mean *Consistency of Interest* score was 16.64 ($SD = 3.93$).

**Grit Factor 2, Perseverance of Effort.** This component was also analyzed as a factor of Grit using a one-way analysis of variance with a covariate of total years of experience in the profession, to compare same effects of Grit as a whole. A Levene’s test of the equality of variance was not significant ($p = .974$). Results revealed the main effect of school SES, $F (2, 93) = 1.499, p = .229, n_p^2 = .031$, was not significant. In addition, the covariate of years of teaching experience was not significant, $F (1, 94) = .486, p = .746, n_p^2 = .02$. Participants’ mean *Perseverance of Effort* score was 12.70 ($SD = 1.80$).

**Self-Efficacy.** To compare the effects of a school’s SES (low, middle, high) while accounting for the director’s years of teaching experience on the director’s perceived Self-Efficacy a one-way analysis of variance with a covariate of total years of experience in the profession was used. The result from a Levene’s test of the equality of variance was not significant ($p = .663$). The ANCOVA result revealed the main effect of school SES, $F (2, 93) = 1.50, p = .229, n_p^2 = .031$ was not significant and the covariate of years of teaching experience
was not significant, $F(4, 93) = .486, p = .746, n_p^2 = .02$. In general, the mean overall Self-Efficacy score was 12.67 ($SD = 1.80$).

**Self-Efficacy Factor 1, Social Self-Efficacy.** This component was analyzed as a factor of Self-Efficacy using a one-way analysis of variance with a covariate of total years of experience in the profession to compare the same effects of Self-Efficacy as a whole. The assumption of the homogeneity of variance was not supported according to the results of a Levene’s test ($p = .019$), which did not meet the basic assumptions for an ANCOVA. However, as the number of participants in each group exceeded 30 and the results of the ANCOVA were not significant, concerns over this violation were minimal (Weinberg & Abramowitz, 2008). Results revealed the main effect of school SES, $F(2, 94) = .766, p = .468, n_p^2 = .016$, was not significant. In addition, the covariate of years of teaching experience was not significant, $F(1, 94) = 2.439, p = .122, n_p^2 = .025$. In general, the mean Social Self-Efficacy score (i.e., Factor 1) was 12.34 ($SD = 2.3$).

**Self-Efficacy Factor 2, Perception of Reaction to Adversity.** This component was analyzed as a factor of Self-Efficacy using a one-way analysis of variance with a covariate of total years of experience in the profession to compare the same effects of Self-Efficacy as a whole. A Levene’s test of the equality of variance was not significant ($p = .962$), which met the basic assumption for conducting an ANCOVA. Results revealed that the main effect of school SES, $F(2, 93) = .178, p = .174, n_p^2 = .037$ was not significant. In addition, the covariate of years of teaching experience was not significant, $F(1, 93) = 1.462, p = .230, n_p^2 = .015$. In general, the mean Perception of Reaction to Adversity score (i.e., Factor 2) was 12.96 ($SD = 2.14$).

**Self-Efficacy Factor 3, Perception of Tenacity.** This component was analyzed as a factor of Self-Efficacy using a one-way analysis of variance with a covariate of total years of
experience in the profession to compare the same effects of Self-Efficacy as a whole. A Levene’s test of the equality of variance was significant ($p = .042$), which did not meet the basic assumption for conducting an ANCOVA, but after examination of the number of participants in each cell, it was determined to be acceptable (Weinberg & Abromowitz, 2008). Results revealed no significant main effect of school SES, $F(2, 93) = 1.23$, $p = .884$, $n_p^2 = .003$ and the covariate of years of teaching experience was not significant, $F(4, 93) = .640$, $p = .635$, $n_p^2 = .027$. In general, the mean Perception of Tenacity score (i.e., Factor 3) was 13.53 ($SD = 1.86$).

**Self-Efficacy Factor 4, Perception of Ability to Focus.** This component was analyzed as a factor of Self-Efficacy using a one-way analysis of variance with a covariate of total years of experience in the profession to compare the same effects of Self-Efficacy as a whole. A Levene’s test of the equality of variance was not significant ($p = .808$), which met the basic assumption for conducting an ANCOVA. Results revealed that the main effect of school SES, $F(2, 93) = 2.289$, $p = .107$, $n_p^2 = .047$ and the covariate of years of teaching experience was not significant, $F(1, 93) = .012$, $p = .912$, $n_p^2 = .00$. In general, the mean Perception of Ability score (i.e., Factor 4) was 5.03 ($SD = 2.92$).

**Self-Efficacy Factor 5, Confidence.** This component was analyzed as a factor of Self-Efficacy using a one-way analysis of variance with a covariate of total years of experience in the profession to compare the same effects of Self-Efficacy as a whole. A Levene’s test of the equality of variance was significant ($p = .019$), which did not meet the basic assumptions for an ANCOVA. However, as the number of participants in each group exceeded 30 and the results of the ANCOVA were not significant, concerns over this violation were minimal (Weinberg & Abramowitz, 2008). Results revealed that the main effect of school SES, $F(2, 94) = .160$, $p = .853$, $n_p^2 = .003$, was not significant. In addition, the covariate of years of teaching experience
was not significant, \( F(1, 94) = .357, p = .551, n_p^2 = .004 \). In general, the mean Confidence score (i.e., Factor 5) was 8.54 (SD = 1.47).

**Study Two**

**Confirmatory Factor Analysis of Grit.** Grit in the CFA showed two components, as described in the EFA, and was entered as a fixed factor count, as shown in Table 6. A chi-square goodness-of-fit test was performed on the rotated CFA solution to determine whether the expected two factors identified in the Study One (i.e., EFA) were observed with participants’ responses (from this stage of the study). Results confirmed a two-factor solution fit the data, \( \chi^2(13, N = 84) = 10.76, p > .05 \).

A CFA with varimax rotation on items from the Grit study showed seven items loaded on one of two factors (> .40), as shown in Table 6. Figure 4 shows two components above the eigenvalue of one, confirming the two-factor solution. The majority of Grit items grouped similarly in CFA as they did in EFA, as shown in Table 7. Six of the eight items present in similar components. One item does not reappear in the CFA, *Setbacks don’t discourage me. I finish whatever I begin* moved from Social Self-Efficacy in the EFA to Perception to Reaction to Adversity in the CFA. In the CFA, all seven items grouped in the same components indicated by Duckworth (2009), as shown in Table 6. The CFA affirms the use of Grit as a measurable construct for public school band directors in Alabama by repeating the majority of groupings from the EFA and previous studies (Duckworth & Quinn, 2009).

**Confirmatory Factor Analysis of Self-Efficacy.** Self-Efficacy in the CFA showed five components, as described in the EFA, and was entered as a fixed factor count. A chi-square goodness-of-fit test was performed on the rotated CFA solution to determine whether the
expected five factors identified in the Study One (i.e., EFA) were observed with participants’ responses (from this stage of the study). Results confirmed a five-factor solution fit the data, $\chi^2 (31, N = 84) = 25.59, p > .05$. A CFA with varimax rotation on items from the Self-Efficacy survey showed 11 items on five factors (> .40), as shown in Table 8. Figure 5 shows five components above the eigenvalue of one, confirming the five-factor solution.

Table 9 shows groupings for Study One, Study Two and Sherer, et al. (1982). The majority of Self-Efficacy items grouped similarly to the EFA. Nine of the 14 items present in similar components. Items 10, 15, 28, and 11 did not reappear in the CFA. These items failed to meet the threshold of .04 required for inclusion. Item 3, *if I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me*, moved from Perception of Ability to Focus in the EFA to Social Self-Efficacy in the CFA. *I give up on things before completing them* moved from Perception of Reaction to Adversity in the EFA to Perception of Ability to Focus of the CFA. In the CFA, items in Component 1 are from Social Self-Efficacy of the EFA and from the grouping indicated by Sherer, et al. (1982). As in the EFA, components 2 through 5 of the CFA contain items from the General Self-Efficacy grouping indicated, shown in Table 8. The CFA reaffirms the use of Self-Efficacy as a measurable construct for public school band directors in Alabama by repeating the majority of groupings from the EFA and by grouping in variables shown in previous studies.
Table 6

*Rotated Components Matrix for Confirmatory Factor Analysis of Grit*

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>I have difficulty maintaining focus on projects that take more than a few months to complete.</td>
<td>.483</td>
</tr>
<tr>
<td>7</td>
<td>New ideas and projects sometimes distract me from previous ones.</td>
<td>.625</td>
</tr>
<tr>
<td>16</td>
<td>I often set a goal but later choose to pursue a different goal.</td>
<td>.520</td>
</tr>
<tr>
<td>24</td>
<td>I have been obsessed with a certain idea or project for a short time but later lost interest.</td>
<td>.609</td>
</tr>
<tr>
<td>9</td>
<td>I am diligent</td>
<td>.543</td>
</tr>
<tr>
<td>12</td>
<td>I finish whatever I begin.</td>
<td>.451</td>
</tr>
<tr>
<td>23</td>
<td>I am a hard worker.</td>
<td>.722</td>
</tr>
</tbody>
</table>

*Note.* Extraction Method: Method Likelihood, Rotation Method was varimax with Kaiser Normalization. Rotation converged in three iterations.
Figure 4. Scree plot of eigenvalues illustrating two components of Grit for the CFA.

Table 7

Grit Item Comparisons for EFA, CFA, and Duckworth (2013)
<table>
<thead>
<tr>
<th>Component</th>
<th>(Item)</th>
<th>EFA</th>
<th>CFA</th>
<th>Duckworth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistency of Interests</td>
<td>I have difficulty maintaining focus on projects that take more than a few months to compete.</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>New ideas and projects sometimes distract me from previous ones.</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>I often set a goal but later choose to pursue a different goal.</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>I have been obsessed with a certain idea or project for a short time but late lost interest</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>I finish whatever I begin.</td>
<td>12</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>Perseverance of Effort</td>
<td>Setbacks don’t discourage me.</td>
<td>4</td>
<td>.</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>I am diligent.</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>I am a hard worker.</td>
<td>23</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>I finish whatever I begin.</td>
<td>.</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

*Note. Values indicate question item number from the survey. See Appendix B.*
Table 8

*Rotated Components Matrix for Confirmatory Factor Analysis of Self-Efficacy*

<table>
<thead>
<tr>
<th>Question</th>
<th>Item</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>I have acquired my friends through my personal abilities at making friends.</td>
<td>.512</td>
</tr>
<tr>
<td>20</td>
<td>It is difficult for me to make new friends.</td>
<td>.888</td>
</tr>
<tr>
<td>29</td>
<td>I do not handle myself well in social gatherings.</td>
<td>.589</td>
</tr>
<tr>
<td>30</td>
<td>If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.</td>
<td>-.683</td>
</tr>
<tr>
<td>19</td>
<td>Failure just makes me try harder.</td>
<td>.967</td>
</tr>
<tr>
<td>25</td>
<td>I do not seem capable of dealing with most problems that come up in life.</td>
<td>.586</td>
</tr>
<tr>
<td>26</td>
<td>When expected problems occur, I don’t handle them well.</td>
<td>.725</td>
</tr>
<tr>
<td>2</td>
<td>One of my problems is that I cannot get down to work when I should.</td>
<td>.567</td>
</tr>
<tr>
<td>15</td>
<td>I give up on things before completing them.</td>
<td>.484</td>
</tr>
<tr>
<td>21</td>
<td>I am a self-reliant person.</td>
<td>.535</td>
</tr>
<tr>
<td>22</td>
<td>When I make plans, I am certain I can make them work.</td>
<td>.553</td>
</tr>
</tbody>
</table>

Figure 5. Scree plot of eigenvalues illustrating five components of Self-Efficacy for the CFA.

Table 9

<table>
<thead>
<tr>
<th>Variable Item</th>
<th>EFA Grouping</th>
<th>CFA Grouping</th>
<th>Sherer Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Self-Efficacy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have acquired my friends through my personal abilities at making friends.</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>It is difficult for me to make new friends.</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>I do not handle myself well in social gatherings.</td>
<td>29</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.</td>
<td>.</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td><strong>Perception of Reaction to Adversity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If something looks complicated, I will not even bother to try it.</td>
<td>10</td>
<td>.</td>
<td>*</td>
</tr>
<tr>
<td>I give up on things before completing them.</td>
<td>15</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Failure just makes my try harder.</td>
<td>19</td>
<td>19</td>
<td>*</td>
</tr>
<tr>
<td><strong>Perception of Tenacity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do not seem capable of dealing with most problems that come up in life.</td>
<td>25</td>
<td>25</td>
<td>*</td>
</tr>
<tr>
<td>When unexpected problems occur, I don’t handle them well.</td>
<td>26</td>
<td>26</td>
<td>*</td>
</tr>
<tr>
<td>When I set important goals for myself, I rarely achieve them.</td>
<td>28</td>
<td>.</td>
<td>*</td>
</tr>
<tr>
<td><strong>Perception of Ability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One of my problems is that I cannot get down to work when I should.</td>
<td>2</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>I feel insecure about my ability to do things.</td>
<td>11</td>
<td>.</td>
<td>*</td>
</tr>
<tr>
<td>If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.</td>
<td>30</td>
<td>.</td>
<td>*</td>
</tr>
<tr>
<td>I give up on things before completing them.</td>
<td>.</td>
<td>15</td>
<td>*</td>
</tr>
<tr>
<td><strong>Confidence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am a self-reliant person.</td>
<td>21</td>
<td>21</td>
<td>*</td>
</tr>
<tr>
<td>When I make plans, I am certain I can make them work.</td>
<td>22</td>
<td>22</td>
<td>*</td>
</tr>
</tbody>
</table>

*Note. Numbers indicate items from Personality Survey as shown in Appendix B.*
CHAPTER 5
DISCUSSION

Major Findings

This study examined Grit and Self-Efficacy scores of the directors across student socioeconomic status and experiential groupings. Further, Grit and Self-Efficacy scores were examined to determine if they are appropriate measures to describe personality traits of public school band directors in Alabama. Results did not indicate a difference in grit and self-efficacy among Alabama public school band directors assigned to teach at low, moderate and high socioeconomic status schools. These results were consistent even when teaching experience was accounted for in the analysis. Interestingly, results did indicate that Alabama band directors' grit and self-efficacy scores were high when compared with prior research (Chester & Beaudin, 1996; Robertson-Kraft & Duckworth, in press). An analysis of directors' responses indicated that the measurement of Grit and Self-Efficacy involves multiple factors. Those that emerged in this study paralleled those established in previous literature with different populations (Duckworth & Quinn, 2009; Sherer, et al., 1982) and were transferable to a second sample of directors from throughout the state. The factors that emerged for Grit were Consistency of Interests and Perseverance of Effort. The factors that emerged for Self-efficacy were Social Self-Efficacy, Perception of Reaction to Adversity, Perception of Tenacity, Perception of Ability, and Confidence.
**Interpretation of Results**

No differences were found between directors grouped by socioeconomic status and years of service at the school where they teach. Additionally, personality scores were high, evident for all of the tested hypotheses. The lack of differences may be because job transfer tendencies are similar to other areas of education and music education (Albert, 2006; Gardner, 2010; Edmonds, 2006, Hancock, 2008, 2009; Jacob, et al., 2013; Madsen & Hancock, 2002, Sachs, 2004; Smethem, 2007). Specifically, young, gritty, high-efficacy teachers may start at low SES schools and move on to wealthier schools. In terms of Grit and Self-Efficacy, the populations may be similar.

Another possibility is a person must be gritty and confident to work in low SES schools. Since a large percentage of students in Alabama are on the low end of the socioeconomic scale (Alabama State Department of Education, 2013), a group of directors with strong personalities may have evolved to fill these roles throughout the state. It is possible that band directors were willing to endure hardships to remain in the profession, meaning that the band directors measured had especially strong personalities and moral intent (Hong, 2012; Smethem, 2007).

The process of finding grit and self-efficacy to be useful measures when examining public school band directors in Alabama followed an established, two-step, factor analysis process (Harrington, 2009). An exploratory factor analysis (Study One) was performed on a large enough sample to provide statistically useful results. Grouping of items to form emerging factors for this population were nearly identical to those established in previous studies (Duckworth, 2013; Sherer, et al., 1982). The confirmatory factor analysis (Study Two) further supported the same groupings.
For public school band directors in Alabama, finding the measurements to be useful can lead to research using Grit and Self-Efficacy when measuring professionals or comparing groups. In this study, groups of directors were examined with a limited set of comparisons. The groups were not found to be statistically different. This does not mean that there is no use for the constructs. If the constructs had not shown similar components to past studies using the measurements, future researchers could consider this and may choose other measures for comparisons. Since the constructs repeated established psychometric properties in this application, future research is supported with differing variables grouped with grit and self-efficacy.

**Relation to Previous Studies**

Subjectively stated, in reviewing studies about Grit and Self-Efficacy, many of the studies use the same articles to explain the history of the constructs, as was presented in the Literature Review in this presentation. What is discussed most often is the development of the measurement instruments and their application. What is not discussed as often in scholarly articles but is being discussed anecdotally in newspapers, books, blogs and other sources is that the concepts are not new. Maddux (in press) acknowledged that researchers are attempting to quantify these previously known concepts. Grit and Self-Efficacy related to music education, music performance, and other teaching areas are following the same process of attempting to quantify these societally acceptable concepts.

Using personality studies to evaluate educators and music professionals is an accepted concept within the profession (Rowher & Henry, 2004). However, the results have not always shown measureable relationships between personality measurements and other aspects of band directors personality or accomplishment. When validation procedures were applied, emerging
factors similar to previous students were evident (Bergee, 1992; Steele, 1998; Teachout, 2001; Wubbenhorst, 1994). These results are similar to outcome of this study. This is not a recommendation to end these types of studies, but rather to encourage further attempts to find workable applications. I still support the widely held belief that personality studies are valuable in measuring music educators (Rowher & Henry, 2004).

A study related to the description of Alabama public school band directors as gritty or having high self-efficacy revealed that a distinction could be made between music education majors and music performance majors. Kemp (1982), using Myers-Briggs items, was able to describe music performance majors as introverted and education majors as extroverted and tough-minded. In 1982, the concept of grit as a personality construct was not yet established. If the study were more recent, it would not be surprising if the author chose the term grit as a descriptor.

If concerns of self-assessment are thought to have influenced the answers band directors provided on the surveys, then outside measurement could be used to possibly negate this concern. Two previous grit studies (Robertson-Kraft & Duckworth, in press; Schechtman, et al., 2012) used external measurements by a trained evaluator to establish ratings. Results indicate that observations of resumes and trained evaluators provide a broader, more accurate picture of a candidate than self-surveys. Robertson-Kraft (in press) did not fully negate self-assessment but rather recommended it be combined with other observations. In fact, Diesler (2011), confirmed participant responses by combining sight visits, stakeholders interviews, and evaluations.

Grit and Self-Efficacy were validated through factor analysis processes (Duckworth, et al., 2007; Duckworth & Quinn, 2009; Sherer, et al., 1982). This study used a two-part factor analysis process to establish the use of grit and self-efficacy in the stated population (Harrington,
The validation of grit and self-efficacy were used to justify the use of the measurements in further studies. Establishing the use of the measurements in instrumental music education could have a similar effect. Self-efficacy, with its longer history, has achieved acceptance in the research community and is the basis for many studies. This evidence supporting the use of Grit and Self-Efficacy measurements in music educations, grouped with other studies, could provide a basis for the acceptance of the constructs as accurate and relevant. Grit is gaining this type of professional acceptance.

In previous studies, Grit and Self-Efficacy were both described as traits that increase with experience (Bandura, 1993; Barnes, 1998; Duckworth, et al., 2007; Soto, et al., 2011). This study did not find those relationships. Neither Grit nor Self-Efficacy revealed statistically significant differences for levels of experience. Future researchers, believing in the established differences of experienced and inexperienced teachers, may be led to look for other results by varying applications.

Alternative Explanations

Band directors attending the All-State Band Festival were employed at schools with lower free and reduced lunch rate than the state average. At the same time, students participating in All-State Bands typically represent band programs in schools districts with access to a higher tax base. This difference may have caused an unintentional exclusion of some directors of low SES students. However, the free and reduced lunch rate for directors drawn from across the state in the second study was closer to the state average and similar results were obtained. It seems that selective sampling did not affect the outcome of the study.

From personal experience, casual conversations with colleagues, and by observing documents for accreditation of music education programs (National Association of Schools of
Music, 2013-14; National Council for Accreditation of Teacher Education, 2014), it is clear that music majors of all types endure rigorous experiences and training in order to achieve professional certifications and gain employment. Then, as working educators, band directors endure the extra responsibilities previously described. This may have produced an especially gritty population with a strong belief in their future accomplishments. High scores would be expected.

Clinical Relevance

As a matter of practical importance, those wishing to evaluate music educators can imply from this study that Grit and Self-Efficacy are useful, quantifiable variables for this population. Knowing that one population of music educators successfully parallel the psychometric properties previously established can be used as a justification for continued measurements of Grit and Self-Efficacy in music education.

Musicians, music educators and music students could be measured using these constructs. Music teachers could be measured in areas of job satisfaction, job retention, job transiency, performance risks, assessment of job performance, music selection, festival participation, participation in activities beyond those expected, effort, leadership styles, career guidance, understanding students in the classroom, and other areas to be determined. Students and performing musicians could be measured by instrument selection, practice habits, retention in music classes from grade to grade or into higher education, performance anxiety, willingness to take on leadership roles, musical career choices, SES of a school population, musical activities outside those provided at school, and other areas not yet perceived.

Specific examples could include the development of a predictive measurement for future music educators in varied school settings. Norms could be established through multiple studies
for a variety of groups. Finding successful applications of these measures in music may provide insight into placement or counseling for music educators and performers for instrument placement, teaching assignment, task consideration, or audition preparation.

In Alabama, most of the students in public schools receive free or reduced lunches (Alabama State Department of Education, 2013) and there are other indicators indicating high levels of childhood poverty (Noss, 2013). As research indicates, there are lower levels of participation and success in low SES schools (Bates, 2011; Fiese & Decarbo, 1995; Hunt, 2009; Isbell, 2005; Mixon, 2005; Wilcox, 2005). Informal observation of concert band ratings and schools with band programs participating in Music Performance Assessment in Alabama indicates that as wealth decreases, success and participation are reduced (Alabama Bandmasters Association, 2010, 2011, 2012, 2103). The studies together with these informal observations indicate a large number of students in Alabama do not have access to quality, instrumental music programs. The schools they attend have known barriers that limit teachers from choosing to work in these environments. Identifying gritty teachers who believe themselves to be capable of success in these environments is needed to fill this void. Thousands of students could benefit.

Study Limitations

Both parts of the study, the inferential and factor analysis portions, are limited in scope by practical considerations. The respondents in Study One were a convenience sample of Alabama Bandmasters Association members attending All-State. The respondents in Study Two were also members of the Alabama Bandmasters Association. I do not believe this limitation harmed the integrity of the sampling procedures since the vast majority of Alabama band directors are members of the Alabama Bandmasters Association.
As was previously stated, Grit and Self-Efficacy scores were consistently high. This grouping together may have suppressed differences in the scores for low SES and high SES directors. Stated succinctly, if all the scores are high, differences may be difficult to impossible to discern using the methods in this study.

It is possible that self-assessment provided subjective ratings that are not reflective of a participant’s personality. To mediate this concern, subjects were instructed that their answers would be aligned with data about the demographics of their school. Informing the subject that their answers would be aligned with other data is one of the suggested mediators to potential self-assessment concerns (Fox & Dinur, 1988; Made, 1982; Ross, 2006). Being aligned with demographic questions may not be effective because demographics would not offer value-based information the director would feel is a measure of their accomplishments for comparison. It may be that the answers given reflect an inflated sense of one’s abilities (Duning, Heath, & Suls, 2004; Gislason, 2014). Measurable differences may have been revealed with others providing externally observed scores (Robertson-Kraft & Duckworth, in press) scores or with other variables the participants believed to be involved.

**Recommendations**

A specific study or group of studies using a similar research design that involves success as a variable is recommended. A selected group of successful directors who teach low SES students may have compared differently to less successful directors. A multi-state or national study might be required to provide large enough samples. The successes of schools and bands that function above expectations in low SES environments have been studied (Cost-Giomi & Chappell, 2007; Daniel, 2005; Deisler, 2011; Mixon, 2005; Wilcox, 2005). Including Grit and Self-Efficacy scores as part of these types of evaluations could provide useful information.
Subjectively stated, I have observed successful directors in low SES schools that were unique in their determination and approach. Their methods were firmly enforced and their efforts constant. The results were admirable. A measurement of these directors may show higher Grit and Self-Efficacy scores. If so, identifying other educators or preservice teachers with similar scores could help identify strong teachers for this large population of underserved students. This would help identify potentially successful directors and aid in the counseling and selection process. The results should not be used to restrict a teacher candidate but rather to advise. A person with low Grit and Self-Efficacy scores may desire to teach in low SES schools because of a moral calling (Bruenger 2010; Fech, 2009; Gislasson, 2014; Krishnan, 2003; Smethem, 2007) not measured. This drive to help students at low SES schools should not be ignored.

As was stated in the Introduction, there is an equity problem in music education. Students are more likely to be able to participate in quality band programs if they attend schools with high SES students (Bates, 2011; Fiese & Decarbo, 1995; Hunt, 2009; Isbell, 2005; Mixon, 2005; Wilcox, 2005). This removes educational opportunity from a large portion of students. This is part of the “civil rights struggle” President Bush was referencing. All students are due a quality education. Identifying directors likely to be successful in low SES schools is an important step in improving educational opportunity and is worthy of effort from individuals and groups within the profession. The size of the underserved population is significant, representing a large area of improvement in music education.
BIBLIOGRAPHY


Fech, S. D. (2009). A study of the leadership of high-poverty, high-performing schools through the lens of moral leadership (Doctoral Dissertation, Loyola University, Chicago). Available for ProQuest Dissertations and Theses Databases. (UMI No. 3387409)


LWVUS The Education Study. (2014). The history of federal government in public education: Where have we been and how did we get here? Retrieved from http://www.lwv.org/content/history-federal-government-public-education-where-have-we-been-and-how-did-we-get-here


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APPENDIX A

DEMOGRAPHICS

Demographics of Final Study

Thank you for agreeing to participate in this study related to the completion of PhD studies for Michael Aycock at the University of Alabama. Your participation will add to the quality of this study.

This study will align your answers about your experience and your personality ratings with the socioeconomic status of the students you teach. After the dissertation is complete, you may know the basis of the personality ratings, your scores, and comparative data to the group of directors tested and national norms. Let Mr. Aycock know you are interested. He will email your results and comparative data.

Personal and School Information

Name __________________________ School(s) (please include elementary, middle school, junior high, or high school within your designation)

Location (name of city or county system)

How many years, not including this academic year, have you been at your current school(s) as a director? ________________

How many years of experience do you have in instrumental music education in traditional elementary, middle, junior high, and/or high school settings (private or public), not including this year? ________________

To be able to assure participants of privacy and confidentiality, participants will be referred to as a number from this point forward. The documents containing name, school(s), and location(s) will be secured separately from the rest of the surveys when not being used to align data. Only Mr. Aycock and members of his research committee will have this access. There will be no data published that will lead readers to specific schools, locations, or individuals.

Your survey has been assigned # ____________.

Please check the following pages and make sure that is the number that appears on every page of your document.
# APPENDIX B

PERSONALITY SURVEY

<table>
<thead>
<tr>
<th>Personality Inventory</th>
<th>Final Form</th>
<th>Survey #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please mark the appropriate box</td>
<td>Disagree</td>
<td>Slightly Disagree</td>
</tr>
<tr>
<td>1 When I decide to do something, I go right to work on it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 One of my problems is that I cannot get down to work when I should.</td>
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<td></td>
</tr>
<tr>
<td>3 I have acquired my friends through my personal abilities at making friends.</td>
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<td></td>
</tr>
<tr>
<td>4 Setbacks don’t discourage me.</td>
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<tr>
<td>5 I have difficulty maintaining focus on projects that take more than a few months to complete.</td>
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<tr>
<td>6 When I am trying to become friends with someone who seems uninterested at first, I do not give up easily.</td>
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<td>7 New ideas and projects sometimes distract me from previous ones.</td>
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<td>8 If I see someone interesting who is hard to make friends with, I’ll soon stop trying to make friends with that person.</td>
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<td>9 I am diligent.</td>
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<tr>
<td>10 If something looks too complicated, I will not even bother to try it.</td>
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<tr>
<td>11 I feel insecure about my ability to do things.</td>
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<td>12 I finish whatever I begin.</td>
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<tr>
<td>13 I avoid facing difficulties.</td>
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<td>14 I avoid trying to learn new things when they look too difficult for me.</td>
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<tr>
<td>15 I gave up on things before completing them</td>
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Turn the page and complete the survey.
<table>
<thead>
<tr>
<th>Trait</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
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<tbody>
<tr>
<td>16 I often set a goal but later choose to pursue a different goal.</td>
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<td>17 If I can’t do a job the first time, I keep trying until I can.</td>
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<td>18 When trying to learn something new, I don’t give up if I am not initially successful.</td>
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<td>19 Failure just makes me try harder.</td>
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<td>20 It is difficult for me to make new friends.</td>
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<td>21 I am a self-reliant person.</td>
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<td>22 When I make plans, I am certain I can make them work.</td>
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<td>23 I am a hard worker.</td>
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<td>24 I have been obsessed with a certain idea or project for a short time but later lost interest.</td>
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<td>25 I do not seem capable of dealing with most problems that come up in life.</td>
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<td>26 When unexpected problems occur, I don’t handle them well.</td>
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<tr>
<td>27 When I have something unpleasant to do, I stick to it until I finish it</td>
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<tr>
<td>28 When I set important goals for myself, I rarely achieve them.</td>
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<tr>
<td>29 I do not handle myself well in social gatherings.</td>
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<tr>
<td>30 If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.</td>
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<td>31 I give up easily.</td>
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</tr>
</tbody>
</table>
APPENDIX C

ONLINE IRB STATEMENT

Is there a relationship between band directors’ personalities and the schools where they work?

Page exit logic: I agree logic
IF: Question: "Dear Friends and Colleagues,

I, Michael Aycock, am serving as the Principal Investigator for my dissertation research at the University of Alabama, where I am pursuing a doctorate degree in music education. This study examines possible relationships between band directors’ personalities, teaching experience, and their schools. This study involves completing an eight-minute internet survey comprised of common questions describing your demographics, teaching experience, and a psychological/personality profile. These data will be compared with socioeconomic information describing your school.

Protections
Your demographic information will be kept separate from your psychological/personality data so that no one can identify you or your data. Summarized statistics describing participants as a group will be presented in my dissertation and possibly for publication. These steps will ensure confidentiality and protect your identity.

Only the Principal Investigator, Michael Aycock, my faculty advisor, Dr. Carl Hancock, and my committee members will have access to the data.

Risks for Participating
There are no known risks to taking the survey.

Questions
If you have any questions, please contact Michael Aycock at maycock9003@hotmail.com. If you have any questions about the administration of this study, please contact my advisor, Dr. Carl Hancock, at chancock@ua.edu. If you have questions about your rights as a research participant, contact Ms. Tanta Myers (University of Alabama Research Compliance Officer) at 205-348-8461 or toll free at 1-877-320-3008.

Complaints or Concerns
If you have any complaints or concerns, please file them through the UA IRB outreach website at http://cop.ua.edu/ato/PRCO_Welcome.html. Also, if you participate, you are encouraged to complete the short Survey for Research Participants online at this website. This helps the UA improve its protection of human research participants.

YOUR PARTICIPATION IS COMPLETELY VOLUNTARY.
You are free to not participate or discontinue participation at any time before submitting your responses to this survey.

Agreement
If you understand the statements above, are at least 18 years old, and freely consent to be in this study, click on the "I agree" button below to begin. Otherwise, click on the "I do not agree" to leave the survey." ("agree") THEN: Jump to page 3: Your demographic information and experience as a teacher. Flag response as complete.
Dear Friends and Colleagues,

I, Michael Aycoc, am serving as the Principal Investigator for my dissertation research at the University of Alabama, where I am pursuing a doctorate degree in music education. This study examines possible relationships between band directors' personalities, teaching experience, and their schools. This study involves completing an eight-minute internet survey comprised of common questions describing your demographics, teaching experience, and a psychological/personality profile. These data will be compared with socioeconomic information describing your school.

Protections
Your demographic information will be kept separate from your psychological/personality data so that no one can identify you or your data. Summarized statistics describing participants as a group will be presented in my dissertation and possibly for publication. These steps will ensure confidentiality and protect your identity. Only the Principal Investigator, Michael Aycoc, my faculty advisor, Dr. Carl Hancock, and my committee members will have access to the data.

Risks for Participating
There are no known risks to taking the survey.

Questions
If you have any questions, please contact Michael Aycoc at maycock9003@hotmail.com. If you have any questions about the administration of this study, please contact my advisor, Dr. Carl Hancock, at chancock@ua.edu. If you have questions about your rights as a research participant, contact Ms. Tanta Myles (University of Alabama Research Compliance Officer) at 205-348-8461 or toll free at 1-877-820-3006.

Complaints or Concerns
If you have any complaints or concerns, please file them through the UA IRB outreach website at http://osp.ua.edu/site/PRCO_Welcome.html. Also, if you participate, you are encouraged to complete the short Survey for Research Participants online at this website. This helps the UA improve its protection of human research participants.

YOUR PARTICIPATION IS COMPLETELY VOLUNTARY.
You are free to not participate or discontinue participation at any time before submitting your responses to this survey.

Agreement
If you understand the statements above, are at least 19 years old, and freely consent to be in this study, click on the "I agree" button below to begin. Otherwise, click on the "I do not agree" to leave the survey.

- I agree
- I do not agree

Did not agree to participate email
To: Michael Aycoc (maycock9003@hotmail.com)
From: SurveySmsno (notifications@sgizmo.com)
Subject: New Response: Did not chose to participate
APPENDIX D

ONLINE SURVEY

Dear Friends and Colleagues,

I, Michael Aycock, am serving as the Principal Investigator for my dissertation research at the University of Alabama, where I am pursuing a doctorate degree in music education. This study examines possible relationships between band directors’ personalities, teaching experience, and their schools. This study involves completing an eight-minute internet survey comprised of common questions describing your demographics, teaching experience, and a psychological/personality profile. These data will be compared with socioeconomic information describing your school.

Protections
Your demographic information will be kept separate from your psychological/personality data so that no one can identify you or your data. Summarized statistics describing participants as a group will be presented in my dissertation and possibly for publication. These steps will ensure confidentiality and protect your identity. Only the Principal Investigator, Michael Aycock, my faculty advisor, Dr. Carl Hancock, and my committee members will have access to the data.

Risks for Participating
There are no known risks to taking the survey.

Questions
If you have any questions, please contact Michael Aycock at maycock9003@hotmail.com. If you have any questions about the administration of this study, please contact my advisor, Dr. Carl Hancock, at chancook@ua.edu. If you have questions about your rights as a research participant, contact Ms. Tanta Myles (University of Alabama Research Compliance Officer) at 205-348-8461 or toll free at 1-877-620-3008.

Complaints or Concerns
If you have any complaints or concerns, please file them through the UA IRB outreach website at http://osp.ua.edu/site/FRCO_Welcome.html. Also, if you participate, you are encouraged to complete the short Survey for Research Participants online at this website. This helps the UA improve its protection of human research participants.

YOUR PARTICIPATION IS COMPLETELY VOLUNTARY.
You are free to not participate or discontinue participation at any time before submitting your responses to this survey.

Agreement
If you understand the statements above, are at least 18 years old, and freely consent to be in this study, click on the “I agree” button below to begin. Otherwise, click on the "I do not agree" to leave the survey. * ("I do not agree")

Action: URL Redirect
Leave survey

1. Your First and Last Name (this information will only be used to confirm where you are presently employed and will be deleted and replaced with a participant ID number). *


2. Please list the school(s) where you are currently employed to teach. Include school level: elementary, middle, junior high, and high school.

3. Not including this academic year, how many years have you been at your current school(s)?

4. Not including this academic year, how many years have you taught in a traditional elementary, middle, junior high and/or high schools?

How much do you agree with the following statements?

5. When I decide to do something, I go right to work on it.

- Agree
- Disagree
6. One of my problems is that I cannot get down to work when I should.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

7. I have acquired my friends through my personal abilities at making friends.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

8. Setbacks don't discourage me.

- Disagree
- Slightly Disagree
9. I have difficulty maintaining focus on projects that take more than a few months to complete.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

10. When I am trying to become friends with someone who seems uninterested at first, I do not give up easily.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

11. New ideas and projects sometimes distract me from previous ones.

- Disagree
- Slightly Disagree
- Neutral
12. If I see someone interesting who is hard to make friends with, I'll soon stop trying to make friends with that person.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

13. I am diligent.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

14. If something looks too complicated, I will not even bother to try it.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
15. I feel insecure about my ability to do things.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

16. I finish whatever I begin.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

17. I avoid facing difficulties.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree
18. I avoid trying to learn new things when they look too difficult for me.
   - Disagree
   - Slightly Disagree
   - Neutral
   - Slightly Agree
   - Agree

19. I give up on things before completing them.
   - Disagree
   - Slightly Disagree
   - Neutral
   - Slightly Agree
   - Agree

20. I often set a goal but later choose to pursue a different goal.
   - Disagree
   - Slightly Disagree
   - Neutral
   - Slightly Agree
   - Agree
21. If I can’t do a job the first time, I keep trying until I can.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

22. When trying to learn something new, I soon give up if I am not initially successful.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

23. Failure just makes me try harder.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree
24. It is difficult for me to make new friends.
   - Disagree
   - Slightly Disagree
   - Neutral
   - Slightly Agree
   - Agree

25. I am a self-reliant person.
   - Disagree
   - Slightly Disagree
   - Neutral
   - Slightly Agree
   - Agree

26. When I make plans, I am certain I can make them work.
   - Disagree
   - Slightly Disagree
   - Neutral
   - Slightly Agree
   - Agree

27. I am a hard worker.
28. I have been obsessed with a certain idea or project for a short time but later lost interest.
   - Disagree
   - Slightly Disagree
   - Neutral
   - Slightly Agree
   - Agree

29. I do not seem capable of dealing with most problems that come up in life.
   - Disagree
   - Slightly Disagree
   - Neutral
   - Slightly Agree
   - Agree

30. When unexpected problems occur, I don't handle them well.
   - Disagree
31. When I have something unpleasant to do, I stick to it until I finish it.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

32. When I set important goals for myself, I rarely achieve them.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

33. I do not handle myself well in social gatherings.

- Disagree
- Slightly Disagree
34. If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

35. I give up easily.

- Disagree
- Slightly Disagree
- Neutral
- Slightly Agree
- Agree

Thank you for taking my survey!

Your responses are very important in helping me understand how personality traits and the places where band directors work are related.

All the best,
APPENDIX E

IRB APPROVAL

May 28, 2014

Michael Aycock
School of Music
The University of Alabama
Box 870366

Re: IRB # 14-0R-199, "Comparisons and Predictability of Grit, Self-Efficacy, and Student Socioeconomic Status among Instrumental Music Teachers in Alabama Public Schools"

Dear Mr. Aycock:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your application will expire on May 27, 2015. If your research will continue beyond this date, please complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, please complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the appropriate portions of the IRB Request for Study Closure Form.

Please use reproductions of the IRB approved stamped consent forms to obtain consent from your participants.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

Director Research Compliance
Office for Research Compliance
The University of Alabama
APPENDIX F

PILOT STUDY

Time to Complete Survey

Two timers were used for the Pilot Survey. Their times were added together. The range of combined times was 7 min, 15 s to 12 min, 53 s. The mean was 10 min, 21 s. The SD was 1 min, 50 s. Using an average of the two times provides a mean of 5 min, 11 s and a maximum of 6 min, 27 s. The survey estimate time to be used in advertising the research project would read as follows:

“Participants should be able to complete the survey in 8 minutes or less.”

Recommendations for Improvement

Pilot study participants were asked to advise the principal investigator on design and implementation of the study. A summary of their critique is as follows:

The study includes references to things, projects, problems, difficulties, and other terms. It was confusing as to whether they were to answer from a professional or personal point of view. Participants expressed that they would respond differently to the questions concerning professional activities and personal activities.

A smaller group of participants expressed that the Likert Scale was limited. They recommended a numbered system with more options or including “somewhat agree” and “somewhat disagree” between “slightly” and “neutral” responses.

A participant was unclear on the first page if experience would include college teaching.

A participant’s comment: “I missed turning the page. I was not aware the questions were on front and back.”

Response to Recommendations

The principal investigator will make the following changes based on these recommendations:

There will be no changes made to the study distinguishing between professional and personal activities because the questions are not clearly focused on either area and because the survey is a random compilation of two published surveys with established psychometric properties. Altering the surveys would alter the psychometric properties, requiring an extensive process to re-establish norms and
comparative data. Further, one of the surveys is used by permission of the author. Altering the test would violate the basis of that permission.

In order to address the concern over college teaching experience, the first page of the survey will be altered as follows:

“How many years of experience do you have in instrumental music education in a traditional school setting (private or public), not including this year? ______________.” Will be replaced by:

How many years of experience do you have in instrumental music education in traditional elementary, middle, and/or high school settings (private or public), not including this year? ______________.

There will be instructions added to “turn the page and complete the survey.”
Hi Mike,

I would be happy for you to try and set something up there. I can waive the usual fee ($250) but the VBC will charge me $67 for the use of a booth. You must also pay extra if you use electricity at a booth. I could be that you can just put a table somewhere in the area and work from that. Let me know what you think. We don't really have a hospitality area there. Coffee and drinks would be great.
APPENDIX H

STUDY ONE BOOTH INFORMATION

BASIC BOOTH PACKAGE
(These items are provided by the Show Management at Show Management expense and will be in your booth at the start of the scheduled move-in.)
Each 10’ x 10’ booth space shall include pipe and drape, two (2) chairs, (2) 8’ skirted table, wastebasket and a booth sign.

MOVE IN SCHEDULE
Move-In Dates: Thursday, April 10, 2014  
Times: 8:00am – Noon
EVENT SCHEDULE
Event Dates: Thursday, April 10, 2014
Friday, April 11, 2014
Times: 1:00pm – 7:00pm
Times: 8:30am – Noon & 1:30 – 5:00pm

MOVE OUT SCHEDULE
Move Out- Friday, April 11, 2014  
Times: 5:00pm- 9:00pm
APPENDIX I

EMAIL INVITATION FOR STUDY ONE

Invitation to Help with Research at All-State

Mike Aycock

4/04/14

To: All-State Band Director Group

This is an invitation to assist with my final research project at the University of Alabama. The project consists of a survey that can be completed in 8 minutes or less. The survey will contain of a demographics section and a personality profile.

The subject of the test is not believed to be controversial or harmful. The results of the surveys will be combined into large groups for presentation. Individual results will not be made available. There will be a more complete document informing you of your rights and protections for you to fill out before taking the survey.

There will be a booth set up in the Exhibits. Come by and fill out the survey.

The booth will also have snacks whenever the exhibits are open for all of the directors present, whether you chose to participate in the survey or not. Come by as often as you like.

I know most of you and look forward to seeing you again. I also look forward to making new friends while I am there.

Thank you in advance for your help. Feel free to contact me if you have any questions.

Michael Aycock
APPENDIX J

EMAIL INVITATION FOR STUDY TWO

Doctoral Survey for Mike Aycock

Mike Aycock

5/29/14

To: Band Director Group

This is an invitation to assist with my final research project at the University of Alabama. The project consists of a survey that can be completed in 8 minutes or less. The survey will contain a demographics section and a personality profile.

This is for currently employed, public school band directors, in Alabama. If you do not meet these criteria, please disregard this email and thank you for your time.

The subject of the test is not believed to be controversial or harmful. The results of the surveys will be combined into large groups for presentation. Individual results will not be made available. There will be a more complete document informing you of your rights and protections before taking the survey.

Go to the link below to complete survey:

http://www.surveymonkey.com/s/1645486/Mike-Aycock-s-Doctoral-Survey

Thank you in advance for your help. Feel free to contact me if you have any questions.

I attempted to limit this email to those who not already taken the survey. If I inadvertently included a prior participant in this email, please accept my apology and disregard this invitation. Your prior participation was greatly appreciated.

Michael Aycock