Elementary Teachers' Perceptions of Giftedness: An Examination of the Relationship Between Teacher Background and Gifted Identification

A Dissertation Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

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May 2012

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DEDICATION

To my husband, Tommy, who has always given me the freedom and encouragement to pursue my dreams.

ACKNOWLEDGEMENTS

To say that I could not have completed this dissertation without the support of certain people in my life is an understatement. I am deeply appreciative of the help that I have received from my friends and family who have encouraged and supported me throughout this process.

My most heartfelt thanks go to my husband for encouraging me from the start and never wavering in his confidence in me. His resolute belief in me was the fundamental motivating factor for me to complete what I had set out to do. I must acknowledge my young son who has spent much of his life sacrificing his time with me. I am especially thankful for his antics that make me laugh for days. My son is my constant reminder how life can be so much fun.

I am indebted to Cary Springer at the University of Tennessee who helped guide me through the technical parts of my study. Words cannot express my deep gratitude for her assistance and encouragement through this process.

I am also profoundly grateful for the support of my committee. Dr. Tom Turner has both challenged and supported me. Office visits always included storytelling, debates, and laughter. I am thoroughly grateful to Dr. Colleen Gilrane who has been a source of peace, reassurance and generous support. I give many thanks to Dr. Sherry Bell who not only encouraged me to be brave and do what I wanted, but also assisted me in making the crucial technical decisions necessary to complete my study. I am thankful for Dr. Dulcie Peccolo, who was a gentle force for helping me to complete what has always been a dream.

ABSTRACT

Two hundred and eighty-one teachers participated in an online survey which investigated the relationship between teacher background and the use of student characteristics as indicators of giftedness. Teachers' global perceptions of giftedness as they related to background characteristics were also examined.

Nine teacher characteristics were examined and included: educational background, years of teaching experience, gifted education preparation, SES of origin, perceived similarities to students, diversity in classrooms, school locale, Title 1 school status, and percentage of students eligible for the free or reduced-price lunch program.

A factor analysis was conducted and a four factor solution was derived. The resulting dimensions were: Textbook Indicators, Nonconforming, Teacher Pleasing, and Incongruent characteristics. The mean ratings suggested that teachers were more likely to use Textbook Indicators and Teacher Pleasing characteristics as indicators of giftedness.

Gifted education preparation was found to positively correlate to the Nonconforming dimension. Teachers with gifted education training were more likely to use nonconforming characteristics as indicators of giftedness. Years of experience was positively correlated with Nonconforming and Teacher Pleasing dimensions. That is, with more years of experience, teachers were more likely to use Nonconforming and Teacher Pleasing characteristics as indicators of giftedness. Diversity was negatively correlated with the Textbook Indicators. Teachers with more diverse classrooms were less likely to choose Textbook Indicators.

The percentage of students qualifying for free or reduced-price lunch was positively correlated with "Giftedness manifests itself differently in different socioeconomic groups." "Boys are more likely to show their giftedness through activities that tap spatial ability" was

positively correlated with the Nonconforming dimension, and to a lesser degree, the Teacher Pleasing dimension. "Girls are more likely to show their giftedness through activities that tap verbal ability" was positively correlated with the Teacher Pleasing dimension.

Teachers are encouraged to recognize a wider spectrum of behaviors and characteristics in order to make more inclusive referrals. Teachers should be aware of how culture can influence manifestations of giftedness. Recommendations include professional development that features gifted education training and multicultural education as related to identification of the gifted.

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CHAPTER ONE

INTRODUCTION AND GENERAL INFORMATION

The disproportionate representation of ethnically diverse students in gifted education has gone undisputed in scholarly literature for decades (Baldwin, 2005; Donovan & Cross, 2002; Passow & Frasier, 1996). U.S. demographics continue to show a steady increase of children from ethnically and racially diverse backgrounds in public schools (Aud et al., 2011). According to the U.S. Department of Education's report, *The Condition of Education 2011*, students from ethnic/racial minority backgrounds accounted for 45% of the population in U.S. public elementary and secondary schools (Aud, et al., 2011): Hispanics (22.3%), African Americans (15.3%), Asian/Pacific Islanders (4%), and American Indian/Alaska Native (0.9%) (Aud, et al., 2011).

Despite increased minority student enrollment, African American, Hispanic and American Indian children are less likely to be identified as gifted, and subsequently are less likely to participate in gifted education programs than White and Asian American students (Davis, Rimm, & Siegle, 2011; Devries & Shires Golon, 2011; Donovan & Cross, 2002). While there is a reported increase in the representation of African American, Hispanic and American Indian students in gifted programs since 1976, the distribution still heavily favors Whites and Asians/Pacific Islanders. A 2006 survey from the Office of Civil Rights showed that 6.7% of all students were placed in gifted and talented programs. Asians/Pacific Islanders had the highest representation of all groups at 13.1%. White students had the second highest representation at 8.0%. The remaining gifted and talented program placements included: American Indian

students (5.2%), Hispanic students (4.2%), and African American students (3.6%) (National Center for Education Statistics [NCES], 2008).

Statement of the Problem

Although the data indicate an underrepresentation of minority students in gifted and talented programs, there is no single reason why this may be the case. Many complicated and overlapping factors exist and are suggested to play a role such as: structural influences, inadequate opportunities for talent development, conflicting notions of giftedness and teacher bias.

A common complaint in the scholarly literature is that teachers can act as a barrier between minority students and referrals (Devries & Shires Golon, 2011; Ford, Harris, Tyson, & Trotman, 2002; Ramirez, 2003; Tomlinson, Callahan, & Lelli, 2004). Much of the literature concerning this issue addresses the mismatch between "White middle-class teachers" and the culturally diverse students they serve (Ford, 1999; Ford & Grantham, 1997; Ford, Howard, & Harris, 2000; Friedman, 1994; Shaklee & Hamilton, 2003).

However, conceptualizing one's background is a complex matter. While people may have differences in ethnic/racial identification, there could be similarities in terms of socioeconomic status, type of school attended, or type of community where one lives. In this way, the difference in the ethnic/racial identity between a teacher and student does not necessarily preclude the presence of other meaningful similarities. For instance, a White teacher who grew up in poverty could share more similar experiences and relate to a poor minority student better than a teacher who shares the student's ethnic heritage but grew up in a middle-

class family. In a study examining school performance and the social origins of teachers, Alexander, Entwisle and Thompson (1987) found that high social distance between teacher and student was correlated with low performance for minority students, particularly African Americans. This was true even when there was a racial/ethnic match.

This is *not* to say that there is limited value in diversifying the teacher workforce. Considering that 45% of school age children are minorities and that 83% of American public school teachers are White (U.S. Department of Education, 2009), recruiting minority teachers could help minority students navigate between their home or community culture and the school culture. Among other important benefits, minority teachers can also serve as advocates and role models for minority students (Bernal, 2007; Ford & Grantham, 1997). Further, it is suggested in both the empirical and theoretical literature that minority teachers might better recognize giftedness in ethnically diverse students (Bernal, 2007; Fernandez, Gay, & Lucky, 1998; Ford & Grantham, 1997).

However, given the current realities of the teaching workforce and the low probability of a rapid change in teacher demographics, what is of interest are the individual characteristics that teachers bring to the classroom. Mismatch between student and teacher can go beyond ethnicity and race. Missing from the scholarly discussion is the way in which teachers' social background of origins and other characteristics, irrespective of ethnicity or race, may play a role in how teachers perceive giftedness. Of particular interest is how teacher characteristics may be related to the receptiveness to refer children who display nontraditional characteristics of giftedness or behave in ways that are not consistent with compliant, low-maintenance students. This is relevant since studies have shown that teachers tend to nominate compliant children who exhibit

positive characteristics of giftedness (Brighton, Moon, Jarvis, & Hockett, 2007; Davis, et al., 2011).

Importance of the Study

Since teacher referral is often the first step in identifying students for gifted and talented programs, their evaluations of students play a crucial role. Therefore, an investigation of teachers' perceptions of giftedness as it relates to their background may elucidate important relationships. This information could be used to develop inservice or preservice programs about gifted education, and more specifically, gifted culturally diverse students.

Purpose of the Study

The purpose of this survey study was to describe the student characteristics and behaviors that teachers used as indicators of giftedness and whether teachers' backgrounds had any relationship with the characteristics teachers used as indicators of giftedness. A secondary purpose was to examine teachers' global beliefs about giftedness and to investigate whether teachers' backgrounds had any relationship with these beliefs.

This study aimed to address the following research questions:

1. What are the student characteristics that teachers use as indicators of giftedness?
2. How do teachers' backgrounds relate to the characteristics they use as indicators of giftedness?
3. How do teachers' backgrounds relate to their global beliefs about giftedness?

4. How do the characteristics teachers use as markers of giftedness relate to teachers' global beliefs about giftedness?

Limitations and Delimitations

The limitations of this study include:

1. The data are limited to Tennessee public school elementary teachers completing the survey.
2. Participants were teachers serving kindergarten through the sixth grade.
3. Participants may not have answered the survey accurately.

The delimitations of this study are that participants were volunteers from the elementary public school teachers in Tennessee whose districts permitted participation in the study.

Assumptions

The following assumptions were made in this study:

1. The participants offered accurate and sincere responses to the survey.
2. The participants understood that their responses were anonymous.

Definition of Terms

Gifted and Talented: There is no universal definition for giftedness and talent (Davis, et al., 2011). For the purposes of this study, the definition from the federal report, *National Excellence: A Case for Developing America's Talent* (U.S. Department of Education, Office of

Educational Research and Improvement, 1993) will be used as a reference point. The definition is as follows:

> Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment. These children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor (p. 26).

Gifted and Talented Education (GATE) Programs: There is no one conventional definition of gifted education. GATE programs can vary widely between states or even across school systems. For the purposes of this study, GATE programs refer to specific educational programs implemented by school districts that offer distinct educational opportunities for high achieving or intellectually gifted students. Students are referred to these programs by specific criteria determined by individual school systems.

Minority Students/Culturally Diverse Students: Historically, minority groups have been defined as those people who have Hispanic, African, Native American, Asian and/or Pacific Islander ancestry (U.S. Department of Education, 2010). For the purposes of this study, minority students will only include children who have Hispanic, African and American Indian/Alaska Native heritage. These specific groups are identified as minority students in gifted education because they are typically under identified and underserved (Donovan & Cross, 2002). Although

Asian Americans are categorized as minority in the general population, as a group, they are overrepresented in gifted programs (Donovan & Cross, 2002), and therefore will not be considered a "minority" group in this study. The term "culturally diverse" will be used interchangeably.

Socioeconomic Status of Origin: Though definitions of socioeconomic status (SES) are complexly defined in the literature (Mueller & Parcel, 1981; Stricker, 1988), for the purposes of this study, SES is limited to the highest level of education achieved by parents or primary caregivers.

White students/White Teachers: For the purposes of this study, the term "White" will be used in reference to those students and teachers who are identified (or identify with) having a European ancestry (U.S. Department of Education, 2010).

Organization of the Study

This study is organized into five chapters. Chapter One included an introduction, statement of the problem, purpose of the study, importance of the study, assumptions, limitations, delimitations, and definition of terms. Chapter Two presents the review of the literature. Chapter Three presents the methodology used to conduct the study. Chapter Four reports the data and analyses, and presents the discussion of the findings. Chapter Five presents an overview of the study, the conclusions, and recommendations for practice and future research.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The underrepresentation of ethnically diverse children in gifted education programs has been undisputed in scholarly literature for decades (Baldwin, 2005; Borland, 2005; Donovan & Cross, 2002; Ford, 1995; Passow & Frasier, 1996). The subject has been discussed to such length that Passow and Frasier commented, "the under-inclusion of economically disadvantaged children of minority cultures in programs for the gifted has been so well documented over the years that it hardly needs further recounting here" (1996, p. 198).

Hispanic, African American and American Indian students are significantly less likely to be referred to and participate in gifted education programs than their White and Asian American peers ([NCES], 2008). However, no single reason has been recognized as to why this is the case. There are many different complicated and overlapping factors that contribute to this problem. Factors such as narrow conceptualizations of giftedness, poverty, structural influences, low academic achievement, inadequate opportunities for talent development, bias in identification methods, teacher bias, and parental factors have all been suggested to play a role in minority student underrepresentation in gifted and talented programs.

School Demographics

The steady increase of minority enrollment in America's public elementary and secondary schools reflects changing American demographics. According to the Department of Education's report, *The Condition of Education 2011*, the percentage of White students enrolled in public schools decreased from 68% in 1989 to 55% in 2009 (Aud, et al., 2011). Thus, by 2009, ethnic/racial minorities accounted for 45% of the population in U.S. public elementary and secondary schools: Hispanics (22.3%), African Americans (15.3%), American Asians (3.7%), Indian/Alaska Native (0.9%), and Pacific Islanders (0.3%) (Aud, et al., 2011).

Over the years, there has been a reported increase in minority representation in gifted education, but the distribution still heavily favors Whites and Asians/Pacific Islanders. Table 1 presents the percentage of Asian/Pacific Islanders, White, Native American/Alaska Native, Hispanic, and African American participation in gifted and talented programs in 2004 and 2006. Asians/Pacific Islanders had the highest percentage of overrepresentation of all groups while African Americans had the highest percentage of underrepresentation in gifted and talented programs (Ford, 2011).

Table 1

Percentage of Gifted and Talented Students in U.S. Public Elementary and Secondary Schools by Race/Ethnicity

	2004			2006		
Race/Ethnicity	Percentage of Students	Percentage of G/T	Percentage Difference	Percentage of Students	Percentage of G/T	Percentage Difference
Asian/Pacific Islander	4.4	7.6	+72.7	4.8	9.4	+95.8
White	59.4	72.7	+22.4	56.4	67.7	+20.0
American Indian/Alaskan Native	1.2	0.9	-25.0	1.2	1.0	-16.7
Hispanic/Latino	17.8	10.4	-41.6	20.4	12.8	-37.3
African American	17.2	8.4	-51.2	17.0	9.0	-47.1

Note. Adapted from "Gifted Education Demographics for 2000-2006," by Ford (2011), p. xiii. G/T denotes gifted and talented.

Factors Contributing to Underrepresentation

Notions of Intelligence and Giftedness

Sternberg (2008) has argued that the conceptualization of giftedness differs "from place to place" (p. 282). Because it is essentially a social construct, the definition of giftedness can be viewed as a reflection of societal values that emphasize concepts of excellence and potential (Borland, 2004; Sternberg 2008). Borland (2004) related that in multicultural societies such as

that of the United States, giftedness is defined by the dominant culture. Thus, in our country, traditionally held beliefs about intellectual giftedness are influenced by White, middle and upper-middle-class professionals because it is from their discourse that the concept has been created (Borland, 2004). Giftedness and intelligence are sometimes considered fluid concepts, which may be demonstrated differently depending on the context and culture (National Association of Gifted Children [NAGC], 2010). As such, there is no universal definition of giftedness.

Conceptualizations of giftedness have evolved from the theory of general intelligence to well established multidimensional theories of intelligence, such as Gardner's Theory of Multiple Intelligences (Gardner, 1983), Gagne's Differentiated Model of Giftedness and Talent (Gagne, 2009), Sternberg's Triarchic Theory of Intelligence (Sternberg, 2004a), and Renzulli's Three-Ring Conception of Giftedness (Renzulli, 2009). Even the federal definition of giftedness has evolved in its recognition of cultural diversity and socioeconomic background. Definitions have been broadened to allow a greater appreciation for diverse abilities and ideally to promote cultural inclusiveness.

"g" and intelligence tests. Despite widespread controversy, the theory of general intelligence is considered to be one of the most influential and enduring theories of intelligence in psychology (Sternberg, 2004b). The traditional theory of intelligence hypothesizes that general intellectual ability can be captured in the measure of a general ability or "g" (Cianciolo & Sternberg, 2004). Sternberg (2004b) argues that in its modern conception, "g" represents individual variation in the "speed or efficiency of the neural processes that affect the kinds of behavior measured by mental-ability tests" (p. 415). Traditionally, giftedness has been operationalized by scores over 130 on intelligence tests or by performance in the 90th percentile

on achievement tests (Ford, 1996). However, the IQ test has been the focus of widespread criticism due to mounting scholarly work that challenges the notion that IQ scores are the only indicators of giftedness (Ford, et al., 2002; Gardner, 1983; Gould, 1996; Kloosterman, 2003; Reid, Romanoff, & Algozzine, 2000; Sternberg, 2004b). Renzulli (2005) has argued that "there is no ideal way to measure intelligence and therefore we must avoid the typical practice of believing that if we know a person's IQ score, we also know his or her intelligence" (p. 252). On the other hand, some scholars argue that intelligence tests are effective predictors of academic achievement (Gagne, 2009; Gottfredson, 2004). Davis, et al (2011) referred to two specific intelligence tests (i.e., the Weschler Intelligence Scales of Children [WISC-IV] and the Stanford-Binet Intelligence Scale) as the "gold standard" in confirming "high general intellectual abilities" (p. 60). The National Association for Gifted Children also supports the use of the WISC-IV as a "wise choice for the comprehensive assessment of gifted children when Working Memory and Processing Speed subtests are used diagnostically" (NAGC, 2010). The uncomfortable fact is that Hispanics and African Americans, *on average*, do not perform as well on IQ tests as Whites. An emphasis must be placed on "on average." Cainciolo and Sternberg (2004) reported that when compared to Whites, on average Hispanics score 11 IQ points lower, while African Americans score 15 IQ points lower. This disparity leads to a number of interpretations. First, and most contentious, is the notion that based on IQ scores, Hispanics and African Americans are simply not as intelligent as Whites. This disparity is often explained by suggestions of heritability or lower intelligence (Herrnstein & Murray, 1994). Others attribute the differences to language bias (in the case of both Hispanics and African Americans), cultural bias, and influences of poverty (Ford, et al., 2002; Gould, 1996; Sternberg, 2004a). In discussing the differences of intelligence test scores between groups of people, Sattler (2008) related:

> The present consensus is that it is not possible to make valid inferences about genetic differences among races as long as there are relevant systematic differences among races in socioeconomic status, cultural patterns, and environments. These differences influence the development of cognitive skills in complex ways, and no one has succeeded in either estimating or eliminating their effects. Centuries of discrimination have made meaningless direct comparisons of the mental ability of African Americans and Euro Americans (p. 169).

In a review of test bias research, Sattler (2008) has argued that data have shown that there is not consistent bias against minority groups in the most widely used and widely studied intelligence tests. This is supported by Gottfredson (2004) who has also argued that refined studies have shown that cultural bias is *not present* in "major normed-referenced tests that measure cognitive ability…among native-born, English-speaking Americans, including Blacks" (p. 143). Therefore, she concluded that the disparity between racial/ethnic groups in intelligence test scores is not an artifact of cultural bias, but is one illustration of "real differences in important cognitive skills" (Gottfredson, 2004, p. 143).

Gottfredson (2004) has further asserted that the significant disparity in the eligibility of gifted programs "can be fully explained by the group disparities in 'g'" in that identification of giftedness has traditionally focused on the "right tail of the IQ bell curve –just where racial disproportions happen to be the most extreme" (p. 153). Regarding the use of the WISC-IV for the identification of gifted children, the NAGC's position statement specifically suggests that subscales of the instrument (i.e., the Verbal Comprehension Index and the Perceptual Reasoning Index) would be appropriate to use with culturally diverse and bilingual students (NAGC, 2010).

Yet, it is generally accepted in gifted education research that if parity is to be achieved in gifted programs, then intelligence test scores should be considered with caution when the subject is from a culturally diverse background (Davis, et al., 2011; Johnson, 2004; NAGC, 2010). For instance, if a test is heavily loaded with verbal content, it may not be the most appropriate instrument for the evaluation of nonnative speakers of English or students from linguistically diverse backgrounds (Johnson, 2004). The NAGC (2010) warns:

> IQ tests should be interpreted cautiously for children from culturally and linguistically diverse backgrounds, and for all children, should never be the only basis for exclusion from gifted programs. In addition, all efforts should be made to accommodate linguistic diversity and test children in their native language (p.1).

Nonverbal intelligence tests such as the Naglieri Nonverbal Ability Test and Raven's Progressive Matrices have also been recommended as alternatives to traditional intelligence tests, especially for students from diverse racial/cultural backgrounds (Baldwin, 2005; Borland, 2009; Castellano, 2011; Johnson, 2004). Further, a common recommendation for the identification of the gifted is to use multiple assessments such as portfolio assessment, performance assessment, and/or interviews (Borland, 2009; Ford, 2011; Hughes & McGee, 2011; NAGC, 2008).

Federal definitions of gifted and talented. A recent federal definition of giftedness can be found in the U.S. Department of Education's (1993) report, *National Excellence: A Case for Developing America's Talent*:

> Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age,

> experience, or environment. These children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor (p. 26).

A notable element of this definition is the importance of recognizing talent across cultural groups and socioeconomic circumstances. However, Ford (1995) contended that the updated federal definition does not go far enough in acknowledging of multidimensional demonstrations of giftedness described by contemporary theories of intelligence. She and others have argued that the limited definition of giftedness still risks excluding diverse students who may be underachievers or who show their talents differently from the mainstream (Baldwin, 2005; Callahan, 2005; Ford, 1995).

Despite updated, contemporary federal interpretations, most school districts continue to adhere to the 1972 federal definition of giftedness that subscribed to the traditional theory of general intelligence (Davis, et al., 2011; Donovan & Cross, 2002). This interpretation of giftedness was the original federal definition of gifted and talented and it states:

> Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and services beyond those normally provided by the regular school program in order to realize their contribution to self and society (Marland, 1972 as cited in Davis, et al., 2011 p. 18).

Brown (1997) reported that despite the revised federal definition that emphasizes equity in gifted education, there are no federal mandates that require state adoption of federal definitions of giftedness. Therefore, states and school districts continue to choose or create their own definition of giftedness. From a district and school perspective, defining giftedness is a complex matter since the definition will drive the programming options for students (Davis, et al., 2011). For this reason, Clarenbach (2007) suggested that what constitutes gifted and talented should, indeed, be determined at a local level in order to best serve the students in that specific educational context.

Modern, multidimensional conceptions of gifted and talented. There are many different conceptions of giftedness and a discussion of all them are beyond the scope of this literature review. For the purpose of this chapter, Gardner's Multiple Intelligences, Gagné's Differential Model of Giftedness and Talent, Sternberg's Triarchic Theory of Intelligence, and Renzulli's Three Ring Conception of Giftedness will be discussed. These theories and models of intelligence and giftedness are examples of broad conceptions that depart from the conventional theory of general intelligence.

Howard Gardner: Theory of Multiple Intelligences. Gardner is one of a few modern psychologists whose departure from the classic view of intelligence gained him eminence in the field of education. His model of intelligence has been applied in some school settings to guide curriculum and instruction (Davis, et al., 2011). As a researcher who is responsible for a major paradigm shift in the public conceptualization of intelligence, Gardner has proposed that there are eight (and possibly more) distinct intelligences that are developed by learning and practice. The domains he discussed include: linguistic intelligence, musical intelligence, logical-

mathematical intelligence, spatial intelligence, bodily-kinesthetic intelligence, intrapersonal intelligence, interpersonal intelligence, and naturalistic intelligence.

Linguistic intelligence. Gardner used poetry as an example of linguistic intelligence. By including oral and written language, a poet with high linguistic intelligence demonstrates sensitivity to semantics, phonology, and syntax. Gardner discussed four important features of linguistic knowledge including: rhetoric, teaching, metalinguistics, and mnemonics. Notable was Gardner's references to cross cultural influences in the demonstrations of specific intelligences. From Mexican "verbal dueling" where double meaning and sound variations banter back and forth between opponents, to the analysis of public debates among the Tshidi of Botswana, Gardner showed how culture impacts the development and presentation of linguistic intelligence.

Musical intelligence. Gardner maintained that musical precocity could be the result of a specific training program or an environment filled with music. While heredity may play a part in an inclination toward higher musical intelligence, Gardner proposed it is developed through training, which is an artifact of cultural value. Culture plays a role in the expression of musical intelligence. This is not only evident in the product but also in the opportunity to "participate in the musical life of the community" (p.122). Thus, musical achievement is shaped by both culture and instruction.

Logical-mathematical intelligence. Gardner proposed that the basic actions of children on their physical world (e.g., ordering and reordering objects) are building blocks for the highest forms of logical, mathematical and scientific thought. Using mathematicians as an example, Gardner related that they are unique in their skillful ability to handle "long chains of reasoning" (p. 139) and their "passion for abstraction" (p. 141). Further, many mathematicians enjoy a

sense of intuitiveness in solving problems in that they may have a sense for the solution before they can fully articulate it.

Spatial intelligence. The ability to perceive the "visual world accurately," to transform and modify one's perceptions, and to "re-create aspects of one's visual experience, even in the absence of relevant physical stimulation" is central to spatial intelligence (p. 173). These abilities are discrete and a person may, for instance, have a well-developed capacity to perceive the "visual world accurately" without being able to necessarily transform the initial perception. However, a person who has remarkable spatial intelligence shows a high aptitude in all areas in the spatial domain. Successful surgeons, sculptors, painters, engineers, chess players, and physicists have well developed spatial intelligence.

Bodily-kinesthetic intelligence. This intelligence involves the ability to "use one's body in highly differentiated and skilled ways, for expressive as well as goal-directed purposes" (p. 206). Examples include surgeons, instrumentalists, dancers or athletes. Those who utilize this intelligence in complex ways have often trained to develop the necessary control to perform in highly advanced ways.

The personal intelligences. Gardner distinguished between intrapersonal and interpersonal intelligence. He related that every normal human being is born with rudimentary forms of these intelligences, but the degree to which they are developed depends partly on environment and culture.

Intrapersonal intelligence. The core capacity of intrapersonal intelligences is to recognize one's own feelings in order to distinguish "among these feelings and, eventually, to label them (and)… draw upon them as means of understanding and guiding one's behavior" (p. 239). This intelligence ranges from the basic ability to discern pleasure from pain and react to a

situation accordingly, to advanced levels where an individual is capable of "detecting and symbolizing complex and highly differentiated sets of feelings" (p. 239). Vocations requiring high intrapersonal intelligence would include psychotherapists in Western culture or wise elders in other cultures. These people function as leaders who "draw upon his (or her) own wealth of inner experiences in order to advise members of his community" (p. 239).

Interpersonal intelligence. The core capacity for interpersonal intelligence is the ability to recognize and "make distinctions among other individuals" (p. 239) with particular attention to mood, intention, motivation and temperaments of others. The basic level of this intelligence involves the ability to recognize the moods of other people. A person who has an advanced interpersonal intelligence has the ability to 'read' the concealed feelings and intentions of others and to influence them to act in a desired way. People with highly developed interpersonal intelligences include influential politicians and religious leaders.

Naturalistic intelligence. Gardner (2006) recently proposed naturalistic intelligence as an additional component of his Multiple Intelligences theory. Individuals with a high capacity for natural intelligence are able to easily recognize patterns in nature. Gardner related that the ability to distinguish birdsongs, whale calls, plants and animals "in their ecological niche" is an integral part of naturalist intelligence. Charles Darwin is an example of a person with high natural intelligence.

Gagné's Differentiated Model of Giftedness and Talent. In the Differentiated Model of Gifted and Talent (DMGT), Gagné makes a distinction between the concepts of giftedness and talent. He defined giftedness as the "possession and use of superior natural abilities that places an individual at least among the top 10% of his or her peers" (Gagné, 2009, p. 165). Both genetics and the environment influence the expression and development of an individual's

giftedness (Gagné, 2009). The DMGT features "four natural ability domains" including intellectual giftedness, creative giftedness, social giftedness and physical giftedness (Gagné, 2009, p. 165). Talent, on the other hand, emerges from the development of an endowed gift. Thus, talents develop from raw gifts through learning and practice. According to the DMGT, an individual must be gifted before they can develop talents. However, as in the case of academic underachievement of an intellectually gifted person, an individual can be gifted without ever developing talents.

Talent development is positively or negatively influenced by intrapersonal and environmental catalysts. According to the DMGT, intrapersonal catalysts can be psychological or physical. Motivation is an example of a psychological catalyst. Motivation can guide development and serve as a source of resilience through obstacles or failures. Environmental catalysts include (but are not limited to) people who have an impact on an individual (e.g., family, teachers, coaches), SES, geographic and even sociological factors. For example, parents and teachers may help or hinder the developmental process of a gift.

Gagné (2009) argued that chance itself plays a role in the development of giftedness into a talent. One's genetic endowments and the pool of resources provided by one's family of origin are examples how chance can influence giftedness into talent development. Even one's geographic location can impact the type of resources and opportunities that are available to facilitate talent development.

Sternberg's Triarchic Theory of Intelligence. The Triarchic Theory of Intelligence is a multidimensional theory that focuses on an individual's set of abilities used to attain success as defined by the individual in his or her sociocultural context. Successfully intelligent people recognize and capitalize on their strengths while correcting and/or compensating for their

weaknesses (Sternberg, Grigorenko, & Kidd, 2005). Moreover, successfully intelligent people maintain a balance of three types of intelligence: analytical, synthetic and practical.

Analytical intelligence includes the capacity to judge, critique and analyze. This type of intelligence is the intellectual component most often measured by traditional intelligence and achievement tests. Analytical reasoning and reading comprehension would be categorized as academic intelligence (Davis, et al., 2011). People with a well-developed analytical intelligence are more likely to be identified as gifted at school (Sternberg & Grigorenko, 2002).

Synthetic intelligence encompasses inventing, creating, discovering, and imagining. Sternberg asserted "conventional tests of intelligence do not really measure creative intelligence, nor are they intended to" (Sternberg & Grigorenko, 2002, p. 266). Tests that do measure creativity, such as the Torrance Test, primarily measure the fluency of creativity in terms of "rapid production of ideas" (Sternberg &Grigorenko, 2002, p. 266). Sternberg proposed that creativity is not so much about the rapid production of ideas, but rather the ability to generate ideas that are "novel, high in quality, and task appropriate." Therefore, synthetic giftedness accounts for the ability cope with novelty. A synthetically gifted person may not score high on conventional IQ tests, but according to Davis, et, al. (2011) may "ultimately make the greatest contributions to society."

Lastly, *practical intelligence* involves applying, using, or implementing one's knowledge. This intelligence is highly contextualized. Practical giftedness may not reflect the volume of formal knowledge, but it does distinguish itself in "tacit knowledge, that is, (knowing)…what one needs to know to succeed in an environment that usually is not directly taught and that often is not even verbalized" (Sternberg & Grigorenko, 2002, p. 266).

While an individual may show particular strengths in one or more abilities, an essential component of giftedness is the ability to capitalize on one's unique pattern of abilities. Unlike conventional theories of intelligence, Sternberg related that one's abilities are not fixed, but rather are dynamic so that strengths and weaknesses can be developed (Sternberg & Grigorenko, 2002). Sternberg (2009) argued that IQ tests, by themselves, cannot fully capture the range of an individual's gifts.

Renzulli's Three Ring Conception of Giftedness. Renzulli's Three Ring Conception of Giftedness emphasizes gifted behavior rather than gifted people (Renzulli, 2009). Renzulli (2009) conceptualized gifted behavior as an interaction between three components: above average ability, task commitment (motivation), and creativity. Individuals who are able to develop gifted behavior "are those possessing or capable of developing this composite set of traits and (apply) them to any potentially valuable behavior of human performance" (Renzulli, 2009, pp. 325-326).

Renzulli's model departs from traditional beliefs about gifted education in two ways. First, he posits that an unexceptional quality such as 'above average ability' is one component of gifted behavior (Borland, 2009). The second is that Renzulli's model contends that gifted behavior is not always expressed. In other words, when an individual with above average ability is demonstrating task commitment and creativity, he or she is exhibiting gifted behavior. When the same individual is not demonstrating task commitment and creativity, he or she is not exhibiting gifted behavior. Therefore, there is a shift from the conceptualization of giftedness as a static quality that an individual possesses, to a behavior that an individual may demonstrate at a given time.

Section Summary

The underrepresentation of minority students in gifted education programs has been discussed in the literature for decades. The narrow conceptualization of giftedness (i.e., theory of general intelligence) and the way intelligence is typically measured have been suggested to be factors contributing to the problem.

The use of traditional measures of giftedness (i.e., intelligence tests) has been the source of contention in the conceptual literature, and as being part of the reason why culturally diverse students have been underrepresented in gifted programs. Scholars in the field of gifted education have maintained that these tests are culturally biased and are not appropriate for minority children. However, the empirical evidence suggests that there is no cultural bias in the "major normed referenced tests" (Gottfredson, 2004, p. 143). Newer conceptualizations of giftedness have evolved from the theory of general intelligence to include broader, multidimensional models and theories.

However, other complex and interrelated factors are suggested to play a role in the underrepresentation of cultural diverse students in gifted programs. These factors include: poverty, structural concerns in schools, inadequate opportunities for talent development, the achievement gap, referral and screening procedures, and parental factors.

Poverty

Family income level is significantly related to the likelihood of being identified as gifted and participating in gifted education programming. The U.S. Department of Education's report, *National Excellence: A Case for Developing America's Talent* (1993) reported that 47% of students participating in gifted and talented programming are from the top quartile of family

income while only 9% of students were from the bottom quartile. McBee (2006) conducted a study on referral sources for gifted screening by race and socioeconomic status in the state of Georgia. He found that children from low SES backgrounds (defined by participation in the federal free or reduced-price lunch program) were significantly less likely to be referred to a gifted program (McBee, 2006). Specifically, students from higher SES backgrounds were three times more likely to be referred to gifted and talented programs than students from low SES circumstances (McBee, 2006).

The increased likelihood of poverty status has direct implications for African American and Hispanic children. African American children are "four times as likely, and Hispanic children are three times as likely as White children to live in families with income under 50% of the poverty threshold" (Donovan & Cross, 2002, p. 119). To offer some perspective, the poverty threshold determined by the U.S. Census Bureau in 2009 for a family of four was $21,954 (Aud, et al., 2011). Poverty status is a significant issue for school children since studies have shown that a child's cognitive functioning, emotional functioning and school performance changes in relation to the severity, duration and timing of poverty (Donovan & Cross, 2002; Kitano, 2007).

In their report, Wyner, Bridgeland and Diiulio (2007) found that poverty is related to achievement from the beginning of schooling to college graduation. Using national databases, the authors found that among first-grade high achieving students, 72% came from higher income families whereas 28% were from lower income families. Lower income, high achieving students were also less likely to maintain their high performance through elementary school compared to higher income students. Conversely, formerly lower performing students from upper income families were twice as likely to rise to the upper quartile of student performance by the fifth grade than were children from lower income families.

The relationship between poverty and "unfulfilled potential" persists in later years as well (Wyner, et al. 2007). The authors found that high achieving high school students from low income families are twice as likely to drop out or not graduate on time. High achieving, low income students tend to enroll in less selective colleges and universities despite being eligible for more selective schools. In addition, college students from low income families are less likely to graduate from college and receive graduate degrees (Wyner, et al., 2007). Miller (2004) related that many college students who come from lower SES circumstances often have to work to pay for school expenses to the extent that they cannot fully devote themselves to their studies. Further, they are often unaware "of the importance of high achievement necessary for pursuing graduate school or securing a good job after college" because as first generation college students, they do not have the familial experience that can readily guide or counsel them on how to navigate through college successfully (Miller, 2004, p. 27).

Structural Issues

The U.S. Department of Education's, *Condition of Education, 2011* reported that significantly greater concentrations of Hispanic, Black and American Indian/Alaska Native students were enrolled in high-poverty elementary and secondary public schools than Whites or Asian/Pacific Islanders (Aud, et al., 2011). High-poverty schools are defined as having more than 75% of the student population eligible for the federal free or reduced-price lunch program (Aud, et al., 2011). Specifically, 45% of Hispanic students, 44% of Black students, and 31% of American Indian/Alaska Native students were enrolled at high-poverty elementary schools (Aud, et al., 2011). This is compared to 6% of White students and 17% of Asian/Pacific Island students who were enrolled in high-poverty schools (Aud, et al., 2011).

Scholars have reported that many predominately minority schools are overcrowded, lack basic supplies, offer few college preparatory courses, and are staffed with underprepared teachers and administrators (Darling-Hammond, 2004; Olszewski-Kubilius & Thomson, 2010). For Hispanic students, specifically, research has shown that elementary school size is significantly correlated with Hispanic student achievement, "with 650 students being the threshold for predicting student success" (Ochoa, 2003, p. 54). However, the majority of low income Hispanic students attend schools that typically have over 1,000 students (Ochoa, 2003). Darling-Hammond (2006) described how some schools in California (the state with the highest Hispanic population) were overcrowded to the degree that they had to run multitrack schedules to accommodate the large number of students. These multitrack schedules required a reduction in instructional hours which would in turn, negatively impact opportunities for student learning (Darling-Hammond, 2006).

Scholars have reported that schools serving low income and minority students often have the least prepared teachers (Anyon, 1997; Darling-Hammond, 2004; Olszewski-Kubilius, Seon-Young, Ngoi, & Ngoi, 2004). Martinez-Aleman (2006) reported that in California, the most qualified teachers (i.e., highly credentialed and experienced) "are concentrated in White, affluent schools" while the least prepared teachers are "five times more likely to be found in schools with large minority populations" (p. 27). Darling-Hammond (2006) discussed that a significant relationship exists between teacher preparation and student achievement, with the least prepared teachers having a negative impact on student achievement. As it relates to gifted education, specifically, when new (or undertrained) teachers are assigned to overcrowded classrooms in underfunded schools that lack basic supplies, these beginning teachers are not in a situation that would facilitate opportunities to "observe or otherwise learn about the diverse accomplishments and talents of their students" (Fletcher & Massalski, 2003, p. 168).

Inadequate Opportunities for Talent Development

Minority students are more likely to perform worse on traditional measures of achievement, such standardized tests, and have lower grade-point averages than White and Asian American students (Miller, 2004). Lleras (2008) reported that African American students from predominately African American schools are more likely to be offered a soft curriculum in both general and advanced levels "as a result of lower teacher quality and expectations" than White students from predominately White schools (p. 890). She maintained that low level teaching in predominately Black schools may be the result of teachers teaching to the average level of performance (Lleras, 2008). Miller (2004) explained that when a large percentage of students achieve at low levels in elementary schools that serve "extremely disadvantaged

underrepresented minority children," curriculum and teaching strategies are often designed to help "at-risk" students reach "credible levels of performance" (p.25). Higher achieving students in these schools are then likely to be underserved since the primary focus of the school is to help the majority of lower performing students reach basic levels of proficiency.

Ford (1998) related that minority students are more likely to be placed in low-ability groups and/or non-college preparatory tracks. Such low placements and lower quality education hinder opportunities for minority students to be referred for gifted services. Ford (1998) asserted that minority students are at a disadvantage wherever they attend school. For example, while African Americans attending predominately White schools tend to be overrepresented in lower tracks and special education, and underrepresented in gifted programs. Alternatively, gifted African Americans attending predominately African American schools are often underserved and without gifted services due to a lack of resources (Morris, 2002). Borland (2004) reported that the availability of gifted programs can vary within school districts. Students in the highest SES quartile "were 28% more likely to attend schools with gifted programs than were students in the first or lowest quartile" (Borland, 2004, p. 5).

Some families believe that by changing schools, there will be better outcomes for their children. But this is not always the case. Morris (2002) maintained that if African American families encourage their children to attend predominately White schools, they are likely to be overlooked for challenging educational opportunities. Yet, if African American families resolve to attend predominately African American schools, it is probable that resource limitations will prevent the availability of high quality educational programs (Morris, 2002).

Achievement Gap

The achievement gap has been widely studied and the literature on this phenomenon is abundant. Because schools often use academic achievement as a consideration for placement in gifted and talented programs, some key aspects of the achievement gap should be discussed in relation to the underrepresentation of minorities in gifted and talented programs. On average, Hispanics, African Americans, and Americans Indian/Alaska Natives do not achieve to the same degree as Whites and Asian Americans across all levels of education, from kindergarten to graduate school (Miller, 2004). Low socioeconomic circumstances and all the disadvantages that are related to it have been suggested to be one factor that plays a role in the achievement gap. Miller (2004) referred to this as the *between-class* dimension of the academic achievement gap.

However, there also exists a *within-class* achievement gap where minority students from highly educated families still achieve at "significantly lower levels" than their White and Asian American peers (Miller, 2004, p. 2). Miller argued that the disparity in achievement within the more affluent groups "is very damaging for underrepresented minorities, because they, like all groups, rely on their high SES segments to produce a disproportionate share of their high academic achievers" (p.3). Table 2 presents the 1994 National Assessment and Educational Progress (NAEP) reading test score averages for 12^{th} grade by race/ethnicity and parent education level. It provides an example of how the achievement gap does not exist solely for low income minorities, but also for higher income minorities as measured by parent education level.

Table 2

Average NAEP Reading Scores for 12th Grade by Race/Ethnicity and Parent Education in 1994

	1994 NAEP Reading Test Score Averages by Parent Education Level			
Race/Ethnicity	Less than High School Degree	Graduated from High School	Some Post-Secondary Education	Graduated from College
White	274	283	294	302
Black	258	258	271	272
Hispanic	260	265	279	283
White - Black =	16	25	23	30
White – Hispanic =	14	17	15	19

Note. Table from "Minority Students in Special and Gifted Education" by Donovan & Cross (2002), p. 80.

Notable is that Hispanic students whose parents have graduated from college perform as well as White students whose parents have graduated from high school. African American students whose parents have graduated from college have scores below White students whose parents have less than a high school diploma (Donovan & Cross, 2002).

Performance on standardized achievement tests are often used as an automatic referral source for gifted programming (Davis, et al., 2011; McBee, 2006). The emphasis placed on standardized testing for identifying gifted students places minority students at a disadvantage since these groups, on average, perform at lower levels that their White and Asian American peers (Ford, 1998). While it is not unreasonable to use achievement tests "as one index of gifts

and talents for minority children," achievement tests are not recommended to be used as the sole criterion for gifted education referral (Davis, et al., 2011, p. 332).

High-Stakes Testing

Persistent accountability pressures with high stakes testing further diminish talent development opportunities in low income schools. Joan Herman (1992), Co-Director for the National Center for Research on Evaluation, Standards, and Student Testing (CRESST) contended that standardized tests negatively impact program quality. "Accountability pressures" compel educators to focus planning and instruction on test preparation (Amrein & Berliner, 2003; Callahan, 2007; Darling Hammond, 2003; Herman, 1992; Kaiser, 2000). In general, the emphasis on test content results in the narrowing of curriculum by focusing on basic skills at the expense of higher order thinking (Abrams & Madaus, 2003; Callahan, 2007; Darling Hammond, 2003; Herman, 1992). Callahan (2007) found that curricular narrowing is most likely to occur in schools with predominately at-risk or disadvantaged students since these schools are under more pressure to improve test scores. More recently, due to the No Child Left Behind mandate, the focus has been on increasing academic achievement (measured by standardized test scores) in failing schools. When the focus of low performing schools is on remedial instruction and curriculum, the primary concentration of resources (both human and material) is on remediation rather than helping high achieving students stay on a high performance trajectory (Callahan, 2007; Miller, 2004; Olszewski-Kubilius & Thomson, 2010; Wyner, et al., 2007).

Ochoa (2003) asserted that Latino learners, specifically, must be engaged in a rigorous curriculum from kindergarten to the 12th grade (though one could argue that *all* learners should be offered a rigorous curriculum). Early interventions and a strong academic program are

necessary in order to adequately prepare and qualify students to take advanced coursework in high school and subsequently for postsecondary education. "We know that in order to take AP courses in high school, one must begin taking the prerequisite core courses in seventh grade. Yet, placement in these courses is driven by test results in the 5th grade and by teacher recommendation" (Ochoa, 2003, p. 54). Thus, soft academic programs that focus on basic skills as early as elementary school, do not adequately prepare students for college preparatory programs in high school. Zambone and Alicea-Saez (2003) made a compelling argument that a rigorous academic program not only serves students in providing the necessary knowledge and skills for post-secondary opportunities, "but communicates high expectations and high regard for a student's capacity to learn" (2003, p. 67).

Referrals and Teacher Bias

Teachers are often the first source of referrals and as such, are regularly considered gatekeepers to gifted programming (Baldwin, 2005; Brown, 1997). The problem of minority underrepresentation gives pause to the question whether or not teachers are biased against students from culturally diverse backgrounds and low socioeconomic backgrounds. The results of studies are mixed with some finding evidence of teacher bias and others that do not.

Bias against ethnicity or race. As mentioned earlier, McBee (2006) found that children from low SES backgrounds were underrepresented in the referrals to gifted programming in the state of Georgia. This was also true for Hispanic and African American student representation. McBee (2006) reported that 18.3% of Asian, 12.3% of White, 10.3% of American Indian, 3.2% Black and 2.3% Hispanic students were identified as gifted. His findings show that Hispanics and Black students were less likely to be nominated by their teachers than

their White and Asian peers (McBee, 2006). McBee also found that teachers were less likely to nominate students from low SES circumstances than high SES students.

Elhoweris, Mutua, Alsheikh and Holloway's (2005) study showed a slight effect of students' ethnicity on teachers' referrals to gifted programs. The researchers used a written vignette that described a fictitious student. The description included research based characteristics of giftedness. One group of subjects was given the vignette that included an African American designation while another group received a vignette that indicated that the fictitious student was White. A third group served as the control group and received no information regarding the student's racial background. The subjects were asked if the fictitious student should be referred to a gifted and talented program. Elhoweris et al. found that teachers were more likely to refer the unlabeled student at a slightly higher rate over the student with an African American description. However, the participants in their study were not more likely to refer the White student over the African American student.

Conversely, Masten and Plata (2000) did find evidence of teacher bias in their investigation in which teachers completed the Scales for Rating Behavior Characteristics of Superior Students (SRBCSS) for each of their students. The authors concluded that acculturation was related to teacher ratings of students in areas of learning, motivation, creativity, and leadership characteristics. Teachers rated White students significantly higher than Hispanic students on all dimensions of the instrument. Moreover, teachers gave more acculturated Hispanic students higher ratings than less acculturated Hispanic students.

Bias against socioeconomic background. In an attempt to study the effect of SES on teacher referrals to gifted programs, Elhoweris (2008) conducted a second analysis of the original Elhoweris et al. (2005) study. Her findings yielded no statistically significant

differences between teacher referral rates for upper SES and lower SES student profiles. However, Brighton, et al. (2007) found bias in teacher attitudes regarding student SES and giftedness. The authors reported that 27% of the teachers they surveyed disagreed with the statement "the potential for academic giftedness is present in equal proportions in all socioeconomic groups in our society" (p.36). As a result, the authors maintained that the teachers in their study perceived a student's socioeconomic status as "a major determinant in possessing some kind of academic giftedness" (Brighton et al., 2007, p.36). This finding is consistent with the results from a study conducted by Alvidrez and Weinstein (1999). Teachers in their study underestimated IQ scores for children from low SES circumstances while overestimating the IQ scores for students from higher SES backgrounds (Alvidrez & Weinstein, 1999).

Preference for positive and textbook indicators of giftedness. Teacher nominations inherently evaluate behavior as it relates to giftedness. Studies have shown that teachers are more likely to refer compliant children over challenging students for gifted services (Davis, et al., 2011; Kornhaber, 1999). Brighton et al. (2007) conducted a multiphase investigation that included surveys and case studies to examine teachers' conceptions of giftedness. They found that in both, the surveys and the case studies, teachers were more likely to choose conventional indicators of giftedness (p. 31). Brighton et al. commented, "These textbook characteristics illustrate that teachers have preconceived notions about the characteristics of giftedness and that these notions are heavily skewed toward more positive characteristics" (p. 31). Siegle and Powell (2004) reported similar findings in a study that used student profiles embedded with characteristics of giftedness. The researchers found that their subjects tended to utilize characteristics of giftedness often found on checklists.

Peterson and Margolin (1997) also examined teachers' conceptualizations of giftedness. The teachers in their study were not given criteria to nominate students for an *ad hoc* gifted program. Peterson and Margolin found that in the absence of guidelines, teachers discussed giftedness in terms of good behavior, verbal ability, and family status. However, behavior was used more than any other characteristics to rationalize referral decisions. The researchers related that teachers applied "existing ideals and moralities of the dominant culture as their guide in evaluating giftedness" (p. 82).

Parental Factors

Parental nomination of their children to gifted and talented programs is another referral source for some schools (McBee, 2006). Not only do teachers refer African American, Hispanic, and American Indian students to a lesser extent than White and Asian students, but the same referral pattern also applies to the parents of minority children. A number of reasons have been proposed. It has been found that African American and Hispanic parents do not involve themselves in public schools to the degree that middle-class White parents do (Ford, 1995; Peterson, 2003). If poor families are focused on basic needs such as keeping the utilities on and providing food for the family, they may not have the flexibility or the ability to be involved in their children's schools to the same degree as more advantaged families (Olszewski-Kubilius & Thomson, 2010). Therefore, it is not surprising that poor Hispanic and African American families typically do not refer their children to the same degree as White parents (Donovan & Cross, 2002; McBee, 2006). Further, other factors that can contribute to minority parents not referring their children to the same degree as middle-class White parents include: unfamiliarity of school procedures regarding gifted identification (Yosso, 2006); language differences

(Fletcher & Massalski, 2003); differing conceptualizations of giftedness that do not necessarily align with schoolhouse notions of giftedness (Peterson, 1999); or parent disengagement due to an apprehension and mistrust of schools (Ogbu & Simons, 1998).

Other scholars suggest that the focus should not be on parents, but rather on schools and the extent to which they welcome minority parents and include them in the instructional decisions of their children (Delpit, 1995; Walker, 2006). School hostility toward minority parents and the view that these parents are 'obstacles to overcome,' due to a preconceived belief that there is parental disinterest, is a reality for many minority families (Walker, 2006). Since "well-connected affluent parents are more often valued" in school settings, it has been suggested that minority parents do not have the same influence or cultural capital to gain access to resources within schools (Walker, 2006, p. 47).

Alternatively, Bernal (2002) asserted that White middle-class parents exert their influence over coveted gifted programs. In order to access better universities, White middle-class parents utilize appeals processes, hire private psychologists to reevaluate their children, and sometimes litigate with school districts in order to ensure their children will be admitted into gifted and talented programs (Bernal, 2002). He argued that their influence on gifted programs demonstrates their desire to "promote the hegemony of their own children in the better school programs" at the expense of equal representation of diverse students in gifted and talented programs (Bernal, 2002, p. 84).

Summary

The underrepresentation of ethnic and racial minorities in gifted education has been the focus of scholarly work for decades (Borland, 2009). The factors that have been suggested to contribute to this problem are complicated and overlapping. These aspects include: conflicting notions of giftedness, poverty, structural concerns in schools, inadequate opportunities for talent development, the achievement gap, referral and screening procedures, and parental factors.

Conceptualizations of giftedness have evolved from the enduring reliance on intelligence testing to well established multidimensional theories of intelligence such as Gardner's Theory of Multiple Intelligences, Gagné's Differentiated Model of Giftedness and Talent, Sternberg's Triarchic Theory of Intelligence, and Renzulli's Three-Ring Conception of Giftedness. However, it remains to be seen whether these conceptions of giftedness have replaced the conventional theory of general intelligence as it relates to gifted identification in schools. Callahan (2005) argues that despite contemporary understandings of giftedness that encompass broad dimensions of intelligence, the adherence to conventional notions suggests that educators are either unaware of multidimensional theories of intelligence or choose to ignore them.

Minorities have a higher risk of living in poverty and attending high-poverty schools. Researchers have related that high-poverty schools are often overcrowded, have a lack of resources, and are frequently staffed with inexperienced teachers (Darling Hammond, 2006; Olszewski-Kubilius & Thomson, 2010). Many of these schools have to contend with struggling students, and as a result, develop curricula and employ teaching strategies to serve "at-risk students." Remedial programs may address the needs of low achieving students, but the needs of high achieving students are often left unmet (Olszewski-Kubilius & Thomson, 2010).

Minority underachievement is well documented and is prevalent throughout all levels of education, from kindergarten to graduate school (Miller, 2004). While socioeconomic status is related to underachievement, research also shows that affluent minorities, on average, do not perform as well on standard measures of achievement as their White and Asian American peers (Miller, 2004).

Though there are theoretical arguments that teachers are biased, the research findings are mixed. Some empirical evidence suggests that teachers consider positive and conventional characteristics of giftedness as the primary indicators for identification (Brighton, et al., 2007; Siegle & Powell, 2004). There is also research which suggests that children's SES and ethnic background may affect the way teachers view their intelligence (Alvidrez & Weinstein, 1999).

CHAPTER THREE

METHODOLOGY

Introduction

In this study, elementary teachers' perceptions about identifying giftedness in students were investigated. The possible relationships that exist between teachers' backgrounds and their perceptions about identifying giftedness were also explored.

The purpose of this survey study was to describe the student characteristics and behaviors that teachers used as indicators of giftedness, and to investigate whether teachers' backgrounds had a relationship with the characteristics teachers used as indicators of giftedness. A secondary purpose was to examine teachers' global beliefs about giftedness, and to investigate whether teachers' backgrounds had a relationship with these beliefs.

This study aimed to address the following research questions:

1. What are the student characteristics that teachers choose as indicators of giftedness?
2. How do teachers' backgrounds relate to the characteristics they use as indicators of giftedness?
3. How do teachers' backgrounds relate to their global beliefs about giftedness?
4. How do the characteristics teachers use as markers of giftedness relate to teachers' global beliefs about giftedness?

Population and Sample

All public school districts in the state of Tennessee were invited to allow their elementary (K-6) teachers to participate in this study. An email invitation was sent to superintendents of 136 school districts. The parameters of the study were open to 6th grade teachers depending on the configuration of grade levels in the elementary school(s) within a specific district. The sample consists of those teachers who volunteered from school districts that permitted participation. The demographic description of the sample is discussed in Chapter Four.

Instrument

Adaptation

The survey used in this study was an 87-item online instrument designed by the researcher that was adapted from scales used in Brighton et al.'s (2007) study, "Primary Grade Teachers' Conceptions of Giftedness and Talent: A Case-based Investigation."

Brighton and her colleagues conducted a two-phase mixed-methods study examining primary grade teachers' conceptions of giftedness and talent. Brighton et al. incorporated a multi-section survey, classroom observations, and lesson plans. The authors were particularly interested in teachers' beliefs about the meaning and manifestations of giftedness in young students and how teachers perceived giftedness as it is distributed across cultural and socioeconomic groups of primary grade students. For the purpose of this discussion, only the survey portion of Brighton et al.'s study will be discussed.

The survey portion of the Brighton et al. (2007) study provided the basis for the development of the current instrument. The Brighton et al. survey consisted of five sections, including: (a) "Conceptions of Giftedness," which examined teachers' beliefs about the meaning and manifestations of giftedness; (b) "Classroom Practices," which evaluated how classroom practices related to talent development; (c) "Gifted Identification," which investigated teachers' ratings of characteristics of giftedness; (d) "Kindergarten Readiness," which consisted of various competencies that teachers evaluated as important for kindergarten preparedness; and (e) "Demographics," which asked basic demographic questions of the respondent.

The Current Study

This study's survey had three sections, including: (1) Gifted Identification, (2) Global Beliefs about Giftedness and, (3) Demographic Information. The entire survey is presented in Appendix A. The first two sections of the survey are adapted from Brighton et al.'s (2007) "Conception of Giftedness" and "Gifted Identification" sections (pp. 196-199, 206-207).

Section 1: Identification of Giftedness

Participants responded to the query, "How likely would you be to identify a student as gifted/talent if the student…" followed by a list of characteristics and behaviors found in gifted education literature that describe giftedness (Brighton, et al., 2007). Respondents were presented with a Likert-type scale that included, "Very likely, Somewhat likely, Neither likely nor unlikely, Somewhat likely, and Very unlikely." For discussion purposes, these characteristics are referred to as conventional and nontraditional. The conventional and nontraditional characteristics were randomly listed.

Student characteristics and behaviors: Conventional. First, the behaviors and characteristics found in Brighton et al.'s (2007) "Gifted Identification" section (pp. 206-207) were included with the exception of items that were specific to primary teachers (e.g., can carry out a multi-step command). These characteristics are generally positive and are traditionally found in the gifted education literature. For the purposes of this discussion, these characteristics are referred to as conventional characteristics of giftedness. Appendix B presents the conventional characteristics and behaviors used from Brighton et al.'s "Gifted Identification" section.

Student characteristics and behaviors: Nontraditional. Second, specific characteristics and behaviors were selected from Brighton et al.'s "Conception of Giftedness" section (pp. 196-198). These characteristics were associated with gifted students but diverge from positive or traditional conceptions. For the purposes of this discussion, these characteristics are referred to as nontraditional characteristics of giftedness.

The nontraditional characteristics were included to investigate how receptive teachers were in evaluating student behaviors and/or characteristics that may diverge from conventional characteristics of giftedness. Appendix C presents a list of the nontraditional characteristics of giftedness considered for the survey.

A literature review was conducted to support the inclusion or exclusion of the nontraditional characteristics in the survey. Those items that were supported in gifted education literature as either characteristics or learning styles of underrepresented ethnic/racial populations (e.g., African American, Hispanic, and American Indian students) were included. Some of the characteristics and/or learning styles of underrepresented groups were found to also relate to other groups (e.g., underachieving gifted students and rural students). Table D presents the

nontraditional characteristics and the literature supporting the association with special populations.

It must be stated that gifted individuals from all backgrounds can demonstrate stereotypical positive behaviors, or characteristics and behaviors which might challenge some teachers (Siegle, Moore, Mann, & Wilson, 2010). In addition, when discussing commonalities within a group, it is important to note that within-group differences exist. The nontraditional characteristics are not meant to describe all individuals who identify with a particular group.

One item, "demands reasons for things" was inadvertently left in the survey despite not being supported in the literature relating to culturally diverse groups. It was later removed due to statistical reasons. Chapter Four discusses items removed for statistical purposes.

Section 2: Global Beliefs about Giftedness

This section was adapted from Brighton et al.'s study and included six statements regarding the potential of giftedness found in various groups in society, the manifestation of giftedness in different groups in society, and giftedness found in boys and girls (Brighton et al., 2007, p. 199). The respondents were asked to indicate their level of agreement on a five-point Likert-type scale that included, "Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, and Strongly Agree."

Section 3: Demographics

The demographic section included questions that explored the teachers' background of origin, perceived similarities between their own experience and their teaching contexts, teaching experience and education, and school characteristics.

Teacher experience, training, and education. Teachers responded to queries that asked about their highest degree earned, years of teaching experience, type of licensure, and preparation, if any, in gifted education. Teachers were also asked about the number of years teaching at their current school and years teaching at their current grade level.

Teachers' socioeconomic status of origin. Education of the teachers' parents served as a rough proxy of participants' SES of origin. The measure of socioeconomic status is a complex sociological matter (Mueller & Parcel, 1981). Sociologists have reported that commonly used measures to assess SES include scales of occupational prestige and education (Mueller & Parcel, 1981; Stricker, 1988). For simplicity sake, the participants were asked about their parental education only. Requesting parental education was to attempt to make a rough measure of matching between teachers' SES of origin and the student population SES in an effort to determine social distance between the teachers and their students.

Perceived similarities to students. Items categorized as perceived similarities included, "Rate the degree in which the elementary school you attended for the majority of your elementary school years is similar to the one you are currently teaching," and "Rate the degree to which the community where you teach is similar to the one in which you grew up." Respondents were presented with a Likert-type scale with the response choices, "Extremely similar," "Somewhat similar," "Not very similar," and "Not at all similar."

These questions were an attempt to capture perceived similarities between a teacher's background of origin and the school/community context in which he or she taught at the time of survey completion. Along with SES of origin, these questions provided another approach to determine social distance between teachers and the students they serve.

School characteristics. Participants answered questions that related to the diversity of their classrooms (which would also serve as a proxy for assessing diversity in the school). To determine diversity, teachers were asked to indicate the number of students they taught who represented specific racial/ethnic groups. Teachers were asked to report the total number of children in their classrooms in order to calculate percentages of students representing various ethnic/racial groups.

Respondents were asked to indicate the percentage of students who qualify for the federal free or reduced-price lunch program (FRPL). The U.S. Department of Education uses the percentage "of students eligible for the free or reduced-priced lunch program as a proxy measure for the concentration of low-income students within a school" (Aud, et al., 2011, p. 86). Public schools are considered high-poverty if more than 75% of the students within a school qualify for the federal FRPL (Aud, et al., 2011). Thus, from the information provided, the concentration of low-income students in participants' schools could be determined.

Teachers were also asked if their school was a Title I school. Schools with a Title I designation are considered high-poverty schools and as such, receive additional funding from the federal government. Thus, Title I information is another proxy measure for school poverty.

In addition, respondents were posed questions regarding the location of their school (i.e., urban, suburban or rural) and the region where they were teaching when the survey was completed (i.e., West, Middle or East Tennessee).

Procedures

The survey was placed online at the University of Tennessee Statistical Consulting Center. A pilot study was completed with twenty-three respondents. The respondents were former or current teachers who were enrolled in graduate level classes in the Theory and Practice in Teacher Education department at the University of Tennessee. The purpose of the pilot study was to determine how long it would take to complete the survey and to refine the survey items. The researcher introduced the pilot study to graduate students and informed them of their anonymity. All students were loaned departmental laptops with the online survey automatically loaded and were given the choice to participate or not. Participants were given the opportunity to write anonymous comments about the items on the survey.

Adjustments were made to the items based on the response rate or comments from the participants of the pilot study. The final version of the survey was then approved by the Institutional Review Board (IRB) at the University of Tennessee.

An email invitation with the URL to the survey was sent to the superintendents of every public school district in the state of Tennessee (n = 136). The superintendents were asked to forward the email to elementary teachers in their district if teacher participation was permitted. Appendix E contains a sample of the letter sent to the school superintendents. Teachers who chose to participate used the link in the invitation email to be directed to the online survey. The survey was available online for three months before data analysis.

The first screen of the survey indicated that the survey was completely anonymous and served as a consent form as it requested their participation. Appendix F includes the text that was presented to the participants which served as the consent form. Teachers were able to

decline participation and could skip questions throughout the survey. Specific school districts were not identified to maintain the anonymity of the respondents.

Following data collection, a factor analysis was conducted. Since there were 56 student characteristics, conducting inferential statistical analyses with each item would be unmanageable. Therefore, a factor analysis was performed to determine if the student characteristics could be categorized into dimensions. This reduced the number of variables by grouping them into the related factors derived by the analysis.

The factor analysis also examined the degree to which a particular item loaded on the resulting dimensions. Items that did not load significantly within a specific range were removed from analysis. In addition, items found to correlate highly with other items were removed from analysis in order to prevent redundancy. Chapter Four discusses this process in detail.

Following the factor analysis, inferential statistics (e.g., Pearson correlation, Spearman correlation, and multiple analysis of variance [MANOVA]) were used to explore the relationships that existed between teachers' backgrounds and their evaluation of characteristics as indicators of giftedness. The relationship between teacher background characteristics and their global beliefs about giftedness were also explored.

CHAPTER FOUR

FINDINGS AND DISCUSSION

Introduction

The purpose of this study was to describe the student characteristics and behaviors that teachers used as indicators of giftedness and whether teachers' backgrounds had any relationship with characteristics teachers used as indicators of giftedness. A secondary purpose was to examine teachers' global beliefs about giftedness and to investigate whether teachers' backgrounds had a relationship with these beliefs.

This study aimed to address the following research questions: What are the student characteristics that teachers use as indicators of giftedness? How do teachers' backgrounds relate to the characteristics they use as indicators of giftedness? How do teachers' backgrounds relate to their global beliefs about giftedness? How do the characteristics that teachers use as markers of giftedness relate to their global beliefs about giftedness?

The survey had three general sections: (1) Gifted Identification; (2) Global Beliefs about Giftedness; and (3) Demographic Information. Gifted Identification included a list of possible indicators of giftedness adapted from Brighton et al. (2007). The list was comprised of conventional indicators of giftedness randomly embedded with nontraditional indicators associated with underrepresented groups. Appendix B presents the conventional indicators. Appendix C presents behaviors and characteristics associated with underrepresented groups. Appendix D presents the behaviors and characteristics associated with underrepresented groups and the supporting academic literature.

Global Beliefs about Giftedness asked respondents to rate their level of agreement with six statements about giftedness as related to socioeconomic status, ethnicity/race, and gender. This section was adapted from Brighton et al. (2007).

The Demographic Information section was comprised of items that asked respondents about their background (e.g., highest degree earned, years teaching experience, school locale, etc.). The background characteristics of teachers used in analysis were derived from this section of the survey. The nine characteristics that are examined for analysis include: (1) highest degree earned; (2) years of teaching experience; (3) gifted education preparation; (4) SES of origin; (5) perceived similarities to students; (6) diversity in teachers' classrooms; (7) school locale; (8) Title 1 school status; and (9) percentage of students eligible for the federal free or reduced-price lunch program.

Organization of Chapter Four

This chapter is organized into six main sections. First, the sample section presents an overview of the participants of the study using descriptive statistics. Data are presented as they relate to the nine characteristics of teachers described in the introduction of this chapter. The middle sections are organized by the four research questions. For each research question, the findings are presented and then followed by a discussion. Tables that present data which are not statistically significant are contained in Appendix J. A summary concludes the chapter.

Sample

A total of 281 elementary teachers participated in the study from various school districts in Tennessee. Almost half of the sample reported that they taught in Middle Tennessee (i.e., 49.8%, *n* = 140) and 49.1% (*n*= 138) reported that they taught in East Tennessee when the survey was completed. Three participants (1.1%) reported teaching in West Tennessee at the time of survey completion.

The majority of the participants were female (i.e., 91.8%, *n* =257) while 8.2% (*n* =23) were male. Teacher ethnicity was reported as follows: 97.2% White (*n* =273), 1.1% (*n* =3) African Americans, 1.1% (*n* =3) Hispanics and 1.1% (*n* =3) American Indians. Respondents were allowed to select more than one ethnicity/race; therefore there might be slight overlap.

Educational background. Of the participants, 37.5% (*n* =105) were the first in their families to attend college while 62.5% (*n* =175) indicated that other family members had attended college before them. The majority of the participants in this study had obtained Master's degrees and above. Table 3 presents the highest level of education earned by participants in the sample.

Table 3

Highest Level of Education Reported by Participants

Highest Degree Earned	*n*	Percent
Bachelor's	91	32.4
Master's	175	62.3
Doctorate	15	5.3

Teaching background. Participants reported teaching an average of 14.46 years (*SD* =10.33). The reported average number of years taught at their schools is 9.86 years (*SD* =8.60). The average number of years participants taught in their reported current grade level is 7.84 years (*SD* =7.64). The percentage of teachers reported working in a single, self-contained class is 62.3% (*n* =175) while 37.7% (*n* =106) report working in classes with students from multiple grade levels. When asked about gifted education preparation, 27.0% (*n* =76) indicated that they had preparation while 73.0% (*n* =205) reported they did not have any training in gifted education.

Socioeconomic background of origin. Participants' parental education was analyzed by using the parent or primary caregiver (either maternal or paternal) with the reported highest degree as a proxy measure of SES. Table 4 shows the percentages and frequency of the highest degree earned by the respondents' primary caregivers.

Table 4

Reported Highest Level of Education of Respondents' Caregivers

Highest Level of Education	*n*	Percent
12th grade or less	29	10.4
High school graduate or equivalent	66	23.6
Some college but no degree	49	17.5
Associate degree	24	8.6
Bachelor's Degree	49	17.5
Master's Degree	44	15.7
Professional School Degree	6	2.1
Doctorate	13	4.6

For analysis purposes, education levels were collapsed into three categories. First, "12th grade or less" and "high school graduate or equivalent" were categorized as "High school diploma or less." Second, "Some college but no degree" and "Associate's degree" were categorized as "Some college." Lastly, all items indicating a Bachelor's degree and higher were categorized as "4 year degree or more." Using the adjusted categories, the frequency of highest degree earned by the respondents' primary caregiver (maternal or paternal) is shown in Table 5.

Table 5

Adjusted Highest Level of Education of Respondents' Caregivers

Highest Level of Education	*n*	Percent
High school diploma or less	95	33.9
Some college	73	26.1
Four year degree or more	112	40.0

Perceived similarity to students. The perceived similarities between the teachers' background of origin and the students were evaluated with two questions. The teachers rated the degree to which the school and community where they taught were similar to their own school and communities of origin when growing up.

Table 6 presents the average rating of the response to the questions, "Rate the degree to which the elementary school you attended for the majority of your elementary school years is

similar to the one you are currently teaching" and "Rate the degree to which the community where you teach is similar to the one in which you grew up." Responses were rated 1 to 4 (i.e., 1 = "Not at all similar," 2 = "Not very similar," 3 = "Somewhat similar" and 4 = "Extremely similar"). The mean for similar school was 2.47 (*SD* = 1.00). The mean for similar community was 2.37 (*SD* = 1.03).

Overall, the results suggest that teachers believed that the similarities between their schools and communities where they grew up were neither very similar nor dissimilar to the teaching settings when they completed the survey.

Table 6

Perceived Similarities to Students

	n	Min	Max	*M*	*SD*
Perceived Similarity of Elementary Schools	281	1	4	2.47	1.00
Perceived Similarity of Communities	280	1	4	2.37	1.03

School locale. The majority of participants reported teaching in rural schools (i.e., 57.7%, *n* = 162). Suburban schools were the second highest indicated school locale (i.e., 27.8%, *n* = 78) followed by urban schools (i.e., 14.6%, n = 41).

Gifted and talented programs. The percentage of teachers who worked in schools with gifted and talented programs was 62.4% (*n* =174), whereas 37.4% (*n* =105) of teachers reported

that their schools did not have a gifted and talented program. The majority of teachers (i.e., 66.5%, *n* =117) reported that they refer children to gifted and talented programs at their schools. About one-third of the teachers (i.e., 33.5%, *n* = 59) indicated that they do not refer children to gifted and talented programs at their schools.

Poverty in schools. About 78% (i.e., 77.5%, *n* = 217) of teachers reported working in Title I schools. Twenty percent (*n* =56) reported that their school was not a Title I school and 2.5% (*n* =7) reported not knowing their school's Title I status.

The majority of participants indicated that they worked in schools where at least half of the student population qualified for the federal free or reduced-price lunch program (i.e., 69.1%, *n* =197). Table 7 summarizes the percentage of students in participant schools qualifying for free or reduced-price lunch.

Table 7

Reported Eligibility for Free or Reduced-Price Lunch Program

Percentage of Students Qualifying for FRPL	*n*	Percent
0-25%	18	6.4
26-50%	50	17.8
51-75%	107	37.1
76-100%	90	32.0
Unsure	16	5.7

Diversity in participants' schools. Teachers indicated the number of students representing various cultural/ethnic groups in their classrooms. Table 8 shows the ethnic/cultural backgrounds of the respondents' classrooms in descending order according to mean representation.

Table 8

Participants' Student Population by Ethnic/Cultural Background

Race/Ethnicity	Mean Percentage	*SD*
White	77.3	25.36
Hispanic/Latino(a)	9.2	14.74
African American	6.3	10.81
Mixed cultural background	4.2	9.47
Other	1.3	9.38
Asian/Pacific Islander	1.2	2.46
American Indian	0.7	5.72

Findings and Discussion: Research Question One

Findings: Research Question One

What are the student characteristics that teachers use as indicators of giftedness?

As discussed in Chapter 3, teachers were presented with a list of student behaviors and characteristics. Respondents were asked to rate them according to the likelihood of identifying a student exhibiting a particular characteristic.

Since there were 56 student characteristics, conducting an inferential statistical analysis on each item would be unmanageable. Therefore, a factor analysis was performed to determine if the student characteristics could be categorized into dimensions. This reduced the number of variables by grouping them into the related factors derived by the analysis.

The factor analysis also examined the degree to which a particular item loaded on the resulting dimensions. Items that did not load within a specific range were removed from analysis. In addition, items found to correlate highly with other items were removed from analysis in order to prevent redundancy. The following section discusses this process in detail.

Factor analysis. An exploratory factor analysis (principal component with varimax rotation) was conducted and a four factor solution was derived. Items were retained if they had a loading over 0.40 and loaded significantly on a single factor.

Additionally, items were then removed if, (a) they had a loading of less than 0.40, (b) they loaded on multiple factors, or (c) if the removal increased the internal reliability (i.e., Cronbach's Alpha) of the factor on which it loaded. As a result, the following items were removed from analysis for low loadings: "Is shy" and "Uses nonstandard English." Two items

were removed for loading on multiple factors (i.e., “Has high interest in a specialty topic” and “Likes to work alone”). Finally, “Has an average achievement or aptitude test score” was removed because its removal increased the reliability of the factor in which it loaded, based on item-scale correlations.

Inter-item correlations were computed for all items loading on the first factor due to the large number of items loading on this factor. To this end, possible redundancies within the factor were examined. According to Bell and McCallum (2008) correlation coefficients that exceed 0.60 are considered large in magnitude. As such, the following two items were removed from analysis: (1) “Creates rhymes to communicate thoughts and feelings (.656) and, (2) “Is bilingual (.656).

A final factor analysis was conducted after the removal of the aforementioned seven items. The new factor solution found two additional items which met the criteria for exclusion. “Demands reasons for things” was removed since it failed to load significantly on any scale. “Likes to work in small groups” was removed because it loaded significantly on multiple factors. Table 9 includes all of the characteristics that were removed from the factors.

Table 9

Characteristics Removed From Factors

	Item Removed	Reason
Preliminary Factor Analysis	Is shy	Loaded less than 0.04
	Uses nonstandard English	Loaded less than 0.04
	Has high interest in specialty topic	Loaded on multiple factors
	Likes to work alone	Loaded on multiple factors
	Has an average achievement or aptitude test score.	Increased the Cronbach's Alpha on Factor 1
Inter-item Correlation	Creates rhymes to communicate thoughts and feelings	Correlation Coefficient was greater than 0.60
	Is bilingual	Correlation Coefficient was greater than 0.60
Final Factor Analysis	Demands reasons for things	Loaded less than 0.04
	Likes to work in small groups	Loaded on multiple factors

After the removal of these characteristics, Factor 1 contained the most items, as 26 characteristics loaded on it. Factor 2 contained 12 items. Factor 3 included five items. Factor 4 included four items.

Factor 1 included items that might commonly be found in textbooks as indicators of giftedness. These characteristics suggest positive classroom behaviors (e.g., "Is self-motivated," "Has a keen sense of humor,' "Uses expressive speech," "Has a high interest in school," etc.). As a result, Factor 1 was referred to as *Textbook Indicators*.

Factor 2 included behaviors that might pose a challenge to a teacher (e.g., "Does not seem interested in school," "Often does not bring in homework," "Gives unexpected, sometimes

'smart-aleck' answers," "Questions rules," and "Is unmotivated," etc.). Factor 2 was categorized as *Nonconforming*.

Factor 3 included characteristics and behaviors that suggest an easy, affable student (e.g., "Behaves well," "Learns easily and quickly," "Is well-liked by classmates," etc.). For discussion, Factor 3 was labeled as *Teacher Pleasing*.

Factor 4 included items that suggest a need for social affiliation and lower verbal ability (i.e., "Prefers not to work independently," "Is a follower," "Has a limited vocabulary," and "Cannot work independently."). For discussion, Factor 4 was identified as *Incongruent*.

The loadings for the final four factors are presented in Table G. Factor 1 (*Textbook Indicators*) accounted for 26.89% of the variance, Factor 2 (*Nonconforming*) accounted for 12.31% of the variance, Factor 3 (*Teacher Pleasing*) accounted for 5.68% of the variance and Factor 4 (*Incongruent*) accounted for 4.59% of the variance. The overall percentage of variance accounted for was 49.46%. The reliabilities (i.e., Cronbach's Alphas) were obtained for all four factors. Table 10 shows the Cronbach's Alpha for each factor.

Table 10

Reliabilities for Each Factor/Dimension

Factor/Dimension	Cronbach's Alpha
Factor 1/Textbook Indicators	.93
Factor 2/Nonconforming	.90
Factor 3/Teacher Pleasing	.75
Factor 4/Incongruent	.67

Description of the factors as dimensions. The *Textbook Indicators* dimension includes characteristics and behaviors that are mostly positive and represent evidence of conventional descriptions of academic giftedness. Two of the characteristics described in Appendix D as relating to underrepresented groups are included in this dimension. These two characteristics are "Transfers learning into other subjects or real life situations" and "Has a high social intelligence." See Appendix D for the list of behaviors associated with underrepresented groups in gifted education literature.

The *Nonconforming* dimension includes characteristics that might pose a challenge to some teachers (e.g., "Questions rules," "Does not seem interested in school," "Misbehaves," etc.). Almost half of the characteristics in this dimension related to underrepresented groups as described in Appendix D.

The *Teacher Pleasing* dimension includes behavior that suggested affable, teaching pleasing characteristics (e.g., "Behaves well in class," "Is well liked by classmates," "Has advanced vocabulary," etc.). No characteristics related to underrepresented groups are included in this dimension.

The *Incongruent* dimension comprises of characteristics that suggest a need for social affiliation and suggest an incongruence between student and classroom vocabulary. The four characteristics in this dimension include: "Has limited vocabulary," "Cannot work independently," "Prefers not to work independently," and "Is a follower." The characteristics also diverge from conventional classroom values such as independence, leadership, individuality, and Standard English. Three of the four characteristics in this dimension are characteristics related to underrepresented groups. See Appendix D for the characteristics that related to

underrepresented groups. A listing of the individual characteristics and behaviors in each dimension are presented in Appendix H.

Mean ratings of the dimensions. Responses were rated 1 to 5 (i.e., 1 = "Very unlikely," 2 = "Somewhat unlikely," 3 = "Neither likely nor unlikely" and 4 = "Somewhat likely," and 5 = "Very likely.") The means for the four dimensions are shown in Table 11.

Table 11

Mean Respondent Ratings of the Four Dimensions

Dimension	*M*	*SD*
Textbook Indicators	3.96	.46
Nonconforming	3.14	.60
Teacher Pleasing	3.80	.53
Incongruent	2.39	.57

The mean ratings for *Textbook Indicators* and *Teacher Pleasing* suggest that teachers would be likely to use the characteristics in these dimensions as indicators of giftedness. It should be noted that the characteristics in the *Textbook Indicators* and *Teacher Pleasing* dimensions are generally positive.

The *Nonconforming* dimension on the other hand, includes characteristics that some teachers might find troublesome. However, the mean score indicates that while these characteristics would not be indicators of giftedness, teachers would not necessarily use them to rule out the possibility for gifted identification either.

Responses for the *Incongruent* dimension suggest that participants were unlikely to identify a student as gifted if he or she had either a limited vocabulary, could not or preferred not to work independently, or was a "follower."

Discussion of Findings: Research Question One

What are the student characteristics that teachers use as indicators of giftedness?

The exploratory factor analysis resulted in the distribution of the student characteristics and behaviors into four dimensions: *Textbook Indicators*, *Nonconforming*, *Teacher Pleasing*, and *Incongruent*. A listing of the individual characteristics and behaviors for each dimension is presented in Appendix H.

Textbook Indicators. Overall, the results of this study were consistent with previous research (Brighton, et al., 2007; Siegle, et al., 2010) which found that teachers were more likely to use textbook-type characteristics of giftedness as indicators for identification. Participants in this study rated the *Textbook Indicators* higher than any other dimension.

This finding does not necessarily have negative implications since the *Textbook Indicators* reflect obvious indications of high ability. However, the finding could have problematic implications if teachers over rely on positive, conventional characteristics of giftedness. Since students exhibit a full range of characteristics and behaviors, teachers need to be aware that *Textbook Indicators* represent a component of giftedness. Teachers should understand how culture influences a child's interaction with school and how this may influence how ability is subsequently exhibited. In this way, having a clear understanding how students'

cultural differences may diverge from conventional characteristics of giftedness may help teachers more effectively evaluate their culturally diverse students for gifted referral.

Teacher Pleasing. The student characteristics that loaded on this dimension can be described as compliant and affable. The *Teacher Pleasing* dimension is very similar to Betts and Neihart's (1988) Type I profile of the successful gifted student. The Type I students were described as complaint and pleasing students who learn well, and adapt their behavior and work to fulfill the high expectations placed on them (Betts & Neihart, 1988).

In this study, the *Teacher Pleasing* dimension was rated the second highest after *Textbook Indicators*. The data are also consistent with research which show that teachers are more likely to refer complaint, pleasing children for gifted programming (Davis, et al., 2011; Kornhaber, 1999; Peterson & Margolin, 1997).

One interpretation is that giftedness is generally considered a positive and desirable construct. It follows that the characteristics that describe it are predominantly positive. The higher ratings for dimensions comprising mostly of positive, desirable classroom behaviors is consistent with Brighton et al.'s (2007) finding that the participants in their study were more likely to use positive behaviors as indicators of giftedness.

The increased likelihood of using positive behaviors can be problematic since student behavior is not confined to positive presentations. Gifted students can be challenging in the classroom, especially when their needs are not being met. In a study that examined the childhood traits of highly eminent adults (Walberg et al., 2004), childhood traits and behaviors included: argumentative, rebellious, brooding, and manipulative. Teachers need to be made aware that students who are gifted (and may very well develop into an eminent adult) may not be the stereotypical bright-eyed, teacher pleasing student.

Nonconforming. The student characteristics and behaviors that loaded on the *Nonconforming* dimension could be described in general as potentially posing a challenge for some teachers. Taken together, these characteristics describe a nonconforming student with potentially unmet needs. Almost half of the items that comprised the *Nonconforming* dimension had been found in the literature as being related to underrepresented groups. These behaviors and characteristics include: "Does not seem interested in school," "Often does not bring in homework," "Is unmotivated," "Has skill deficits in one or more academic areas," and "Misbehaves in school." Appendix H lists the characteristics found in this dimension, and Appendix D presents the relationships between these behaviors and characteristics to underrepresented groups.

The characteristics on the *Nonconforming* dimension are similar to Betts and Neihart's (1988) Type II profile of a challenging gifted student. Type II students were described as challenging authority and not conforming "to the system" (p. 249). A key component to this type of gifted student is the subsequent frustration with the lack of recognition and affirmation of his or her abilities (Betts & Neihart, 1988).

Teachers in this study rated the *Nonconforming* dimension fairly neutrally. That is, teachers were neither likely nor unlikely to use *Nonconforming* characteristics as indicators of giftedness. These findings suggest that teachers are unaware of the multidimensionality of the characteristics of giftedness or more specifically, that nonconforming behaviors can be expressions of giftedness (Davis, et al., 2011). The general neutrality of the responses could be attributed to not being certain how to reconcile these potentially troublesome behaviors with their preconceived positive notions of giftedness. It is promising that teachers in this study did not appraise the items on the *Nonconforming* dimension negatively. However, if teachers had a

greater awareness how nonconforming behaviors can be associated characteristics of giftedness, it is possible that students who are not teacher pleasers might be evaluated differently.

Incongruent. This dimension included four items: "Has a limited vocabulary," "Cannot work alone," "Prefers to work alone," and "Is a follower (seldom takes the lead and usually does what other students are doing)." The last three items suggest a need for social affiliation. These preferences conflict with conventional schoolhouse values of leadership, independence, and individuality. The desire to be with others rather than to stand out is incongruent to mainstream values, but is often found in underrepresented groups. American Indians are an example of a group whose values of community are incongruent with U.S. mainstream values of individuality. This is another example of the importance that teachers not only recognize how culture influences the ways in which students interact in school, but also how their own beliefs influence the way they perceive student behaviors.

"Has a limited vocabulary" is another example how culture impacts the presentation of ability. Students who speak English as their second language or use Nonstandard English might be evaluated as having a limited vocabulary. Davis et al. (2011) presented an example of cultural mismatch between the conventions of gifted characteristics and gifted African American students. Specifically, having a large vocabulary is regarded as a characteristic of giftedness, but this may not be reflected in African Americans in a way preferred by teachers. According to Davis et al., many gifted African American children have "large vocabularies (albeit) inappropriate for the school setting" (p. 335).

The mean rating of the *Incongruent* dimension was 2.39 suggesting that teachers were unlikely to identify a student if he or she had a limited vocabulary, could not or preferred not to work independently, or was a "follower." This finding is consistent with Peterson and

Margolin's (1997) study that examined the language used by teachers nominating students to an *ad hoc* gifted program. Their study showed that verbal ability was mentioned second only to behavior for justifying inclusion.

Although only four behaviors are included in this dimension, the data suggest that vocabulary, independence and leadership are valued domains of giftedness. It is notable that three of the four characteristics in the *Incongruent* dimension are shown in the conceptual literature as relating to underrepresented groups (i.e., "Has a limited vocabulary," "Prefers not to work independently," and "Is a follower – seldom takes the lead and usually does what the other students are doing"). The last two items, in particular, are incompatible with traits of independence and leadership.

Using the items in this dimension as exclusionary characteristics can be problematic in a number of ways. First, high ability English language learners, in particular, may be overlooked for inclusion in gifted programming. Sisk (2003) related that teachers commonly believe that English language learners must be proficient in English before being presented with advanced work. Masten and Plata (2000) found that students who were more acculturated were rated higher in all dimensions of learning than students who were not as acculturated. Verbal ability may not only relate to English Language learners, but also to children who are less likely to communicate in Nonstandard English, or even gifted children who are "high nonverbal or low verbal" (Swanson, 2010). And as such, a limited vocabulary should not necessarily preclude students from gifted referrals.

Incongruent characteristics should not serve as exclusionary items for gifted identification. Teachers should be aware of how culture can influence behavior and academic performance. In general, a strict adherence to only positive, mainstream characteristics or

behaviors puts underachieving and/or culturally diverse students at risk for being overlooked for gifted programming.

Findings and Discussion: Research Question Two

Findings: Research Question Two

How do teachers' backgrounds relate to the characteristics they choose as indicators of giftedness?

The background characteristics of teachers used in the analysis were derived from the Demographics section of the survey. The nine characteristics that were examined include: (1) highest degree earned; (2) years of teaching experience; (3) gifted education preparation; (4) SES of origin; (5) perceived similarities to students; (6) diversity in teachers' classrooms; (7) school locale; (8) Title 1 school status; and (9) percentage of students eligible for the federal free or reduced-price lunch program. A series of multivariate analyses (MANOVAs) and correlation analyses were conducted to determine if teachers' ratings of the indicators of giftedness varied as a function of their background characteristics.

Highest degree earned. A MANOVA was conducted to investigate if the ratings of the dimensions differed by highest degree earned. The results indicate no significant differences [$F(4, 261) = 0.74$, $p = .566$].

Years of teaching experience and characteristics of giftedness. Pearson correlations were conducted to investigate if teaching experience in the classroom was correlated with the ratings of the dimensions. Years of experience positively correlated with *Nonconforming* and

Teacher Pleasing dimensions. The results showed that teachers with more experience would be more likely to use *Nonconforming* ($r = .19$, $p = .001$) and *Teacher Pleasing* ($r = .17$, $p = .005$) characteristics as indicators of giftedness. Table 12 shows the correlational data for years of experience.

Table 12

Correlational Data for Years of Teaching Experience and Characteristics of Giftedness

Dimension	Pearson Correlation	Significance
Textbook Indicators	.11	.057
Nonconforming	.19*	.001*
Teacher Pleasing	.17*	.005*
Incongruent	-.07	.223

Note. *Statistically significant.

Gifted education preparation and characteristics of giftedness. A MANOVA was conducted to investigate if the dimensions differed by gifted education preparation. Results indicated a significant difference [$F(4, 276) = 0.27$, $p = .029$]. Subsequently, individual ANOVAs were performed to determine which dimensions differed, indicating a significant difference on the *Nonconforming* dimension ($p = .012$). That is, teachers with reported gifted preparation were more likely to use items from the *Nonconforming* dimension as indicators of giftedness ($M = 3.28$) than teachers without reported gifted preparation (M = 3.09). There was

virtually no difference between how teachers with or without gifted education training rated *Teacher Pleasing* characteristics. Both groups were likely to use *Teacher Pleasing* characteristics as indicators of giftedness. Accordingly, no statistically significant differences were found between reported gifted education training and ratings of the other dimensions. The means of the dimension ratings as they relate to gifted preparation is included in Table 13.

Table 13

Means for Dimensions by Teacher Gifted Education Preparation

Dimension	Gifted Preparation	No Gifted Preparation	Significance
Textbook	4.00	3.95	.392
Nonconforming	3.28*	3.09*	.012*
Teacher Pleasing	3.83	3.80	.697
Incongruent	2.33	2.41	.275

Note. * Statistically significant.

SES of origin and characteristics of giftedness. A MANOVA was conducted to investigate if the dimensions differed by SES of origin as defined by parental education. The results indicated no significant differences [$F(8, 548) = 1.37$, $p = .207$]. Therefore, teachers' appraisal of characteristics of giftedness did not differ as a function of SES of origin.

Similarity between school and community and indicators of giftedness. Pearson correlations were conducted to investigate whether or not perceptions of similarity between the schools in which the participants grew up and the school in which they taught were correlated

with the characteristics of giftedness. In addition, Pearson correlations were also used to evaluate if perceptions of similarity between the communities in which the respondents grew up and the communities in which they taught were correlated with the characteristics of giftedness.

The data showed no relationship between a teacher's perceptions of similarity of school or community of origin to the school context where they worked at the time of survey completion. Appendix J1 shows correlational data for similarity of school and community.

Diversity in classroom and characteristics of giftedness. Pearson correlations were conducted to investigate whether or not diversity in the classroom was significantly correlated with the characteristics of giftedness. Diversity was significantly negatively correlated with *Textbook Indicators*. That is, in less diverse classrooms, the teacher was more likely to use *Textbook* characteristics as indicators of giftedness ($r = -.17$, $p = .032$). Table 14 shows the correlational data for diversity.

Table 14

Diversity in the Classroom as it Relates to Respondents' Appraisal of Dimensions

Dimension	Pearson Correlation	Significance
Textbook Indicators	-.17*	.032*
Nonconforming	-.07	.414
Teacher Pleasing	-.09	.265
Incongruent	.03	.670

Note: *Statistically significant.

School locale and characteristics of giftedness. A MANOVA was conducted to investigate if the dimensions differed by school locale (i.e., urban, suburban and rural). Results indicated no significant differences [$F(8, 550) = 1.847$, $p = .066$]. Therefore, how teachers rated the characteristics did not differ as a function of school locale.

Title I school status and characteristics of giftedness. A MANOVA was conducted to investigate if the dimensions differed by Title I school status. Results indicated no significant differences [$F(4, 268) = .281$, $p = .890$]. Regardless of Title I status, teachers rated the characteristics similarly.

FRPL and characteristics of giftedness. Spearman correlations were conducted to investigate if the dimensions differed by free or reduced-price lunch eligibility in schools. Correlations between FRPL eligibility and dimension ratings were not significant ($p > .05$). Table J2 presents the correlational data for FRPL eligibility and the dimensions.

Discussion of Findings: Research Question Two

How do teachers' backgrounds relate to the characteristics they use as indicators of giftedness?

A series of MANOVAs and correlational analyses were conducted to investigate the relationship between the dimensions and the background characteristics of teachers (i.e., highest degree earned, years of teaching experience, gifted education preparation, SES of origin, perceived similarities to students, diversity in the classroom, school locale, Title I school status and percentage of students eligible for the FRPL program). No statistically significant relationships were found between the dimensions and the following variables: highest degree

earned, SES of origin, perceived similarity with students, school locale, Title I school status, and FRPL eligibility.

A mean differences comparison (MANOVA) and subsequent ANOVAs indicated teachers who had preparation in gifted education were more likely to endorse characteristics on the *Nonconforming* dimension. Further, correlational analyses indicated teachers with more experience were more likely to endorse both *Nonconforming* and *Teacher Pleasing* indicators and those with more diverse classrooms were less likely to endorse *Textbook Indicators*.

Gifted education preparation. Teachers with reported gifted education preparation were more likely to use items on the *Nonconforming* dimension as indicators of giftedness than teachers without gifted education preparation. This can be considered a positive reflection of the receptiveness those teachers with gifted education training had in using alternative characteristics to recognize giftedness.

Further, there were no significant findings between teachers with or without reported gifted training and their ratings of the *Teacher Pleasing* characteristics. Both groups were likely to use *Teacher Pleasing* characteristics as indicators of giftedness. This finding underscores the power of positive, mainstream characteristics as they relate to identification.

It should be noted that there is likely a degree of variability that exists across subjects as to what constituted "gifted education preparation." Since the survey question simply asked whether the participant had gifted training or not, the respondent could attribute any type of training or instruction as "yes" to this forced-choice item. For example, one participant might have rigorous coursework in gifted education or while another might have attended a short workshop on the subject. In both cases, participants would have been grouped together. There

was no qualifying indicator as to the degree of their preparation in this survey. As a result, data involving this variable should be interpreted with this in mind.

Diversity in the classroom. Diversity in the classroom was related to which characteristics a teacher would likely use as indicators of giftedness. Diversity negatively correlated with *Textbook Indicators* of giftedness. That is, teachers with less diverse classrooms were more likely to use *Textbook Indicators* for identification purposes. Assuming that less diverse classrooms are more likely to share a common culture, it is not unexpected that the teachers in this study were more likely to use conventional indicators of giftedness.

However, it is important that teachers be able to recognize that a gifted child from any background can express a full range of behaviors (e.g., complaint to defiant, from eager and engaged to unmotivated, etc.). Relying solely on conventional indicators of giftedness puts any student who expresses unconventional characteristics of giftedness at risk for being overlooked or excluded from gifted services.

Years of teaching experience. Positive correlations between years of teaching experience and the *Nonconforming* and *Teacher Pleasing* dimensions were also found. The results showed that teachers with more experience were more likely to use *Nonconforming* and *Teacher Pleasing* characteristics as indicators of giftedness. Experience may lend itself to an increased receptiveness of using nonconforming attributes as possible indicators of giftedness. This promising finding suggests that participants with more experience are more likely to use a wider range of characteristics as indicators of giftedness.

Findings and Discussion: Research Question Three

Findings: Research Question Three

How do teachers' backgrounds relate to their global perceptions about giftedness?

The background characteristics of teachers used in the analysis were derived from the Demographics section of the survey. The nine characteristics that were examined include: (1) highest degree earned; (2) years of teaching experience; (3) gifted education preparation; (4) SES of origin; (5) perceived similarities to students; (6) diversity in teachers' classrooms; (7) school locale; (8) Title 1 school status; and (9) percentage of students eligible for the federal FRPL program.

Mean ratings of global beliefs of giftedness. Responses were rated 1 to 5 (i.e., 1 = "Strongly Disagree," 2 = "Disagree" and 3 = "Neither Agree nor Disagree," 4 = "Agree," and 5 = "Strongly Agree."). Overall, the means were slightly above neutral, suggesting that the respondents neither agreed nor disagreed with the statements. The mean ratings for the global beliefs of giftedness are presented in Table 13.

Table 15

Mean Ratings for Global Beliefs of Giftedness

	M	*SD*
The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups.	3.65	1.15
The potential for academic giftedness is present in equal proportions in all socioeconomic groups.	3.40	1.16
Giftedness manifests itself differently in different cultural/racial/ethnic groups.	3.66	.94
Giftedness manifests itself differently in different socioeconomic groups.	3.63	.90
Boys are more likely than girls to show their giftedness through activities that tap spatial ability.	3.34	.80
Girls are more likely to show their giftedness through activities that tap their verbal ability.	3.37	.78

Highest degree earned. A MANOVA was conducted to investigate if global beliefs of giftedness differed by highest degree earned. The results indicated no significant differences [$F(6, 259) = 1.146$, $p = .336$].

Global beliefs and years of teaching experience. Pearson correlations were conducted to investigate whether years of teaching experience was correlated with the global beliefs of giftedness. The data showed no relationship ($p > .05$) between a global beliefs and years of teaching experience. Table J3 contains the correlational data for global beliefs and years of teaching experience.

Gifted education preparation and global beliefs. A MANOVA was conducted to evaluate if global beliefs of giftedness differed by gifted education preparation. The results indicated no significant differences [$F(6, 274) = .914$, $p = .485$].

Global beliefs and SES of origin. A MANOVA was conducted to determine if global beliefs about giftedness differed by SES of origin (as defined by highest level parental education). The results indicated no significant differences [$F(12, 544) = .994$, $p = .453$].

Global beliefs and similarity of schools. Pearson correlations were used to examine if perceived similarity between participants' childhood elementary school and the school where they work was correlated with the global beliefs of giftedness. The data showed no relationship ($p > .05$) between a global beliefs and perceived similarity of schools. Table J4 contains the correlational data for global beliefs and perceived similarity to schools.

Global beliefs and similarity of communities. Pearson correlations were also conducted to determine whether perceived similarity between participants' childhood community and the community where they work was correlated with the global beliefs of giftedness. The data showed no relationship ($p > .05$) between a global beliefs and perceived similarity of communities. Table J5 presents the correlational data for global beliefs and perceived similarity of communities.

Global beliefs and diversity. Pearson correlations were conducted to examine whether diversity in the classroom correlated with the global beliefs of giftedness. The data showed no relationship ($p > .05$) between a global beliefs and diversity of classrooms. Table J6 includes the correlational data for global beliefs and diversity.

School locale and global beliefs. A MANOVA was conducted to determine if global beliefs about giftedness differed by school locale. The results indicated no significant differences [$F(12, 546) = .912$, $p = .534$].

Title I school status and global beliefs. A MANOVA was conducted to investigate if global beliefs of giftedness differed by Title I status of school. The data indicated no significant differences [$F(6, 266) = 2.035$, $p = .061$].

Free or reduced-priced lunch and global beliefs. The U.S. Department of Education uses the percentage "of students eligible for the FRPL program as a proxy measure for the concentration of low-income students within a school" (Aud, et al., 2011, p. 86). Public schools are considered high-poverty if more than 75% of the students within a school qualify for the federal FRPL program (Aud, et al., 2011).

Spearman correlations were conducted to investigate whether or not there was a relationship between teachers who taught in lower SES schools (as defined by participation in the FRPL program) and global beliefs about giftedness. The percentage of students qualifying for FRPL positively correlated with "Giftedness manifests itself differently in different socioeconomic groups." That is, a higher percentage of students qualifying for FRPL was related to a higher agreement with the statement that giftedness manifests itself differently in different socioeconomic groups ($r = .126$, $p = .040$). Correlation data for percentage of students qualifying for FRPL and global beliefs are shown in Table 16.

Table 16

Correlational Data for Global Beliefs and Free or Reduced-Price Lunch

	Spearman Correlation	Significance
The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups.	-.02	.746
The potential for academic giftedness is present in equal proportions in all socioeconomic groups.	.02	.730
Giftedness manifests itself differently in different cultural/racial/ethnic groups.	.08	.178
Giftedness manifests itself differently in different socioeconomic groups.	.13*	.040*
Boys are more likely than girls to show their giftedness through activities that tap spatial ability.	-.03	.622
Girls are more likely to show their giftedness through activities that tap their verbal ability.	-.08	.179

Note. * Statistically significant.

Discussion of Findings: Research Question Three

How do teachers' backgrounds relate to their global beliefs about giftedness?

Overall, the global belief means were slightly above neutral. This suggests that the respondents neither agreed nor disagreed with each statement concerning giftedness as it related to SES, ethnicity/race and gender. The overall neutrality of the responses can be interpreted in a number of ways. First, in their desire to appear nonjudgmental, teachers may have rated these statements more neutrally than what they truly believe (i.e., teachers rated based on social desirability). Another interpretation is that, in general, the participants were unfamiliar with the impact of culture and SES on the manifestations of giftedness. It is also possible that teachers in this study maintained a "color-blind" perspective when evaluating the statements concerning ethnic/racial differences regarding the manifestations of giftedness. A color-blind perspective would discount differences between groups of people due to ethnicity/race.

Two statements deserve particular attention: (1) "The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups" and (2) "The potential for academic giftedness is present in equal proportions in all socioeconomic groups." The teachers in this study rated these statements slightly above neutral (see Table 15 for mean ratings). These responses differ from Brighton et al.'s (2007) study in that 27% of their teachers disagreed with the global belief statement concerning statement, "The potential for academic giftedness is present in equal proportions in all socioeconomic groups." While at first glance it may seem to be promising that teachers in this study did not disagree with the statement concerning SES, teachers did not agree with it either. This neutrality may suggest that teachers are not convinced

that the potential for giftedness is found in equal proportions across different SES or ethnic/racial groups.

Inferential statistics were conducted to investigate the relationships between participants' global beliefs about giftedness and various aspects of their backgrounds. The only significant finding was the relationship between the statement, "Giftedness manifests itself differently in different socioeconomic groups" and FRPL eligibility. The reported percentage of students participating in the federal FRPL program was positively correlated with the statement concerning the manifestations of giftedness in different SES groups. That is, a higher percentage of students eligible for FRPL was related to a higher level of agreement with the statement that giftedness manifests itself differently in different socioeconomic groups.

This finding suggests that teachers serving poor children are likely to recognize the impact poverty may have on the manifestation of giftedness. It is curious how FRPL eligibility had no effect on the characteristic dimensions. It is possible that teachers serving economically disadvantaged children might agree that the presentation of giftedness may be different in different SES groups, but when identifying giftedness, these teachers still used conventional characteristics.

Findings and Discussion: Research Question Four

Findings: Research Question Four

How do the characteristics teachers use as markers of giftedness relate to their global beliefs about giftedness?

Global beliefs and dimensions. Pearson correlations were conducted to investigate the possible relationships between ratings of global beliefs and appraisal of characteristics of giftedness. Two items on the global belief section were positively correlated with two factors. Specifically, "Boys are more likely to show their giftedness through activities that tap spatial ability" was positively correlated with both the *Nonconforming* dimension (r= .141, p = .018), and to a lesser degree, the *Teacher Pleasing* dimension (r = .135, p = .024). "Girls are more likely to show their giftedness through activities that tap verbal ability" was positively correlated only to the *Teacher Pleasing* dimension (r = .128, p = .032). Appendix K presents the correlational data for global beliefs and the gifted characteristics dimensions.

Discussion of Findings: Research Question Four

How do the characteristics teachers use as markers of giftedness relate to their global beliefs about giftedness?

Two items in the global belief section were positively correlated with two dimensions. First, "Boys are more likely to show their giftedness through activities that tap spatial ability" was positively correlated with the *Nonconforming* dimension. This finding may be due to teachers' tendency to giving boys a wider berth in their behavioral expectations. That is, it may be that teachers allow more freedom in boys' behavior than that they do for girls (Davis, et al., 2011). To a lesser degree, this statement was also correlated with the *Teacher Pleasing* dimension. This finding may suggest that teachers who believe in gender stereotypes might be more inclined to use stereotypical teacher pleasing attributes as indicators of giftedness.

Second, "Girls are more likely to show their giftedness through activities that tap verbal ability" was positively correlated with the *Teacher Pleasing* dimension. Again, a speculative interpretation is that teachers who maintain gender stereotypes concerning girls' ability are more likely to rely on stereotypical, teacher pleasing attributes for gifted identification. This finding raises the question whether or not teachers conceptualize girls' classroom behavior within positive, pleasing confines. It begs the question what the impact would be on the likelihood of identification of girls presenting nonconforming behaviors.

Maintaining gender stereotypes can potentially limit the educational opportunities for students, especially those whose talents depart from these stereotypes. Those who show talent in areas outside their stereotypical domain could be underestimated and/or unnoticed by teachers who maintain gender stereotypes.

Summary

The purpose of this study was to describe the student characteristics and behaviors that teachers used as indicators of giftedness and to examine whether or not teachers' backgrounds had a relationship with the indicators of giftedness. A secondary purpose was to examine teachers' global beliefs about giftedness and to investigate whether teachers' backgrounds had any relationship with these beliefs.

This survey study aimed to address the following research questions: What are the student characteristics that teachers use as indicators of giftedness? How do teachers' backgrounds relate to the characteristics they use as indicators of giftedness? How do teachers' backgrounds relate to their global beliefs about giftedness? How do the characteristics teachers use as markers of giftedness relate to their global beliefs about giftedness?

A total of 281 elementary teachers participated in the study from various school districts in Tennessee. Participants reported teaching an average of 14.5 years. Only 27% percent of the respondents indicated that they had gifted education training. The majority of participants reported teaching in rural schools. Suburban schools were the second highest reported locale followed by urban schools. About 78% of teachers reported working in Title I schools.

The reported student population was predominately White (77.3%). The remaining student population was comprised of 9.2% Hispanic, 6.3% African American, 4.2% mixed cultural background, 1.2% Asian and 0.7% American Indian.

Teachers rated student characteristics and behaviors according to the likelihood that they would identify a student as gifted if that student exhibited a particular characteristic. The characteristics were composed of *Textbook Indicators*, *Teacher Pleasing* characteristics,

Nonconforming characteristics and *Incongruent* characteristics. Teachers were more likely to use *Textbook Indicators* and *Teacher Pleasing* characteristics as indicators of giftedness. They rated the *Nonconforming* characteristics fairly neutrally. *Incongruent* characteristics were used by teachers as exclusionary items for gifted identification.

Years of experience was positively correlated with *Nonconforming* and *Teacher Pleasing* dimensions. Experience may lend itself to the likelihood of using the traditional characteristics in the *Teacher Pleasing* dimension as well as being receptive to using *Nonconforming* attributes as possible indicators of giftedness.

Findings showed that teachers with gifted education preparation were more likely to endorse characteristics on the *Nonconforming* dimension than teachers without gifted education preparation. This can be considered a positive reflection of the receptiveness those teachers with gifted training had in recognizing alternative characteristics as indicators of giftedness.

Diversity in the classroom was negatively correlated with *Textbook Indicators*. That is, teachers with less diverse classrooms were more likely to use *Textbook Indicators* of giftedness for identification purposes. Assuming that less diverse classrooms are more likely to share a common culture, it is not unexpected that the teachers in this study were more likely to use conventional indicators of giftedness. However, it is important that all teachers be able to recognize that a gifted child from any background can express a full range of behaviors from compliant to defiant, from eager and engaged to unmotivated.

Global beliefs about giftedness were also examined. Teachers responded neutrally to the six statements about how giftedness relates to socioeconomic status, ethnicity/race, and gender. When respondents' ratings of the global beliefs about giftedness were correlated with characteristics of the respondents' background, the only significant finding was the relationship

between teachers who taught in lower SES schools (as defined by participation in the FRPL program) and the statement, "Giftedness manifests itself differently in different socioeconomic groups." This finding suggests that teachers serving poor children are likely to recognize the impact poverty may have on manifestation of giftedness.

Correlations were conducted to investigate the possible relationships between ratings of global beliefs and appraisals of characteristics of giftedness. Two significant relationships were identified. First, "Boys are more likely to show their giftedness through activities that tap spatial ability" positively correlated with the *Nonconforming* dimension. This finding may be due to teachers' greater tolerance for boys nonconforming behavior. This statement also correlated to a lesser degree with the *Teacher Pleasing* dimension. Teachers who believe in gender stereotypes may be more inclined to use stereotypical teacher pleasing attributes as indicators of giftedness.

Secondly, the statement that "Girls are more likely to show their giftedness through activities that tap verbal ability" positively correlated with the *Teacher Pleasing* dimension. A speculative interpretation would be that teachers who maintain gender stereotypes concerning girls' ability are more likely to rely on stereotypical, teacher pleasing attributes for gifted identification. Maintaining gender stereotypes can potentially limit the educational opportunities for students, especially those whose talents depart from these stereotypes.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

This chapter presents an overview of the study and the conclusions drawn from the findings presented in Chapter Four. A discussion of the recommendations for practice and further research is also provided.

Overview of the Study

The underrepresentation of ethnic and racial minorities in gifted education has been the focus of scholarly work for decades (Borland, 2009). The factors that have been suggested to contribute to this problem are complicated and overlapping.

Conceptualizations of giftedness have evolved from the theory of general intelligence to well established multidimensional theories of giftedness and intelligence. However, it remains to be seen whether broad conceptions of giftedness have replaced the conventional theory of general intelligence as it relates to gifted identification in schools. Callahan (2005) argued that despite contemporary understandings of giftedness that encompass broad dimensions of intelligence, the adherence to conventional notions suggests that educators are either unaware of multidimensional theories of intelligence or choose to ignore them.

Minorities have a higher risk of living in poverty and attending high-poverty schools than do White students. Researchers have related that high-poverty schools are often overcrowded, lack resources, and are frequently staffed with inexperienced teachers (Darling Hammond, 2006; Olszewski-Kubilius & Thomson, 2010). Many high-poverty schools have to contend with

struggling students, and as a result, develop curricula and employ teaching strategies to serve "at-risk students." Remedial programs may address the needs of low achieving students, but the needs of high achieving students are often left unmet and their potential undeveloped (Olszewski-Kubilius & Thomson, 2010).

Minority underachievement is well documented and is prevalent at all levels of education, from kindergarten to graduate school (Miller, 2004). While low socioeconomic status is related to underachievement, research also shows that affluent minorities, on average, do not perform on standard measures of achievement as well as their White and Asian American peers (Miller, 2004).

Though there are theoretical arguments that teachers are biased, the research findings are mixed. Some empirical evidence suggests that teachers consider positive and conventional characteristics of giftedness as the primary indicators for identification (Brighton, et al., 2007; Siegle & Powell, 2004). Data also suggest that children's SES and ethnic background may affect the way teachers view their intelligence (Alvidrez & Weinstein, 1999).

The purpose of this survey study was to describe the student characteristics and behaviors that teachers used as indicators of giftedness, and to investigate whether teachers' backgrounds had a relationship with the characteristics they used. A secondary purpose was to examine teachers' global beliefs about giftedness, and to investigate whether teachers' backgrounds had a relationship with these beliefs.

This study aimed to address the following research questions: What are the student characteristics that teachers use as indicators of giftedness? How do teachers' backgrounds relate to the characteristics they use as indicators of giftedness? How do teachers' backgrounds relate to their global beliefs about giftedness? How do the characteristics teachers use as markers of giftedness relate to teachers' global beliefs about giftedness?

The survey had three general sections: (1) Gifted Identification; (2) Global Beliefs about Giftedness; and (3) Demographics.

The Gifted Identification section included a list of possible indicators of giftedness adapted from Brighton et al. (2007). The list included conventional indicators of giftedness embedded with characteristics and behaviors associated with underrepresented groups. Respondents were asked to rate how likely they would be to identify a student as gifted if the student expressed the specific characteristics or behavior listed.

The Global Beliefs about Giftedness section was also adapted from Brighton, et al. (2007). In this section, respondents rated their level of agreement with six statements about giftedness as related to socioeconomic status, ethnicity/race, and gender.

The Demographics section was comprised of items that asked respondents about their background. Nine teacher characteristics were derived from this section of the survey and were examined for analysis. These characteristics included: (1) highest degree earned; (2) years of teaching experience; (3) gifted education preparation; (4) SES of origin; (5) perceived similarities to students; (6) diversity in teachers' classrooms; (7) school locale; (8) Title 1 school status and; (9) percentage of students eligible for the federal free or reduced-price lunch program.

The survey was placed online and an email invitation with the URL to the survey was sent to the superintendent of every public school district in the state of Tennessee. The superintendents were asked to forward the email to elementary teachers in their district if teacher participation was permitted.

A total of 281 elementary teachers from Tennessee participated in this survey study. The respondents were predominately White and female. Participants reported teaching an average of 14.5 years. Twenty-seven percent of the respondents indicated that they had gifted education training while 73.0% indicated they did not have preparation in gifted education.

The majority of participants reported teaching in rural schools. Suburban schools were the second highest indicated school locale followed by urban schools. About 78% of teachers reported working in Title I schools.

The total reported student population was 77.3% White, 9.2% Hispanic, 6.3% African American, 4.2% mixed cultural background, 1.2% Asian and 0.7% American Indian. About 1% of the student population was classified as "other" by the respondents.

An exploratory factor analysis was conducted to determine if the survey characteristics of giftedness represented specific dimensions. A four factor solution was derived. Factor one, *Textbook Indicators,* contained items that are commonly found in textbooks as characteristics of giftedness. Factor two, *Nonconforming*, was comprised of characteristics that might pose a challenge to some teachers (e.g., is unmotivated, often does not bring in homework, does not seem interested in school, etc.). Factor three, *Teacher Pleasing*, was comprised of affable, easy student behaviors. Factor four, *Incongruent*, included characteristics that are indicative of language differences and a need for social affiliation.

Findings showed that teachers were more likely to use *Textbook Indicators* and *Teacher Pleasing* characteristics as indicators of giftedness. Participants rated the *Nonconforming* characteristics fairly neutrally. *Incongruent* characteristics were used by teachers as exclusionary items for gifted identification. These findings are consistent with Brighton et al. (2007) who found in their study that teachers used mostly positive, conventional characteristics as indictors of giftedness.

The possible relationship between the characteristic dimensions (factors) and teacher background characteristics was explored. Years of experience positively correlated with the *Nonconforming* and *Teacher Pleasing* dimensions. Experience may lend itself to the increased receptiveness of using nonconforming attributes as possible indicators of giftedness.

Teachers with gifted education preparation were more likely to use characteristics on the *Nonconforming* dimension than teachers without gifted education training. This can be considered an encouraging reflection of the awareness those teachers with gifted education training had in recognizing alternative characteristics as indicators of giftedness.

Diversity in the classroom was negatively correlated with *Textbook Indicators*. Specifically, teachers with less diverse classrooms were more likely to use *Textbook Indicators* of giftedness for identification purposes. Assuming that less diverse classrooms are more likely to share a common culture, it is not unexpected that the teachers surveyed were more likely to use conventional indicators. However, it is important that all teachers be able to recognize that a gifted child from any background can express a full range of behaviors, from positive to challenging. Relying solely on conventional indicators of giftedness puts any student who expresses alternative characteristics of giftedness at risk for being overlooked for gifted services.

Global beliefs about giftedness were also examined. Respondents rated their level of agreement with six statements about giftedness as related to socioeconomic status, ethnicity/race, and gender. Overall, the teachers rated the statements slightly above neutral (i.e., they neither agreed nor disagreed). Possible relationships between teachers' global beliefs about giftedness and teacher background characteristics were explored. The only significant finding was in the relationship between teachers who taught in lower SES schools (as defined by participation in the FRPL program) and the statement, "Giftedness manifests itself differently in different socioeconomic groups." This finding suggests that teachers serving poor children are more likely to recognize the impact poverty may have on the manifestation of giftedness than teachers serving more affluent student populations.

The relationships between ratings of global beliefs and appraisal of characteristics of giftedness were evaluated. Two items in the Global Belief section were positively correlated with two dimensions. First, the statement, "Boys are more likely to show their giftedness through activities that tap spatial ability" was positively correlated with the *Nonconforming* dimension. This finding may be explained by teachers' greater tolerance of nonconforming behavior in boys (Davis, et al., 2011). This statement also correlated with the *Teacher Pleasing* dimension, but to a lesser degree. This finding may suggest that teachers who believe in gender stereotypes may be more inclined to use stereotypical teacher pleasing attributes as indicators of giftedness.

Secondly, "Girls are more likely to show their giftedness through activities that tap verbal ability" was positively correlated with the *Teacher Pleasing* dimension. A speculative interpretation may suggest that teachers who maintain gender stereotypes concerning girls' ability are more likely to rely on stereotypical, teacher pleasing attributes for gifted

identification. Maintaining gender stereotypes can potentially limit the educational opportunities for students, especially those whose talents depart from these stereotypes.

Conclusion One

Teachers rely on positive, conventional, teacher pleasing characteristics as indicators of giftedness irrespective of gifted education training or years of experience.

Overall, the teachers in this study rated the attributes and behaviors in the *Textbook Indicator* dimension the highest as indicators of giftedness. Using conventional, textbook characteristics is not necessarily a negative practice since these characteristics suggest high ability. However, an overreliance on positive, textbook indicators is indeed problematic if they are used exclusively or to the extent that alternative characteristics are dismissed or overlooked. This could limit the educational opportunities and subsequent talent development of some students. Teachers need to have a firm understanding that giftedness can be expressed in ways that might be inconsistent with positive, textbook indicators.

The *Teacher Pleasing* dimension was the second highest rated dimension in the study. Years of teaching experience positively correlated with the *Teacher Pleasing* dimension. That is, the more experienced teachers were more likely to rate teacher pleasing characteristics higher than teachers with less experience. Years of teaching experience was also positively correlated with the *Nonconforming* dimension. It is possible that experience contributes to the likelihood of using both traditional and nontraditional characteristics of giftedness.

In contrast, classroom diversity was negatively correlated with textbook characteristics. That is, teachers who had more diverse classrooms were less likely to use textbook

characteristics as indicators of giftedness. Exposure to diversity might be related to the receptiveness in considering other attributes as evidence of giftedness. As such, working with diverse students may give teachers direct experience in the different manifestations of student academic strengths. Perhaps it is with this experience that teachers recognize that traditional conceptions of giftedness may not be the primary indicators of giftedness in all students. This is an important finding considering that the teachers in this study were 97% White.

This finding also gives pause for thought about the reverse. That is, teachers with less diverse classrooms rate *Textbook Indicators* to a greater degree than teachers with more diverse classrooms. Teachers need to be aware that when making referrals for gifted identification, all gifted children can exhibit a full range of behaviors and attributes. Nonconforming behaviors, as an example, are not limited to culturally diverse groups. All educators would benefit from professional development in gifted education that includes training in the wide spectrum of characteristics that indicate giftedness.

Combined together, *Teacher Pleasing* and *Textbook Indicators* comprise all of the traditionally held positive characteristics in the study and are the highest rated indicators of giftedness. Since students are multidimensional, their expressions of talent or classroom behaviors represent a full range of characteristics, both positive and challenging. Teachers need to have a firm understanding that giftedness can be expressed in ways that might diverge from positive, textbook indicators. An overreliance on positive, conventional characteristics of giftedness may limit the educational opportunities and talent development of students who express their giftedness in nontraditional ways.

Conclusion Two

Teachers need to increase their understanding of more complex characteristics of giftedness.

Overall, educators in this study rated nonconforming characteristics neutrally as indicators of giftedness. That is, teachers were neither likely nor unlikely to use the characteristics on the *Nonconforming* dimension as indicators of giftedness. The overall neutrality of ratings on the *Nonconforming* dimension is indicative of the need for teachers to know more about the importance of these nonconforming characteristics of giftedness.

Nonconforming behavior can be associated with giftedness, but can also be an artifact of an unmet need or an associated characteristic of a gifted child belonging to a special population. Teachers should be aware that the presentation may be challenging, but the basis of the behavior can be complex. For instance, gifted children often have uneven academic development and might be missing skills in some areas (Diaz, 2004). This is especially true for children who have had lapses in school attendance, transferred in and out of multiple schools, or attended low quality schools. Gifted underachievers can be unmotivated, disengaged, and even defiant in the classroom (Davis, et al., 2011). Gifted English language learners likely have a limited English vocabulary and may maintain a reticent posture in class as they acquire English. Teachers can mistake this "silent period" in second language acquisition as disengagement. Also, gifted culturally diverse students may exhibit a negative attitude toward school and academic achievement as a way to maintain their group identity (Ogbu & Simons, 1998). Similarly, some children will purposely hide their talents for fear of harassment by their peers (Olszewski-Kubilius & Thomson, 2010). This is especially pertinent for gifted culturally diverse students where conformity to peers can have more serious consequences than for middle-class White

students. Peer conformity for some culturally diverse students in high crime areas can mean survival.

Teachers were likely to use characteristics in the *Incongruent* dimension to exclude students from gifted identification. Characteristics in this dimension were incompatible with traditionally valued traits such as leadership, independence and high verbal ability. This can be problematic for gifted students from cultures that value social affiliation and collectiveness. For example, American Indian and Hispanic students generally place a higher value on belonging to a group over individuality and cooperation is valued over competition (Beljan, 2011).

Further, research shows that there is a general belief among teachers that gifted students have a high verbal ability, but gifted students can, indeed, have lower verbal ability (Swanson, 2010). From a cultural standpoint, having a limited vocabulary can be related to a limited proficiency in English or the use of Nonstandard English. From a general perspective, gifted students with lower verbal ability show strengths in nonverbal domains. For instance, Swanson (2010) found that gifted children who were "high nonverbal or low verbal learners often have domain-specific talent (in) math, science, and/or spatial abilities" (p. 157). An adherence to conventional schoolhouse values as they relate to characteristics of giftedness would very likely preclude many talented students from all backgrounds from gifted programming if their associated characteristics were used to exclude them.

Overall, teachers rated the global belief statements neutrally in that they neither agreed nor disagreed with statements about giftedness as related to socioeconomic status and ethnicity/race. The data in the current study suggest that teachers do not realize that giftedness can manifest itself differently in different culturally diverse populations. It is possible that in an attempt to be fair and nonjudgmental, White teachers try to maintain a color-blind perspective

(i.e., race/ethnicity is irrelevant). By maintaining this color-blind perspective, the influence of culture is deemphasized. While uncomfortable conversations about race and culture might be avoided, teachers need to be able to discuss and recognize differences in order to effectively serve their students. Professional development regarding culturally competent teaching may help teachers develop their skills and knowledge about culturally diverse students.

Conclusion Three

Teachers with more years of experience use a broader range of characteristics as indicators of giftedness.

Years of experience was positively correlated with the *Nonconforming* dimension. That is, the more experience a teacher had, the more likely he or she was to select nonconforming characteristics as indicators of giftedness. Years of experience also positively correlated with the *Teacher Pleasing* dimension. The more experience a teacher had, the more likely he or she was to use teacher pleasing characteristics as indicators of giftedness. Thus, years of teaching experience may contribute to the use of a more expansive range of characteristics and behaviors in identifying giftedness in students.

It is promising that experienced teachers in this study used a broad repertoire of student characteristics and behaviors for gifted identification. It is possible that with experience, the presentation of a wide range of student characteristics and behaviors occurs. Over time, teachers may have the opportunity to gain the experience to be able to recognize the complexity behind student behavior, rather than interpreting it at face value only. For instance, it is likely that experienced teachers are able to recognize that nonconforming behavior may be associated with

giftedness or an unmet need. The use of a wider range of student characteristics as indictors of giftedness is encouraging since it is likely that fewer students who might pose a challenge to teachers will be overlooked for gifted education placement.

Conclusion Four

Teachers with gifted education preparation use a wider variety of characteristics to identify giftedness in students.

Teachers with gifted education preparation were more likely to use nonconforming characteristics than teachers without gifted education preparation. It is encouraging that teachers with gifted education preparation did not rely solely on conventional characteristics of giftedness. Training may be an important component for learning how to recognize the relevance of nonconforming characteristics in order to accurately assess a student's academic needs.

This finding underscores the importance of gifted education training in promoting more inclusive referrals. This is particularly significant since teacher training in gifted education is a topic of concern in the field of gifted education (NAGC, 2011). Teachers should have access to ongoing professional development in gifted education to serve all high ability students, especially those children from underrepresented populations (including, but not exclusive to culturally/linguistically diverse students).

Recommendations for Practice

Most gifted students are served by teachers who have had little to no training in gifted education (Clarenbach, 2007; Ford, Grantham & Milner, 2004; Ford, Grantham & Whiting, 2008). Despite the need for well trained teachers, there are insufficient opportunities for gifted education coursework in teacher training programs. Ford, Grantham and Whiting (2008) reported that only 3% of colleges and universities offer coursework in gifted education. The National Association for Gifted Children reported that 36 states do not require general education classroom teachers to have any training related to gifted education "at any point in their careers" (NAGC, 2011, p. 2). In the current study, only 27% of the respondents reported having some form of gifted education training.

Compounding the problem are educators who are not prepared to work with culturally diverse students (Elhoweris, 2008; Ford & Grantham, 2003; Ford, et al., 2008). Professional development opportunities that help to improve teachers' cultural competence would be an important process to address issues in diverse student populations (Nieto, 2002). In order to meet the needs of gifted and talented students from all backgrounds, teachers would benefit from further training in both gifted education and culturally responsive teaching.

Professional Development in Gifted Education as it Relates to Gifted Identification

Teachers need to have a foundational knowledge of gifted education in order to progress past intuitively developed theories of giftedness and intelligence. Teachers should have an understanding of the various theories of intelligence (both conventional and multidimensional) and various identification methods. All teachers should have an opportunity to engage in

training that focuses on the cognitive, social, and emotional characteristics found in gifted children and how these characteristics may be similar or dissimilar in children from special populations (e.g., culturally/linguistically diverse, poor, rural, twice exceptional, and underachieving, etc.) (NAGC, 1994). With this background, teachers might make more inclusive referrals by recognizing a wider range of behaviors and characteristics associated with giftedness. Teachers should also be trained in the topics involving special populations in gifted education related to inclusion, access and equity. Professional development can include school or district training or opportunities to attend professional conferences so that teachers can learn from each other and experts in the field. Mentorship or collaborative relationships with colleagues might facilitate the application of inservice training.

Professional Development in Cultural Competency

Professional development opportunities in enhancing cultural competence would benefit all teachers, especially regarding gifted education. Teachers should know how culture and socioeconomic status may affect demonstrations of learning. This is particularly important given the undeniable demographic shift in our public schools. Teachers should be aware of and able to respond effectively to the increasing student diversity.

Inservice training should provide opportunities for educators to explore their own culture and how it shapes their assumptions in their teaching and in their relationships with students. Related more specifically to gifted education, teachers need to know how culture plays a part in how the manifestations of giftedness are conceptualized. A goal for this type of professional development should be for teachers to recognize how culture not only impacts student behavior, but also the way in which culture shapes teachers' interpretations of student behavior. Teachers

should have the opportunity to explore the cultural characteristics of the children they serve without operating from a deficit perspective (e.g., seeing differences as evidence of inferiority). Educators need to know that cultural competency is an ongoing process that does not culminate in one workshop or class, but rather is dependent on taking the initiative to become familiar with the cultural context of the children they teach.

Recommendations for Future Research

There are four recommendations for future research: (1) Develop socioeconomic status as a research variable; (2) Study a more diverse target population; (3) Consider teacher interviews; and (4) Develop checklists that include a wider range of characteristics. A discussion of this study's sample as it relates to the national sample of elementary teachers is included in the recommendation for studying a more diverse target population.

Develop Socioeconomic Status as a Research Variable

It was notable that teacher SES of origin had no significant effect on either teachers' identification of giftedness or their global beliefs. These findings might be due to the measurement of SES of origin used in this study. Since SES of origin was narrowly defined by parental education only, future research might utilize a more extensive measure of SES before ruling out the effects of this variable.

Study a More Diverse Population

An additional recommendation for future research would be to include a more diverse sample of educators from other parts of the U.S. This study's sample was limited to predominately White elementary school teachers from East and Middle Tennessee. The next section summarizes this study's sample compared to the national sample.

The sample in perspective. The educators in this study were predominately White and female (97.2% and 91.8%, respectively). To offer perspective, in 2007-2008, 82% of American public elementary school teachers were White and 84.4% were female (Aud, et al., 2011).

The majority of the participants reported earning a Master's degree and above (67.6%) while 44% of American public school teachers held postbaccalaureate degrees in 2007-2008. Table 17 shows highest degree earned by this study's participants compared to elementary teachers nationwide. Comparative data were not available for the state of Tennessee since the state's Department of Education aggregated both teachers' and administrators' highest level of education together.

Table 17

Highest Level of Education Reported by Participants Compared Nationally

	This Study	Nationally
Highest degree earned	Percent	Percent
Bachelor's	32.4	49.6
Master's	62.3	43.6
Doctorate	5.3	0.5

Note. National percentages are from Aud, et al. (2011).

The majority of participants (69.1%) indicated that they worked in schools where at least half of the student population qualified for FRPL. The U.S. Department of Education uses the percentage "of students eligible for the free or reduced-priced lunch program as a proxy measure for the concentration of low-income students within a school" (Aud, et al., 2011, p. 86). Public schools are considered high-poverty if more than 75% of the students within a school qualify for the federal free or reduced-price lunch program (Aud, et al., 2011). In this study, 32% of the schools would be defined as high-poverty according to U.S. Department of Education criteria. Nationally in 2008-2009, 22% of U.S. elementary schools were considered high-poverty (Aud, et al., 2011). Table 18 shows this study's reported eligibility for the federal FRPL program compared to national eligibility in 2008-2009. No comparative data were available for the state of Tennessee.

Table 18

Eligibility for Federal Free or Reduced-Price Lunch Program Compared

Percentage of Students Eligible for Free or Reduced-Price Lunch	This Study Percent	Nationally Percent
0-25%	6.4	23.6
26-50%	17.8	27.1
51-75%	37.1	25.6
76-100%	32.0	21.7

Note. National percentages are from Aud, et al. (2011).

The majority of teachers (57.7%) reported teaching in rural schools while 27.8% reported working in suburban settings and 14.6% reported teaching in urban schools. Nationally, in 2008-2009 school locales were more evenly distributed and were reported as follows: 29.4% rural, 29.8% suburban, and 27.2% city (Aud, et al., 2011).

In 2009, White students represent the majority of the U.S. student population, followed by Hispanics. The majority of children in this study were reported to be White, followed by Hispanics. In the state of Tennessee, Whites represent the largest student population followed by African Americans. Table 19 presents the reported student population in this study compared to the national sample and the state of Tennessee.

Table 19

Percentage Distribution of Public School Students Reported from the Current Study, Nationally, and State of Tennessee

	This study	Nationally	Tennessee
Race/Ethnicity	Percent	Percent	Percent
White	77.3	54.8	67.4
Hispanic/Latino(a)	9.2	22.3	6.2
African American	6.3	15.3	24.2
Mixed cultural background	4.2	2.7	n/a
Other	1.3	n/a	n/a
Asian/Pacific Islander	1.2	4.0	1.9
American Indian	0.7	0.9	0.3

Note. National data are from Aud, et al. (2011). Tennessee data are from Tennessee Department of Education (2011).

Consider Teacher Interviews

Overall, teachers rated the global beliefs of giftedness neutrally. This study could be extended and further developed with teacher interviews regarding their beliefs and perceptions about giftedness. Teacher interviews might produce more descriptive data about their own backgrounds and beliefs related to the manifestations of giftedness in different student populations.

Develop Checklists that Include a Wider Range of Characteristics

Only 27% of the teachers in this study reported having any form of gifted education preparation. Whether or not teachers receive professional development in gifted education is debatable and has been a topic of concern for those in the field (NAGC, 2011).

In the absence of gifted education training, checklists that include a wider spectrum of behavior and characteristics can serve as a more inclusive framework for teacher referrals to gifted programs. By including associated characteristics of giftedness that are nontraditional or found in special populations (e.g., underrepresented minorities, underachievers, twice exceptional, etc.), teachers may be prompted to include students who might otherwise be overlooked. Future research could be directed at developing checklists that encompass a wider spectrum of characteristics that may be associated with underrepresented groups and that may diverge from conventional schoolhouse notions of giftedness.

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APPENDICES

APPENDIX A

APPENDIX A

Survey Instrument

1. **Do you teach in an elementary school?**
   Yes
   No

2. **How likely would you be to identify a student as gifted/talented if the student . . .**

   Very likely
   Somewhat likely
   Neither likely nor unlikely
   Somewhat unlikely
   Very unlikely

   learns easily and quickly
   behaves well in class
   has an advanced vocabulary for age
   has an average achievement or aptitude test score
   is highly imaginative
   demands reasons for things
   often does not bring in homework
   has a high social intelligence (i.e., knows the names and roles of individuals in the surrounding community)
   offers unusual, unique, clever responses to questions and problems
   has a large amount of general information
   misbehaves in school
   has high interest in specialty topic
   has a keen sense of humor
   is able to see another's point of view
   is a “follower” (seldom take the lead and usually does what the other students are doing)
   uses expressive speech
   likes to work alone
   bilingual
   asks a lot of questions
   prefers not to work independently
   has unusual emotional depth and intensity
   is unmotivated
   has a limited vocabulary

How likely would you be to identify a student as gifted/talented if the student . . . (cont'd)

is well liked by classmates
has skill deficits in one or more academic areas
makes other students laugh
gives unexpected, sometimes "smart-aleck" answers
questions rules
has a lot of energy, may have difficulty remaining in seat
is self-motivated
creates rhymes to communicate thoughts and feelings
enjoys playing with words (i.e., using puns, rhymes)
uses details in stories and pictures
makes up creative excuses
does not seem interested in school
is persistent in completing tasks of interest
is easily bored with routine tasks
has difficulty moving on to another topic
is shy
is attentive to detail in the environment
takes action to help someone in need
likes to work in small groups
has a high interest in school
is able to see cause and effect relationships
takes the lead in small groups
expresses advanced verbal ability through interaction with adults
possesses more advanced math skills than most students
cannot work independently
transfers learning into other subjects or real life situations
is able to produce solutions when no one else can
can apply his/her understanding of concepts in new contexts
has a keen sense of timing in language and gestures
is flexible in the face of change
is able to speak more than one language
has an awareness of issues related to his/her community

3. **In which region of the state of Tennessee do you teach?**

East Tennessee
Middle Tennessee
West Tennessee

4. In the following set of items we would like for you to focus on your personal beliefs. Indicate your level of agreement.

Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree

a. The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups in our society.

b. The potential for academic giftedness is present in equal proportions in all socioeconomic groups in our society.

c. Giftedness manifests itself differently in different cultural/racial/ethnic groups.

d. Giftedness manifests itself differently in different socioeconomic groups.

e. Boys are more likely to show their giftedness through activities that tap spatial ability.

f. Girls are more likely to show their giftedness through activities that tap verbal ability.

5. Gender

Male
Female

6. Race/Ethnicity (Indicate all that apply)

African American
Asian
White
Hispanic
American Indian/Native American
Other, please specify

7. Highest level of education

Bachelor's Degree
Master's Degree
Doctorate

8. Are you the first in your family to go to college?

Yes
No

9. If yes, who in your family went to college before you?
Check all that apply

Mother
Stepmother
Father
Stepfather
Brother
Stepbrother
Sister
Stepsister
Grandmother
Grandfather
Other:_____

10. What is your mother's (or primary maternal caregiver's) highest level of education?

12th grade or less
High school graduate or equivalent
Some college but no degree
Associate degree
Bachelor's Degree
Master's Degree
Professional School Degree (such as M.D., J.D., D.D.S, D.V.M.)
Doctorate (such as Ph.D., Ed.D.)
Unsure

11. What is your father's (or primary paternal caregiver's) highest level of education?

12th grade or less
High school graduate or equivalent
Some college but no degree
Associate degree
Bachelor's Degree
Master's Degree
Professional School Degree (such as M.D., J.D., D.D.S, D.V.M.)
Doctorate (such as Ph.D., Ed.D.)
Unsure

12. In what ways did you family support your educational pursuits?

Financial
Encouragement
Participated in school events
Helped with school work
Provided assistance with homework
Provided extra educational resources for you at home
Advocated for you at school
Provided home environment conducive for study
Other:_____
None of the above

13. Rate the extent to which you believe your family supported your educational pursuits?

Extremely supportive
Somewhat supportive
Not very supportive
Not at all supportive

14. Rate the degree to which the elementary school you attended for the majority of your elementary school years is similar to the one you are currently teaching?

Extremely similar
Somewhat similar
Not very similar
Not at all similar

15. Rate the degree to which the community where you teach is similar to the one in which you grew up.

Extremely similar
Somewhat similar
Not very similar
Not at all similar

16. Do you teach a single, self-contained class or multiple classes with students from different grade level?

Single Class
Multiple Classes

17. What grade are you currently teaching?

Kindergarten
1st grade
2nd grade
3rd grade
4the grade
5th grade
6th grade
Other:_____

18. Does your school have a gifted and talented program?

Yes
No

19. Do you refer children to a gifted and talented program at your school?

Yes
No

20. Do you have any preparation in gifted education?

Yes
No

20a. If response is "yes" to "Do you have any preparation in gifted education?" Then, next question will be: Briefly describe your gifted education preparation.

21. In which type of initial licensure program did you participate?

4-year baccalaureate
5-year internship
Alternative licensure

22. Counting this year, how many years have you been a classroom teacher? (Completion of a full year teaching internship counts as 1 year of teaching experience)

Respondent fills in number

23. How many years have you taught at your current school?

Respondent fills in number

24. How many years have you taught your current grade level?

Respondent fills in number

25. How many students are in your class?

Respondent fills in number

26. How many students from each cultural/ethnic group are in your current class?

African American
Asian/Pacific Islander
White
Hispanic/Latino(a)
Native American
Mixed Ethnic
Other

(Respondent fills in number)

27. In what type of school do you teach?

Urban
Rural
Suburban

28. Is your school a Title I school?

Yes
No
Unsure

29. What percentage do students in your school qualify for Free or Reduced-Price Lunch?

0-25%
26-50%
51-75%
76-100%
Unsure

APPENDIX B

APPENDIX B

Conventional Characteristics of Giftedness

learns easily and quickly
behaves well in class
has an advanced vocabulary for age
is highly imaginative
offers unusual, unique, clever responses to questions and problems
has a large amount of general information
has high interest in specialty topic
has a keen sense of humor
is able to see another's point of view
uses expressive speech
likes to work alone
asks a lot of questions
has unusual emotional depth and intensity
is self-motivated
is well liked by classmates
makes other students laugh
gives unexpected, sometimes "smart-aleck" answers
questions rules
has a lot of energy, may have difficulty remaining in seat
enjoys playing with words (i.e., using puns, rhymes)

uses details in stories and pictures

makes up creative excuses

is persistent in completing tasks of interest

is easily bored with routine tasks

has difficulty moving on to another topic

is attentive to detail in the environment

takes action to help someone in need

likes to work in small groups

has a high interest in school

is able to see cause and effect relationships

takes the lead in small groups

expresses advanced verbal ability through interaction with adults

possesses more advanced math skills than most students

is able to produce solutions when no one else can

can apply his/her understanding of concepts in new contexts

is flexible in the face of change

is able to speak more than one language

has an awareness of issues related to his/her community

Note. Adapted from "Primary grade teachers' conceptions of giftedness and talent: A case-based investigation" by Brighton, et al. (2007). The National Research Center on the Gifted and Talented, p. 43.

APPENDIX C

APPENDIX C

Nontraditional/Associated Characteristics that May be Present in Special Populations

transfers learning into other subjects or real life situations

does not seem interested in school

has a high social intelligence (i.e., knows the names and roles of individuals in the surrounding community)

is a "follower" (seldom take the lead and usually does what the other students are doing)

uses Nonstandard English *

often does not bring in homework

is shy *

is unmotivated

has a keen sense of timing in language and gestures *

has skill deficits in one or more academic areas

prefers not to work independently (rewording of "cannot work independently")

has an average achievement or aptitude test score *

creates rhymes to communicate thoughts and feelings

demands reasons for things*

has a limited vocabulary

misbehaves in school

is bilingual *

Note. Adapted from "Primary grade teachers' conceptions of giftedness and talent: A case-based investigation" by Brighton, et al. (2007). The National Research Center on the Gifted and Talented, p. 32-33. * Denotes item removed from statistical analysis. See Chapter 4 for discussion.

APPENDIX D

Table D

Associated Characteristics That May be Present in Underrepresented Groups

Item	Relevant research supporting characteristics of underrepresented groups
Transfers learning into other subjects or real life situations	**Gifted African American Children** African Americans value meaningful or contextual situations (Ford & Harris, 1999; Leiding, 2006; Lynch & Hanson, 2004). **Gifted Hispanic Children** Hispanic students value meaningful or contextual situations (Margie K. Kitano, 2010). **Gifted American Indian/Alaska Native** Gifted American Indian and Alaska Native students may synthesize information easily (Callahan & McIntire, 1994).
Does not seem interested in school	**Gifted African American Children** African American students may reject academic achievement to rebel against mainstream culture (Ogbu & Simons, 1998; Olszewski-Kubilius, 2010). **Gifted Hispanic Children** Like African American students, Hispanic students may also reject academic achievement as a way to rebel against mainstream culture (Ogbu & Simons, 1998; Olszewski-Kubilius, 2010). **Gifted American Indian/Native Alaskan Children** American Indian/Alaska Natives may appear to be unmotivated due to appearing stoic or "not facially expressive" (Callahan & McIntire, 1994, p. 30). **Gifted Underachievers, in general** Underachievers can present negative attitudes toward school (Hansford, 2003; Peterson, 2003).
Has a high social intelligence (i.e., knows the names and roles of individuals in the surrounding community)	**Gifted American Indian/Native American Children** May have an unusual awareness of their community/tribal cultural and the relationships of the history of their people (Callahan & McIntire, 1994; Omdal, Rude, Betts, & Toy, 2011).

Table D, Continued

Is a "follower" (seldom takes the lead and usually does what the other students are doing)	**Gifted Hispanic Children** Hispanic children value group membership over individuality. Often taught to be humble and to not "stand out "(Beljan, 2011). **Gifted American Indian/Alaskan Native Children** American Indians and Alaska Natives are less likely to want to draw attention to themselves. Group conformity and cooperation is important (Beljan, 2011; Callahan & McIntire, 1994; Kerr & Cohn, 2001). **Gifted, Rural, Disadvantaged Appalachian Children** "Tend to be passive participants in classroom activities" and less verbal (Floyd, McGinnis, & Grantham, 2011, p. 33). **Gifted Underachievers, in general** Underachievers can maintain a passive stance in the classroom (Peterson, 2003).
Uses nonstandard English	**Gifted African American** May speak non standard English (Ford & Harris, 1999; Leiding, 2006; Lynch & Hanson, 2004). **Gifted Rural "Disadvantaged" African Americans** May "speak nonstandard English" (Floyd, et al., 2011, p. 33; Stambaugh, 2010). **Gifted Rural, "Disadvantaged" Hispanic Children** Relates to Rural Hispanics who may speak a nonstandard dialect or are English language learners (Floyd, et al., 2011). **Gifted Rural, "Disadvantaged" Appalachian (White) Children** May speak a nonstandard regional dialect (Floyd, et al., 2011).
Often does not bring in homework	**Gifted African American Children** See references for "Does not seem interested in school" **Gifted Hispanic Children** See references for "Does not seem interested in school" **Gifted Rural, "Disadvantaged" Appalachian (White) Children** May not complete all assignments or be "lax in completing assignments" (Floyd, et al., 2011, p. 33; Stambaugh, 2010) **Gifted Underachievers, in general** Also a characteristic of any gifted student underachieving in school (Hansford, 2003).

Table D, Continued

Is shy	**Gifted Hispanic Children** Hispanic children are encouraged to *not* draw attention to themselves or act like they are "better than" others (Beljan, 2011). **Gifted American Indian/Alaska Native Children** Native Americans tend to want attention drawn away from them as individuals. They may appear reticent and not volunteer answers. There may be a tendency to be less dependent on oral language in the classroom (Callahan & McIntire, 1994; Kerr & Cohn, 2001).
Is unmotivated	**Gifted African American Children** See references for "Does not seem interested in school" **Gifted Rural, "Disadvantaged" African American Children** "Motivation (is)…lower than Anglo American children," "often withdrawn in the school setting" (Floyd, et al., 2011, p. 33). **Gifted Hispanic Children** See references for "Does not seem interested in school" **Gifted Rural, "Disadvantaged" Hispanic Children** "Unmotivated by routine classroom instruction" (Floyd, et al., 2011, p. 33) **Gifted Rural, "Disadvantaged" Appalachian (White) Children** Tend to be passive participants in classroom (Floyd, et al., 2011; Stambaugh, 2010). **Gifted American Indian/Alaska Native Children** May seem to be unmotivated due to appearing stoic or "not facially expressive" (Callahan & McIntire, 1994, p. 30). **Gifted Underachievers, in general** Lack of motivation may be exhibited by gifted underachievers (Kerr & Cohn, 2001).

Table D, Continued

Has a keen sense of timing in language and gestures (i.e., dramatic flair)	**Gifted African American Children** African Americans value verbal facility/adroitness (Ford, et al., 2004; Leiding, 2006; Lynch & Hanson, 2004). **Gifted Rural, "Disadvantaged" African American Children** Oral tradition with vivid imagery and humor (Floyd, et al., 2011). **Gifted, Rural Latino(a) Children** Value in the ability to be creative in oral storytelling (Floyd, et al., 2011) **Gifted American Indian/Alaska Native Children** "Skillful timing of humor, communicates feelings by voice, facial expression, gestures and/or body movement" (Callahan & McIntire, 1994, p. 65) **Gifted Children, in general** Could be any gifted child and is considered a creative positive (Johnsen, 2004; Sisk, 2003).
Has skill deficits in one or more academic areas	**Gifted African American Children** Could be related to any gifted minority student or any gifted student in any subject area (Diaz, 2004). **Gifted Hispanic Children and Gifted Rural Hispanic Children** Depending on English language proficiency, may perform better in math than in language arts (Floyd, et al., 2011). **Gifted Rural, "Disadvantaged" Appalachian (White) Children** "May show exceptional ability in one subject and average to below average in others" (Floyd, et al., 2011, p. 33). **Gifted Children, in general** Gifted children may have uneven skill development, irrespective of background (Diaz, 2004).
Prefers not to work independently	**Gifted African American Children** There is a tendency to be socially-oriented and a value placed on collectiveness rather than competition and independence (Leiding, 2006). **Gifted Hispanic Children** Relationships are highly valued, a preference for cooperative learning rather and independence and competition (Leiding, 2006). **Gifted American Indian/Alaska Native Children** American Indian and Alaska Native students tend to have a sense of collectivism and belonging where the group is valued over the individual. (Callahan & McIntire, 1994; Ford & Harris, 1999; Kerr & Cohn, 2001; Margie K. Kitano, 2010; Lynch & Hanson, 2004).

Table D, Continued

Has an average achievement or aptitude test score	**Gifted African American Children** Could be any minority or poor child as African Americans and Hispanics are less likely to perform as well as Whites and Asians (Castellano, 2011; Donovan & Cross, 2002; Margie K. Kitano, 2010). **Gifted Rural, "Disadvantaged" African American Children** Are less likely to perform well on standardized tests (Floyd, et al., 2011). **Gifted Hispanic Children** Could be any minority or poor child; African Americans and Hispanics are less likely to perform as well on achievement tests as Whites and Asians (Castellano, 2011; Donovan & Cross, 2002; Margie K. Kitano, 2010). **Gifted Rural, "Disadvantaged" Hispanic Children** Are less likely to perform well on standardized tests (Floyd, et al., 2011; Stambaugh, 2010). **Gifted American Indian/Alaska Native Children** As a group, native students are less likely to perform well on standardized tests as other groups (Callahan & McIntire, 1994). **Gifted Rural, "Disadvantaged" Appalachian (White) Children** Are less likely perform well on standardized tests (Floyd, et al., 2011).
Creates rhymes to communicate thoughts and feelings	**Gifted African American Children** Cultural value for storytelling, verbal adroitness (Ford, et al., 2004; Lynch & Hanson, 2004). **Gifted American Indian/Alaska Native Children** Create elaborate poems, songs or stories as a reflection of creativity (Callahan & McIntire, 1994). **Gifted Children, in general** Can be an expression of high ability in language arts (Johnsen, 2004).
Has a limited vocabulary	**Gifted Latino(a) Children** May be English Language learners (Suarez-Orozco, Suarez-Orozco, & Doucet, 2004). **Gifted American Indian Children** May be English Language learners (Devries & Shires Golon, 2011). **Gifted Children, in general** Can be a "high nonverbal/low verbal gifted learner (Swanson, 2010).

Table D, Continued

Misbehaves in school	**Gifted African American Children** Could be any child bored in school and a reflection of unmet intellectual needs. Could also be a demonstration African American student rejection of White, middle-class values and expectations (Kerr & Cohn, 2001; Ogbu & Simons, 1998; Olszewski-Kubilius, 2010). **Gifted Hispanic Children** Could be any child bored in school and a reflection of unmet intellectual needs. Could also be a demonstration of Hispanic student rejection of White, middle-class values and expectations (Kerr & Cohn, 2001; Leiding, 2006; Olszewski-Kubilius, 2010). **Gifted Children, in general** Any child bored in school and could be the result of unmet intellectual needs (Davis, et al., 2011; Peterson, 2003).
Is bilingual	**Gifted Hispanic Children** Hispanics tend to maintain the Spanish language (Ford & Harris, 1999; Kerr & Cohn, 2001; Leiding, 2006; Omdal, et al., 2011). Two thirds of Hispanics students are either foreign born or have parents who are foreign born (Suarez-Orozco, et al., 2004). **Gifted American Indian/Native Alaskan Children** Proficient in tribal language and bilingual (Callahan & McIntire, 1994).

Note. Characteristics were adapted from Brighton, et al. (2007) Primary grade teachers' conceptions of giftedness and talent: A case-based investigation, The National Research Center on the Gifted and Talented, pp. 206-207.

APPENDIX E

APPENDIX E

Sample Letter to Superintendents

Dear [ ],

I am inviting the elementary teachers in your school system to participate in a research project which examines teachers' perceptions of student giftedness. This survey is part of a doctoral dissertation research project at the University of Tennessee, Knoxville. The resulting data will be written in the researcher's Ph.D. dissertation. The online survey should take 10 minutes to complete.

Participant responses are completely anonymous. The survey does not ask for personal identifying or district identifying information. Further, the survey software is commonly used for research at the university and does not track IP addresses or any other identifiable information.

The results of this study may be helpful in designing preservice and inservice teacher training in the identification of student giftedness.

If this meets your approval, please forward this email to the elementary teachers in your school system. The URL to the survey is:

[ ]

If you have any questions, feel free to contact me or my university supervisor.

Sincerely,

Susan D. Bishofberger

Supervisor:
Dr. Thomas Turner

APPENDIX F

APPENDIX F

Informed Consent Screen Text

Elementary Teachers' Perceptions of Giftedness

You are invited to participate in the following survey which examines Tennessee teachers' perceptions of giftedness. This survey is part of a doctoral dissertation research project at the University of Tennessee, Knoxville and should take about 10 minutes to complete. Your participation in completely voluntary and your responses are anonymous. The survey software does not track IP addresses or any other identifiable information. I appreciate your consideration as your participation is a critical component to this research project. If you have any questions or would like to review a summary of the results, feel free to send an email to [researcher's email address].

Do you agree to participate in the following study?

Yes, I wish to continue

No

APPENDIX G

Table G

Factor Loadings for Exploratory Factor Analysis of Student Characteristics

Item	Component			
	1	2	3	4
Can apply his/her understanding of concepts in new contexts	.771			
Expresses advanced verbal ability through interaction with adults	.753			
Has an awareness of issues related to his/her community	.737			
Has a keen sense of timing in language and gestures	.719			
*Transfers learning into other subjects or real life situations	.718			
Is able to produce solutions when no one else can	.686			
Is able to see cause and effect relationships	.673			
Is attentive to detail in the environment	.650			
Possesses more advanced math skills than most students	.630			
Enjoys playing with words (i.e., using puns, rhymes)	.597			
Is able to see another's point of view	.595			
Takes the lead in small groups	.584			
Takes action to help someone in need	.581			
Is self-motivated	.563			
Is flexible in the face of change	.556			
Uses details in stories and pictures	.552			
Has a keen sense of humor	.541			
Uses expressive speech	.539			
Offers unusual, unique, clever responses to questions and problems'	.533			
Has a high interest in school	.500			
Has unusual emotional depth and intensity	.493			
Asks a lot of questions	.462			
*Has a high social intelligence (i.e., knows the names and roles of individuals in the surrounding community neighborhood)'	.462			
Is able to speak more than one language	.453			
Is highly imaginative	.451			
Is persistent in completing tasks of interest	.439			
Questions rules		.772		
*Does not seem interested in school		.752		
*Often does not bring in homework		.722		
Gives unexpected, sometimes "smart-aleck" answers'		.722		
Has difficulty moving on to another topic		.695		

*Is unmotivated	.689		
Has a lot of energy, may have difficulty remaining in seat'	.671		
*Has skill deficits in one or more academic areas	.650		
Makes up creative excuses	.640		
*Misbehaves in school	.592		
Makes other students laugh	.560		
Is easily bored with routine tasks	.557		
Behaves well in class		.758	
Learns easily and quickly		.682	
Is well liked by classmates		.596	
Has an advanced vocabulary for age		.570	
Has a large amount of general information		.564	
*Has a limited vocabulary			.688
Cannot work independently			.620
*Prefers not to work independently			.579
*Is a “follower” (seldom takes the lead and usually does what the other students are doing)			.544

Note: * Depicts embedded items related to underrepresented groups.

APPENDIX H

APPENDIX H

Student Characteristics Within the Four Factors

FACTOR 1: TEXTBOOK INDICATORS
Can apply his/her understanding of concepts in new contexts
Expresses advanced verbal ability through interaction with adults
Has an awareness of issues related to his/her community
Has a keen sense of timing in language and gestures
*Transfers learning into other subjects or real life situations
Is able to produce solutions when no one else can
Is able to see cause and effect relationships
Is attentive to detail in the environment
Possesses more advanced math skills than most students
Enjoys playing with words (i.e., using puns, rhymes)
Is able to see another's point of view
Takes the lead in small groups
Takes action to help someone in need
Is self-motivated
Is flexible in the face of change
Uses details in stories and pictures
Has a keen sense of humor
Uses expressive speech
Offers unusual, unique, clever responses to questions and problems'
Has a high interest in school
Has unusual emotional depth and intensity
Asks a lot of questions
*Has a high social intelligence (i.e., knows the names and roles of individuals in the surrounding community neighborhood)'
Is able to speak more than one language
Is highly imaginative
Is persistent in completing tasks of interest

FACTOR 2: NONCONFORMING
Questions rules
*Does not seem interested in school
*Often does not bring in homework
Gives unexpected, sometimes "smart-aleck" answers'
Has difficulty moving on to another topic
*Is unmotivated
Has a lot of energy, may have difficulty remaining in seat'
*Has skill deficits in one or more academic areas
Makes up creative excuses
*Misbehaves in school
Makes other students laugh
Is easily bored with routine tasks
FACTOR 3: TEACHER PLEASING
Behaves well in class
Learns easily and quickly
Is well liked by classmates
Has an advanced vocabulary for age
Has a large amount of general information
FACTOR 4: INCONGRUENT
*Has a limited vocabulary
Cannot work independently
*Prefers not to work independently
*Is a “follower” (seldom takes the lead and usually does what the other students are doing)

**Denotes items related to underrepresented groups as discussed in Appendix C.*

APPENDIX J

Table J1

Correlational Data for Perceptions of Similarity and Characteristics of Giftedness

Dimension	School		Community	
	Pearson Correlation	Significance	Pearson Correlation	Significance
Textbook	.00	.941	.00	.948
Nonconforming	.06	.338	.11	.069
Teacher Pleasing	-.01	.824	-.05	.438
Incongruent	-.08	.194	.00	.947

Table J2

Correlational Data for Free or Reduced-Price Lunch Eligibility and Dimensions

Dimension	Spearman's Rho	Significance
Textbook	.06	.331
Nonconforming	.05	.417
Teacher Pleasing	.07	.256
Incongruent	.10	.119

Table J3

Correlational Data for Global Beliefs and Years of Teaching Experience

	Pearson Correlation	Significance
The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups.	-.03	.625
The potential for academic giftedness is present in equal proportions in all socioeconomic groups.	.01	.885
Giftedness manifests itself differently in different cultural/racial/ethnic groups.	-.07	.271
Giftedness manifests itself differently in different socioeconomic groups.	-.11	.056
Boys are more likely than girls to show their giftedness through activities that tap spatial ability.	.09	.125
Girls are more likely to show their giftedness through activities that tap their verbal ability.	.09	.146

Table J4

Correlational Data for Global Beliefs and Perceived Similarities Between Schools.

	Pearson Correlation	Significance
The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups.	.00	.979
The potential for academic giftedness is present in equal proportions in all socioeconomic groups.	.02	.743
Giftedness manifests itself differently in different cultural/racial/ethnic groups.	.04	.460
Giftedness manifests itself differently in different socioeconomic groups.	.04	.534
Boys are more likely than girls to show their giftedness through activities that tap spatial ability.	.01	.917
Girls are more likely to show their giftedness through activities that tap their verbal ability.	-.00	.980

Table J5

Correlational Data for Global Beliefs and Similarities Between Communities

	Pearson Correlation	Significance
The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups.	-.05	.432
The potential for academic giftedness is present in equal proportions in all socioeconomic groups.	.03	.681
Giftedness manifests itself differently in different cultural/racial/ethnic groups.	.10	.111
Giftedness manifests itself differently in different socioeconomic groups.	.05	.380
Boys are more likely than girls to show their giftedness through activities that tap spatial ability.	.10	.082
Girls are more likely to show their giftedness through activities that tap their verbal ability.	.06	.307

Table J6

Correlational Data for Global Beliefs and Diversity in the Classroom

	Pearson Correlation	Significance
The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups.	-.03	.721
The potential for academic giftedness is present in equal proportions in all socioeconomic groups.	.02	.779
Giftedness manifests itself differently in different cultural/racial/ethnic groups.	-.04	.662
Giftedness manifests itself differently in different socioeconomic groups.	.06	.439
Boys are more likely than girls to show their giftedness through activities that tap spatial ability.	-.07	.372
Girls are more likely to show their giftedness through activities that tap their verbal ability.	-.07	.406

APPENDIX K

Table K1

Correlational Data for Global Beliefs and the Four Dimensions

		Textbook	Nonconforming	Teacher Pleasing	Incongruent
The potential for academic giftedness is present in equal proportions in all racial/cultural/ethnic groups in our society.	Pearson Correlation	.014	.017	-.031	.097
	Significance	.820	.771	.603	.106
The potential for academic giftedness is present in equal proportions in all socioeconomic groups in our society.	Pearson Correlation	.060	.111	-.011	.111
	Significance	.320	.063	.856	.062
Giftedness manifests itself differently in different cultural/racial/ethnic groups.	Pearson Correlation	.084	-.050	.030	.014
	Significance	.161	.402	.611	.816
Giftedness manifests itself differently in different socioeconomic groups.	Pearson Correlation	.066	-.049	.055	.026
	Significance	.269	.409	.359	.666
Boys are more likely to show their giftedness through activities that tap spatial ability.	Pearson Correlation	.069	.141*	.135*	-.040
	Significance	.249	.018	.024	.501
Girls are more likely to show their giftedness through activities that tap verbal ability.	Pearson Correlation	.051	.113	.128*	-.040
	Significance	.391	.058	.032	.507

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

VITA

Susan Bishofberger graduated from University of California, Los Angeles (UCLA) with a Bachelor of Arts degree in psychology. She received her Master of Arts degree in clinical psychology from Pepperdine University. She relocated to Guadalajara, Mexico and was a staff counselor serving American students at the Universidad Autónoma de Guadalajara. Susan also taught English as a second language at the English Institute at the American School Foundation in Guadalajara.

Upon returning to California, she pursued a career in elementary education. She taught both bilingual and conventional fourth and fifth grades. Teaching gifted students in both settings, Susan began to develop an interest in culturally diverse students in gifted education.

Susan relocated to Tennessee and taught fifth grade before pursuing her Doctorate of Philosophy in education at the University of Tennessee. While at the University of Tennessee, Susan was a graduate assistant for the International Reading Association's Children's Choices program. She received her Ph.D. from the University of Tennessee in May, 2012.

Her research interests include elementary education, gifted education, teacher education, underrepresented students in gifted education, and multicultural education.