TEACHERS' PERCEPTIONS OF CREATIVITY IN CULTURALLY AND ECONOMICALLY DIVERSE ELEMENTARY SCHOOL FEMALES

by

GAIL ELIZABETH FIDDYMENT

(Under the Direction of Bonnie Cramond)

ABSTRACT

Creativity is widely recognized as an essential component of giftedness, but teachers' ability to recognize characteristics of creativity in diverse students is not clear. The purpose of this study was to investigate characteristics that teachers perceive as being associated with creativity, and whether or not these characteristics vary according to a student's race or ethnicity and socioeconomic status (SES). The study included the development and validation of an instrument, the Teachers' Perceptions of Creativity in Students – Female (TPCS-F). Vignettes depicting students of different racial/ethnic and SES backgrounds were used to create an online survey instrument, which was found to be valid and reliable in the pilot study, and subsequently used to gather teachers' perceptions of creativity in culturally and economically diverse students. Pilot study participants included graduate students, while research study participants were classroom and gifted teachers within the state of Georgia. The results of both studies indicated that teachers were significantly more likely to recognize creative characteristics in the behaviors of upper middle SES students than in their middle or lower SES peers, although the pilot study found an interaction between race and SES, indicating the teachers rated upper middle SES students higher only in some racial or ethnic groups. High levels of inter-item and inter-rater reliability were demonstrated in both studies. Future research is needed to identify possible

reasons for differences in teachers' perceptions, and ways that training may help teachers understand behaviors associated with giftedness and creativity in culturally and economically diverse students.

INDEX WORDS: Creativity, teacher's implicit theories, diverse students, giftedness and creativity

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GAIL ELIZABETH FIDDYMENT

B.A., University of North Carolina-Greensboro, 1977

M.B.A., Georgia State University, 1986

M.Ed., Georgia State University, 2003

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GAIL ELIZABETH FIDDYMENT

Major Professor:	Bonnie Cramond
Committee:	Tarek Grantham
	Nancy Knapp
	Sarah Sumners

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
August 2016

DEDICATION

This dissertation is dedicated to my wonderful and loving family: my three children, Grant, Glenna, and Garrett Fiddyment, and my mother, Margaret Ann Fambrough. You have believed in me, cheered me on, and supported me all along the way, and I could not have finished this without you! Thank you for everything. I love you all so much!

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To my children, Grant, Glenna, and Garrett, you are my greatest accomplishment in life, and I am so incredibly proud of each of you. I hope you will always dream big and pursue those dreams to the end! I love you so much!

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CHAPTER 1

INTRODUCTION

The underrepresentation of culturally and economically diverse students in gifted education programs has been well-documented in gifted education literature for a number of years (Borland, 2004: Ford, 1998; Ford, Grantham, & Whiting, 2008; Ford, Harris, Tyson, & Trotman, 2002; Miller, 2005; Passow & Frasier, 1996; Richert, 1987; U.S. Department of Education, 1993). As Borland (2004) noted, "Certain children have been and continue to be chronically, if unintentionally, under-represented in programs for gifted students…The most pervasive instances of underrepresentation [are] associated with economic disadvantage and racial and ethnic minority status" (p. 1). Indeed, Black, Hispanic, and American Indian students have always been underrepresented in gifted programs (Ford, 1998), with the underrepresentation of Black students actually increasing over the years (Ford et al., 2008). Whites and Asian-Americans continue to be overrepresented in gifted programs, and Blacks, Hispanics and American Indians/Alaskan Natives remain woefully underrepresented on a national level, often by as much as 20-50% (U.S. Department of Education, 2000, 2004, 2006, 2010, 2012a). (See Table 1.1).

From 2000 to 2012, as their numbers have increased in the public schools, Hispanics have made substantial progress in participation in gifted programs, dropping from 41% to 28% underrepresentation. Asian-Americans and Whites continue to be overrepresented, with Asian-Americans increasing their proportion of overrepresentation from 42% to 48%, and Whites maintaining theirs at 15-17%. On the other hand, Blacks, although underrepresentation

Table 1.1. *National Trends in the Representation of Ethnic Groups in Gifted Programs 2000 to 2012*

	2000		2004		2006		2010		2012	
Ethnic Group	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population
White	61.58	74.24 o=17%	58.45	69.67 o=16%	56.42	67.69 o=17%	54.75	64.32 o=15%	51.66	60.80 o=15%
Black	16.99	8.23 u=52%	16.88	8.99 u=47%	17.13	9.15 u=47%	16.64	9.76 u=41%	15.89	8.81 u=45%
Hispanic	16.13	9.54 u=41%	18.94	12.33 u=35%	21.41	12.79 u=40%	22.18	15.28 u=31%	23.58	16.88 u=28%
Asian	4.14	7.08 o=42%	4.50	8.05 o=44%	4.81	9.40 o=49%	5.16	9.48 o=46%	5.12	9.80 o=48%

Note: Source for 2000 to 2012 data: U.S. Department of Education, Office for Civil Rights National and State Estimations (2000, 2004, 2006, 2010, 2012a). "o" indicates overrepresentation in gifted programs and "u" indicates underrepresentation in gifted programs. Percentage of underrepresentation was calculated using the formula: 1-(percentage of gifted population divided by percentage of total enrollment). Percentage of overrepresentation was calculated using the formula: (percentage of gifted population – percentage of total enrollment) divided by percentage of gifted population.

decreased from 52% to 41% between 2000 and 2010, appear to have actually lost ground since 2010, increasing to 45% underrepresentation in 2012. Data for American Indians/Alaska Natives have not been included in this discussion, as the Office of Civil Rights indicates that the estimate is a subtotal associated with a grand total that has been flagged for being different from other U.S. Department of Education data sources, and the data should be interpreted with caution.

Georgia trends in the representation of ethnic groups in gifted programs are similar to the national trends, although in all races/ethnicities, the proportion of underrepresentation or overrepresentation is even more extreme, often by as much as 15-20 percentage points (see Table 1.2). In Georgia, as well as nationally, the underrepresentation of Hispanics in gifted programs decreased from 2000 to 2014, from 76% to 48%, although it must be noted that this is still almost 50% underrepresentation, and well above the national average of 28%. Asian-Americans and Whites are even more overrepresented than they are nationally, with Asian-Americans increasing their proportion of overrepresentation from 45% to 60%, and Whites overrepresented at double the national rate, between 31% and 34%. The underrepresentation of Blacks has decreased, from

Table 1.2. *Georgia Trends in the Representation of Ethnic Groups in Gifted Programs 2000 to 2014*

	2000		2006		2010		2012		2014	
Ethnic Group	% of total enrollment	% of total enrollment	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population
White	53.96	79.91 o=32%	48.30	73.24 o=34%	45.89	68.96 o=33%	43.92	65.38 o=33%	42.73	62.13 o=31%
Black	38.80	14.65 u=62%	39.76	17.50 u=56%	38.99	17.14 u=56%	37.29	17.55 u=53%	36.99	17.85 u=52%
Hispanic	4.81	1.17 u=76%	8.84	2.97 u=66%	11.60	4.93 u=58%	12.08	5.63 u=53%	13.28	6.96 u=48%
Asian	2.28	4.17 o=45%	2.95	6.14 o=52%	3.51	7.56 o=54%	3.37	7.86 o=57%	3.66	9.22 o=60%

Note: Source for 2000 to 2012 data: Office for Civil Rights National and State Estimations (2000, 2006, 2010, 2012a). Source for 2014 data: Georgia Department of Education (2015b). "o" indicates overrepresentation in gifted programs and "u" indicates underrepresentation in gifted programs. Percentage of underrepresentation was calculated using the formula: 1- (percentage of gifted population divided by percentage of total enrollment). Percentage of overrepresentation was calculated using the formula: (percentage of gifted population – percentage of total enrollment) divided by percentage of gifted population.

62% to 52%, but they are still underrepresented in gifted programs by more than half. To put the extreme rates of overrepresentation and underrepresentation in perspective, the number of Asian-Americans would have to decrease by more than half, and the number of Blacks in gifted programs would have to more than double for Asians' and Blacks' gifted program participation to match the proportion of their enrollment in public schools in Georgia!

Statement of the Problem

For many years, superior mental ability, as determined by standard measures of intelligence such as the Cognitive Abilities Test (CogAT) and Stanford-Binet, was the sole criteria for admission to gifted programs in Georgia and other states. The first federal definition of giftedness, contained in what came to be known as *The Marland Report* (Marland, 1972), was an important step in expanding the idea of giftedness, as it went beyond IQ to include specific academic and creative aptitudes. With the 1993 release of *National Excellence: The Case for Developing America's Talent*, the U.S. Department of Education established a new definition that reflected a more contemporary view of gifted students:

> Children and youth with outstanding talent who perform or show the potential for performing at remarkable 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 initial leadership capacity, or excel in specific academic fields. 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).

In addition, educational systems were challenged to improve educational opportunities for minority and economically disadvantaged students with outstanding potential:

> The United States is squandering one of its most precious resources—the gifts, talents, and high interests of many of its students. In a broad range of intellectual and artistic endeavors, these youngsters are not challenged to do their best work. This problem is especially severe among economically disadvantaged and minority students, who have access to fewer advanced educational opportunities and whose talents often go unnoticed (p. 9).

A number of states responded to the challenge by broadening their definitions of giftedness to include these aptitudes; as a reflection of current conceptions of giftedness as a complex and multidimensional construct, and in an effort to increase the numbers of culturally, linguistically, and ethnically diverse (CLED) students in gifted education programs, more than half of the states now include creativity in their official definitions of giftedness (Callahan, Moon, & Oh, 2013; Hunsaker & Callahan, 1995; McClain & Pfeiffer, 2012).

In 1995, Georgia became one of the first states to adopt a multiple-criteria rule, which included creativity, as well as mental aptitude, achievement, and motivation, for identification of

gifted students (Krisel & Cowan, 1997). The impetus behind this change was not only the desire to recognize a more multidimensional view of giftedness, but an acknowledgement that students of color were not being appropriately identified for gifted programs. Traditional means of assessment, such as standardized test scores and grades, provided a one-dimensional perspective of potential in low income and minority students, and as such, they were not useful in identifying students who expressed talents in other ways (Callahan, Tomlinson, Moon, Tomchin & Plucker, 1995; Renzulli, 2005). According to Frasier, Hunsaker, Lee, Finley et al. (1995), pointed out the presence of "significant numbers of economically disadvantaged and limited English proficient students who do not meet traditional criteria for gifted programs but who are believed to possess high cognitive, motivation, artistic, or creative potential."

The adoption of multiple criteria, while providing additional ways for students to demonstrate gifts and talents, has improved but not alleviated the underrepresentation of CLED students in gifted programs (see Table 1.2). There are a number of factors that contribute to this problem, such as narrow definitions and outdated theories of giftedness (Bonner, 2000; Ford, 1994, 1998, 2004; Ford & Webb, 1994; Hopkins & Garrett, 2010), problems with screening and identification of CLED students (Barkan & Bernal, 1991; Bonner, 2000; Castellano & Díaz, 2002; Ford, 1994, 1998; Ford & Webb, 1994; Leung, 1981), and cultural identity, including family and peer influences (Bonner, 2000; Ford, 1994, 1998). However, the impact of teachers' theories of giftedness on their nominations for gifted programs (Bonner, 2000; Ford, 1994, 1998; Ford & Webb, 1994, Hopkins & Garrett, 2010; Miller, 2005) cannot be overemphasized. Teacher and/or parent nominations are still required in 13 states for a student to be considered for entrance into gifted programs (National Association for Gifted Children, 2013; McClain & Pfeiffer, 2012). In fact, in a large-scale analysis of data provided by state and local coordinators

of gifted programs, teacher and parent nomination "were identified as the most commonly used non-standardized procedures in the identification process" (Callahan et al., 2013, p. 19) at the elementary level. Since many school districts require that students be referred or nominated before testing for gifted services can take place, teachers frequently act as the initial "gatekeepers" in the referral process (Callahan et al., 2013); students who are not nominated by their teachers may not be considered for additional testing.

Unfortunately, many educators do not appear to recognize the cultural basis of giftedness. Educators, the majority of whom are White, may misunderstand or misinterpret differences in gifted behaviors between White and CLED students (Elhoweris, Mutua, Alsheikh, & Holloway, 2005; Speirs Neumeister, Adams, Pierce, Cassady, & Dixon, 2007). Teachers often base their expectations of gifted behavior on the behaviors of White students, without considering the impact of cultural and linguistic differences (Briggs, Reis, & Sullivan, 2008; Ford, 1994; Frasier, Martin, et al., 1995). These misconceptions about culture and giftedness carry over into lower referral rates of CLED students for gifted programs (Ford, 1998; Ford et al., 2008). In a comparison of referral sources for gifted students in Georgia, McBee (2006) found that teachers were less likely to nominate Black, Hispanic and low socioeconomic status (SES) students for gifted screening and were far less accurate in their identification of these students than White and Asian students. Pass rates on the screening process, although different for Black and White students, were considerably smaller than the different nomination rates.

Although creativity is one of the criteria used for admission into gifted programs in 27 states (McClain & Pfeiffer, 2012), many educators are not familiar with characteristics of creativity and how those characteristics are manifested in students' behaviors (Aljughaiman & Mowrer-Reynolds, 2005; Davis & Rimm, 1997; Peters & Gentry, 2010; Scott, 1999; Westby

& Dawson, 1995). Teachers often focus on academic traits or behaviors as indicators of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Fleith, 2000; Gralewski & Karwowski, 2013; Karwowski, 2007; Westby & Dawson, 1995), while perceiving characteristics traditionally recognized as most typical of creativity—sets his or her own rules, impulsive, nonconforming, and emotional—as among the least typical characteristics of creativity (Westby & Dawson, 1995). A number of researchers have noted that teachers prefer socially acceptable traits that are conducive to classroom management, such as conformity, obedience, and responsibility (Bachtold, 1974; Cropley, 1992; Dettmer, 1981; Getzels & Jackson, 1962; Kaltsounis, 1977; Rudowicz & Yue, 2000; Scott, 1999; Torrance, 1963; Westby & Dawson, 1995), even when they claim to value creativity (Dawson, Affinito, & Westby, 1999; Hunsaker, 1994; Westby & Dawson, 1995). Thus, teachers may "identify students as creative if they demonstrate likeable characteristics and are high achievers, but overlook creative students who manifest negative behaviors or low achievement" (Aljughaiman & Mowrer-Reynolds, 2005, p. 12).

The lack of familiarity with the characteristics of creativity can have a significant impact on students' access to gifted services: If, in many cases, teachers are the initial gatekeepers into gifted programs, how well do they recognize characteristics of giftedness such as creativity in diverse populations? This study addresses the issue of teachers' perceptions of characteristics of creativity in students, and whether or not those perceptions varied according to race and/or SES.

Purpose of the Study

Teachers' theories of creativity affect not only their referrals for gifted education, but also their judgments about children's creative characteristics and their tolerance for creative behaviors in the classroom (Chan & Chan, 1999; García-Cepero & McCoach, 2009; Runco,

1990, 2007; Runco & Johnson, 2002; Runco, Johnson, & Bear, 1993). Despite claims that they value creativity, teachers frequently disapprove of highly creative students (Dawson et al., 1999; Torrance, 1963; Westby & Dawson, 1995), indicating a dislike of students with traits typically associated with creativity, such as independence, risk-taking, and curiosity (Bachtold, 1974; Torrance, 1963; Westby & Dawson, 1995).

While a number of studies have examined teachers' conceptions of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Diakidoy & Kanari, 1999; Runco, 1989; Runco & Johnson, 2002; Westby & Dawson, 1995), and others have focused on teachers' attitudes toward diverse and disadvantaged students (Adenika & Berry, 1976; Dusek & Joseph, 1983; Grady, 1971; Harvey & Slatin, 1973; Shoop & Eads, 1977; Zimet & Zimet, 1978), or more specifically, teachers' attitudes toward CLED gifted students (Awanbor, 1989; Elhoweris et al., 2005; Ford, 1995; Frasier, Hunsaker, Lee, Finley, Frank, 1995; Guskin, Peng, & Simon, 1992; Hunsaker , Finley, & Frank, 1997; Jones & Derman-Sparks, 1992; McBee, 2006; Speirs Neumister et al., 2007), none have examined whether there are differences in teachers' perceptions of creativity based on students' cultural and/or linguistic backgrounds.

The overarching purpose of the current study, therefore, was to investigate characteristics that teachers perceive as being associated with creativity, and whether or not these characteristics vary according to a student's ethnic or socioeconomic (SES) background. There were two parts to this study: the pilot study and the research study. The pilot study had three objectives: (a) to develop a survey instrument designed to assess whether teachers' ratings of creative characteristics in children varied according to the child's socio-economic status (SES) and race; (b) to administer the survey to a sample of the target population; and (c) to analyze the data, and use the results to evaluate the reliability and validity of the survey. The administration of the

pilot study and the ensuing analysis of the data was intended to provide information about individual items and the overall construction of the questionnaire, as well as implementation procedures, before the research study was conducted. The research study itself had two objectives: (a) to administer the previously-developed survey instrument; and (b) to analyze the data, and use the results to determine whether or not teachers' ratings of characteristics of creativity were statistically significantly different based on students' ethnicity and SES background.

Theoretical Framework

Many of the current beliefs about giftedness and the abilities of CLED students can be traced back to early works by Terman (1925), Jensen (1969), and Herrnstein and Murray (1994). Louis Terman's (1925) studies of extraordinarily gifted students led him to posit that White males were superior to women and minorities. Attributing inferior intelligence to racial and family background, Terman (1925) suggested that children of superior intelligence were found exclusively in the upper classes, ignoring differences in minority students' access to education and cultural experiences.

Terman's (1925) views were later propagated by Jensen, whose 1969 article, "How Much Can We Boost IQ and Scholastic Achievement?" asserted that racial differences in genetic factors, not discrimination, were at the root of social inequities and poor academic performance. This theory of genetic intellectual inferiority of minority individuals, commonly known as biological determinism, was resurrected in *The Bell Curve* (Herrnstein & Murray, 1994), in which the authors argued that social inequalities are due to biological differences in intelligence between Blacks and Whites. Social scientists have since denounced this theory, pointing out that discrepancies in scores can be explained by cultural and socioeconomic (SES) differences

(Darling-Hammond, 1995; Fischer et al., 1996; Heckman, 1995; Hilliard, 1996; Jencks & Phillips, 1998; Nisbett, 1998), but the legacy of racial and ethnic inferiority has almost certainly influenced teachers' attitudes and behaviors toward CLED students. Teachers appear to view majority students more favorably than disadvantaged and minority students (Cornbleth & Korth, 1977; Grady, 1971; Harvey & Slatin, 1973; Shoop & Eads, 1977; Zimet & Zimet, 1978). White teachers tend to hold more negative attitudes toward Black students than White students (Shoop & Eads, 1977; Zimet & Zimet, 1978), to rate White students more favorably than Black students (Cornbleth & Korth, 1977), and to expect White students to be more successful in school than Black children across SES levels (Harvey & Slatin, 1973).

Teacher nominations for gifted education screening also appear to depend on students' ethnicity. Given vignettes describing students' characteristics which were identical except for information about ethnicity, 207 elementary teachers made different recommendations for students of different ethnic backgrounds (Elhoweris et al., 2005). Guenther (2009) found that teachers were less likely to recommend minority students for honors coursework. A meta-analysis by Tenenbaum and Ruck (2007) noted small but significant effects suggesting higher teacher expectations, more referrals for gifted education, and more positive interactions for White students as compared to Black and Hispanic students.

Georgia is one of the states that requires the use of nominations, either reported or automatic, for consideration for gifted education. Specifically, "A student may be referred for consideration for gifted education services by teachers, counselors, administrators, parents or guardians, peers, self, and other individuals with knowledge of the student's abilities" (Georgia Department of Education, 2015a, p. 6). Although the Georgia Department of Education does not provide information on the percentage of referrals received from each referral source, the

researcher's experience indicates that teacher nominations comprise more than 90% of the referrals received. Automatic referrals are not addressed in this study, as they are based on standardized scores (at or above the 90th percentile) on norm-referenced tests, and do not require the judgments of teachers.

Georgia was also one of the first states to adopt the use of multiple criteria, consisting of mental ability, achievement, motivation, and creativity, for identification of gifted students in order to better address inequities in the representation of CLED students in gifted programs. However, teachers are often asked to recommend students who demonstrate "gifted potential" for gifted programs, without being provided with any real guidance in defining the construct or specific program criteria (Hoge & Cudmore, 1986; Hunsaker, 1994; Siegle & Powell, 2004). While teachers may perceive creativity as an essential component of giftedness, when nominating students for gifted programs, they tend to focus on characteristics connected with intelligence and classroom performance, such as ease of learning, motivation, and work habits, instead of those associated with creativity, such as fluency, flexibility, originality, or the ability to approach problems from many directions (Awanbor, 1989; Aljughaimin & Mowrer-Reynolds, 2005; Brown, Renzulli, Gubbines, Siegle, & Zhang, 2005; deWet & Gubbins, 2011; Guskin et al., 1992; Hunsaker, 1994; Hunsaker et al., 1997; Schack & Starko, 1990; Siegle & Powell, 2004; Speirs Neumeister et al., 2007; Tomlinson et al., 1994; Wilson, 1963). Creative gifted students who do not fit the stereotypic notion of gifted learners are likely to be overlooked (Tomlinson et al., 1994).

Research Questions

Due to the lack of research on whether there are differences in teachers' perceptions of creativity based on students' cultural and/or linguistic backgrounds, the following research questions were investigated in both the pilot and the research study:

What characteristics do teachers associate with creativity? Do these characteristics appear to vary according to a student's ethnic/cultural background and SES?

Is there a statistically significant difference in teachers' perceptions of characteristics of creativity based on students' race and SES?

Significance of the Study

The recognition of creativity as a distinct aspect of giftedness has significant implications for CLED students, as creativity appears to be a strength for many CLED students (Torrance, 1971, 1977, 1978), and, thus, may provide an important avenue for entrance into gifted programs. There are indications that CLED students tend to perform better on divergent thinking tests, in particular those emphasizing figural creative production, than on tests emphasizing convergent thinking skills. Although divergent thinking is only one aspect of creative potential, divergent thinking tasks appear to tap intellectual abilities not typically measured by standardized tests of intelligence (Price-Williams & Ramirez, 1977; Troiano & Bracken, 1983). However, if teachers have a low tolerance for behavioral manifestations of creativity, or do not recognize these behaviors as possible indicators of creativity, they are unlikely to refer such students for screening, much less testing. This project is significant because it addresses an under-researched area of gifted education and CLED students: whether or not teachers' perceptions of characteristics of creativity in students vary according to a student's racial/ethnic and SES background.

Research Methods

This study used a quantitative approach: a survey questionnaire was used to collect participants' responses to a series of vignettes describing young students of different racial/ethnic and SES backgrounds. A convenience sample of graduate students, all of whom were teachers enrolled in a graduate level course on gifted education at a large public university, while a stratified sample of elementary gifted and classroom teachers was used for the research study. All participants were located in one state in the Southeastern United States. Participants were asked to read three short vignettes depicting students of various race/ethnicity and SES and choose characteristics of creativity that they believed the fictional student would possess. Each vignette provided information about a fictional female student: demographic information, social skills, academic performance, and family background, including socioeconomic status (SES). The main focus of the vignettes, however, was behaviors based on characteristics of giftedness and creativity as found in the literature (Baldwin, 1978; Clark, 2013; Frasier, Hunsaker, Lee, Mitchell et al., 1995; Torrance, 1977). Participants were directed to read each vignette and choose creative characteristics they would expect to find in that student from a list of 36 characteristics, presented in random order.

Summary

This paper served to introduce the study that focuses on teachers' perceptions of creative characteristics in CLED students. This study builds upon previous research in the field of gifted education regarding teachers' perceptions of CLED students, and their conceptions of characteristics of creativity. Included in this paper were the background and the statement of the problem, as well as the purpose, theoretical framework, research questions, significance, and research methods.

CHAPTER 2

REVIEW OF THE LITERATURE

How do teachers expect to see creativity manifested in students? Specifically, how do teachers expect creativity to be manifested in culturally, linguistically, and economically diverse (CLED) students? Teachers' implicit theories of creativity affect their expectations and judgments about children's creative characteristics and behaviors, which impact children's creative performance (Chan & Chan, 1999; García-Cepero & McCoach, 2009; Runco, 1990, 2007; Runco & Johnson, 2002; Runco, Johnson, & Bear, 1993). Despite claims that they value creativity, teachers frequently disapprove of highly creative students (Dawson, D'Andrea, Affinito, & Westby, 1999; Torrance, 1963; Westby & Dawson, 1995). Many teachers have misconceptions about the nature of creativity, attributing characteristics such as sincere, responsible, hard- working, and disciplined, to creative students (Holland, 1959; Westby & Dawson, 1995), while indicating a dislike of students with traits typically associated with creativity, such as independence, risk-taking, and curiosity (Bachtold, 1974; Torrance, 1963; Westby & Dawson, 1995).

Early studies by Torrance (1963) indicated that disapproval of creative students was a near universal feeling among teachers in the USA, Canada, Australia, Germany, India, Greece and the Philippines. More recent studies across various countries (Brandau, et al., 2007; Chan & Chan, 1999; Dawson et al., 1999; Karwowski, 2007; Scott, 1999) have reported similar findings. Yet other studies have indicated that teachers describe creative students in positive terms (Aljughaiman & Mowrer-Reynolds, 2005; Runco & Johnson, 2002; Runco et al., 1993;

Sussman & Justman, 1975). How do teachers really view creative students, especially creative CLED students? Conversely, how do teachers respond to and characterize the interactional and behavioral characteristics known to be actually associated with creativity in children? What can explain the paradox?

Implicit theories

Before examining teachers' theories of creativity, it is necessary to understand the concept of implicit theories. Implicit theories are subjective, personal ideas, thoughts, and beliefs about a particular construct (Sternberg, 1985). They influence attitudes and behaviors toward oneself and others (García-Cepero & McCoach, 2009; Runco et al., 1993; Sternberg, 1985), as well as what domains and activities are considered valuable and worthy of recognition (Paletz, Peng, & Li, 2011). Since they are derived from individuals' belief systems and exist only in people's minds, implicit theories must be discovered and communicated, rather than invented (Chan & Chan, 1999; Runco, 1999; Sternberg, 1985). "Discovering such theories can be useful in helping to formulate the common-cultural views that dominate thinking about a given psychological construct" (Sternberg, 1985, p. 608).

Implicit theories can provide a conceptual framework for explicit theories, especially for constructs that are difficult to define, such as creativity or intelligence (Sternberg, 1985). Explicit theories, developed and explicitly stated by psychologists and scientists, are based on data that are presumed to measure the construct under consideration. Implicit theories can help extend and enhance current explicit theories and contribute to the development of new explicit theories.

Previous studies of implicit theories have compared teachers' and parents' views of creativity (Runco, 1989; Runco et al., 1993), United States and Indian parents' and teachers'

opinions about the desirability of certain characteristics of creativity (Runco & Johnson, 2002), Hong Kong and Singapore student-teachers' (Seng, Keung, & Cheng, 2008), and Chinese, German, and Japanese teachers' (Zhou, Shen, Wang, Neber, & Johji, 2013) beliefs about creativity. Other studies have examined Hong Kong teachers' implicit theories of creativity (Chan & Chan, 1999), Eastern and Western individuals' views of creativity as an internal process or external product (Paletz et al., 2011), and gifted adolescents' implicit theories of creativity (Wickes & Ward, 2006). Any study of implicit theories is fixed in time and culture; implicit theories from one culture do not necessarily translate into another culture (Sternberg, 1985).

Social validation

Implicit theories can be articulated using social validation, "the extent to which a traditional objective psychometric evaluation agrees with or predicts the subjective judgment of teachers, parents, supervisors, or significant others" (Runco, 1984, p. 711). Social validation is particularly valuable because the instrument used is constructed based on the beliefs and values of individuals familiar with the environment, using criteria that are valued in the real world (Runco & Johnson, 2002). Individuals share their personal beliefs, rather than responding to questions related to a researcher's hypothesis (Runco et al., 1993). These beliefs provide community- and culture-specific standards for assessing creative behavior (Runco, 1989; Runco et al., 1993).

Information gained from the use of the constructed instrument can be used to supplement traditional psychometric measures. Instruments developed for teachers (Runco, 1984) and parents (Runco, 1989) appear to be highly reliable (Runco et al., 1993). Runco (1984) found a significant correlation between teachers' judgments of student creativity and scores of divergent thinking tasks, confirming the validity of teachers' implicit theories. Sternberg (1985) reported

convergent and discriminant validity between implicit theories and psychometric test scores in the areas of intelligence and wisdom. These findings indicate that implicit theories are valuable tools in examining a particular group's beliefs about constructs such as intelligence and creativity.

Teachers' Conceptions of Creativity

Unfortunately, teachers may not recognize creativity and understand how to nurture it in the classroom (Aljughaiman & Mowrer-Reynolds, 2005; Myers & Torrance, 1961; Torrance, 1963). Instead of encouraging creative thinking, teachers' attitudes and actions may actually work to squelch creativity (Bachtold, 1974; Myers & Torrance, 1961). The incongruity between teachers' beliefs about the importance of creativity and their actions in the face of creative thinking has changed little over the last 50 years (Aljughaiman & Mowrer-Reynold, 2005; Bachtold, 1974; Dawson et al., 1999; Getzels & Jackson, 1962; Torrance, 1963; Westby & Dawson, 1995). These beliefs and actions derive from teachers' conceptions of creativity and related constructs such as intelligence.

Creativity and Intelligence

Implicit theories of intelligence and creativity are interwoven and complex; for many years, conceptions of creativity were indistinguishable from those of intelligence. Sir Francis Galton (1887), one of the first to examine intelligence in depth, based his observation of intellectual differences on marks earned by men at Cambridge and the "eminence" men attained in their chosen professions. He suggested that intelligence was inherited and could be measured with certain tests. In the early twentieth century, Alfred Binet developed a test designed to measure intelligence by performance on a series of tasks. After Lewis Terman, of Stanford

University, standardized Binet's original test with American participants, the Stanford-Binet became one of the most widely accepted measures of intelligence in the United States.

Over time, traditional notions of intelligence began to change, albeit slowly. One of the first to question the idea of intelligence as scores on an IQ test was J.P. Guilford (1950). In his presidential address to the American Psychological Association (APA), Guilford expressed doubt that intelligence tests could adequately measure creativity, suggesting that "creativity and creative productivity extend well beyond the domain of intelligence" (p. 445). Instead, he proposed that intelligence be considered a construct of multiple factors, including creativity. Distinguishing between creative potential and creative production, Guilford linked creative production to personality traits such as motivation and temperament. He urged fellow psychologists to research the creative potential found in children as well as ways to promote that potential (Guilford, 1950).

Since then, many researchers have examined the relationship between intelligence and creativity, yielding results that are inconsistent and inconclusive. Some studies have indicated that intelligence and creativity are related but separate constructs (Getzels & Jackson, 1962; Palaniappan, 2007; Wallach & Kogan, 1965). Other studies have indicated a statistically significant and positive correlation between creativity and intelligence (Gulati, 1979; Pearlman, 1983; Srivasta & Thomas, 1991). Still others have reported that high creativity is associated with high intelligence, although the reverse is not necessarily true (Barron, 1963; Cropley, 1966; MacKinnon, 1962). The different findings likely result from differences in creativity and intelligence tests, age, analytical strategies, and selective samples used in the research (Gralewski, Weremczuk, & Karwowski, 2012; Runco & Albert, 1986; Sternberg, Kaufman, & Pretz, 2002; Palaniappan, 2007).

Teachers' Perceptions of Creativity

Given the inconsistent findings about the relationship between intelligence and creativity, it is not surprising that teachers may focus on academic traits or behaviors as indicators of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Fleith, 2000; Gralewski & Karwowski, 2013; Karwowski, 2007; Westby & Dawson, 1995). Teachers' perceptions of students' creativity may be influenced by intelligence (Getzels & Jackson, 1962; Karwowski, 2007; Runco, 1989; Swenson, 1978; Torrance, 1963; Yamamoto, 1964), academic achievement (Aljughaiman & Mowrer-Reynold, 2005; Gralewski & Karwowski, 2013; Guskin, Peng, & Simon, 1992; Holland, 1959; Hunsaker, 1994; Karwowski, 2007; Kousoulas & Mega, 2009; Runco, 1989), and personality traits such as motivation, initiative, perseverance, and curiosity (Fleith, 2000; Scott, 1999). This may occur because teachers are more familiar with behaviors indicating intelligence and achievement than those indicating creativity (Aljughaiman & Mowrer-Reynolds, 2005; Gralewski & Karwowski, 2013; Mayfield, 1979). Students rated high in creativity by their teachers are likely to be bright, high-achieving student leaders with intrinsic motivation (Aljughaiman & Mowrer-Reynolds, 2005; Holland, 1959; Lau & Li, 1996). In fact, teachers rate many highly creative students as less creative than students with low scores on creativity tests who earn high grades (Holland, 1959; Karwowski, 2007).

Traits that teachers associate with creativity appear to be quite different from those traditionally identified as characteristic of creative individuals (Aljughaiman & Mowrer-Reynolds, 2005; Brandau et al., 2007; Cropley, 2009; Dawson et al., 1999; Gralewski & Karwowski, 2013; Kousoulas & Mega, 2009; Runco et al., 1993; Sternberg, 1985; Torrance, 1963; Westby & Dawson, 1995). Traditional profiles of creativity found in the literature

(MacKinnon, 1963; Sternberg, 1985; Torrance, 1963) are based, at least in part, on characteristics of creative architects, whose work is more related to figural than verbal performance. Adjectives used to describe creative attributes of architects (MacKinnon, 1964) and writers (Barron, 1968), however, suggest that different profiles may be associated with verbal and figural creativity (Westby & Dawson, 1995).

Teachers' concepts of creativity tend to be based on creativity in the verbal domain. Dawson et al. (1999) compared judges' ratings of students' short stories and collages to traditional views of creativity and teachers' views of creativity. Students who most closely matched teacher-defined prototypes of creativity received the highest scores in the verbal tasks, while those who most closely matched traditional prototypes received the highest figural scores. Since students with high scores on intelligence tests tend to have high scores on tests of verbal creativity (Kershner & Ledger, 1985), teachers' apparent association of high verbal ability with creativity may indicate a confounding of creativity and intelligence (Gralewski & Karwowski, 2013).

Teachers' Perceptions of Characteristics of Creativity

Teachers are often unaware of primary characteristics of creativity, such as divergent thinking, fluency, flexibility, and elaboration (Aljughaiman & Mowrer-Reynolds, 2005; Chan & Chan, 1999; Fryer & Collings, 1991). At the same time, they perceive characteristics traditionally recognized as most typical of creativity—sets his or her own rules, impulsive, nonconforming, and emotional—as among the least typical characteristics of creativity (Westby & Dawson, 1995). In a survey of 42 Korean educators, Lee and Seo (2006) found that more than one-third (38%) viewed creativity as a cognitive component only, neglecting environmental aspects such as cultural, social, and individual influences,

and personal aspects, such as task commitment and motivation. Student teachers from Hong Kong believed that creativity was dependent on influences such as birth order, effort, and logical thinking, while those from Singapore believed that creativity was dependent on intelligence (Seng et al., 2008).

Common characteristics of creative thinking perceived by teachers include curious, imaginative, independent, self-confident, original, individualistic, artistic, energetic, enthusiastic, intelligent, inventive, multiple interests, adventurous, clever, and motivated (Aljughaiman & Mowrer-Reynolds, 2005; Bachtold, 1974; Bull, Montgomery, & Baloche, 1995; Chan & Chan, 1999; Diakidoy & Kannari, 1999; Fryer & Collings, 1991; Morais & Azevedo, 2011; Runco, 1984; Runco & Johnson, 2002; Runco et al., 1993; Scott, 1999; Sussman & Justman, 1975; Swenson, 1978; Westby & Dawson, 1995; Zhou, Shen, Wang, Neber, & Johji, 2013). Others include determined, nonconforming, questioning, risk-taking, critical of others, impulsive, stubborn, inquisitive, rebellious, self-centered, arrogant, sets own rules, challenging, uninhibited, daring, active, and disruptive (Aljughaiman & Mowrer-Reynolds, 2005; Bull et al., 1995; Chan & Chan, 1999; Runco, 1984; Runco & Johnson, 2002; Runco et al., 1993; Scott, 1999; Sussman & Justman, 1975; Westby & Dawson, 1995), all qualities that could be difficult to manage in a classroom environment. Differences in methodologies, research foci, and sample populations contribute to different findings, although a number of characteristics are noted in multiple studies (see Table 2.1). A summary of studies and characteristics can be found in Appendix A. Although teachers may list these characteristics, it is not clear whether or not they recognize these characteristics in students, or whether they realize that creative students may exhibit only a few of these characteristics under certain conditions.

Table 2.1. *Common Characteristics of Creativity as Perceived by Teachers*

Characteristic	Studies indicating teachers' perception as characteristic of creativity
curious	Aljughaiman & Mowrer-Reynolds (2005); Bachtold (1974); Bull, Montgomery, & Baloche (1995); Runco (1984); Runco & Johnson (2002); Runco, Johnson, & Bear (1993); Sussman & Justman (1975); Swenson (1978); Zhou, Shen, Wang, Neber, & Johji (2013)
imaginative	Aljughaiman & Mowrer-Reynolds (2005); Chan & Chan (1999); Diakidoy & Kanari (1999); Fryer & Collings (1991); Runco (1984); Runco & Johnson (2002); Runco, Johnson, & Bear (1993); Zhou, Shen, Wang, Neber, & Johji (2013)
independent	Aljughaiman & Mowrer-Reynolds (2005); Bachtold (1974); Bull, Montgomery, & Baloche (1995); Diakidoy & Kanari (1999); Runco (1984); Sussman & Justman (1975); Swenson (1978); Torrance (1963)
self- confident	Bachtold (1974); Bull, Montgomery, & Baloche (1995); Diakidoy & Kanari (1999); Fryer & Collings (1991); Runco (1984); Runco & Johnson (2002); Runco, Johnson, & Bear (1993); Swenson (1978)
original	Diakidoy & Kanari (1999); Fryer & Collings (1991); Morais & Azevedo (2011); Runco (1984); Runco & Johnson (2002); Runco, Johnson, & Bear (1993); Zhou, Shen, Wang, Neber, & Johji (2013)
individualistic	Diakidoy & Kannari (1999); Runco (1984); Runco & Johnson (2002); Runco, Johnson, & Bear (1993); Sussman & Justman (1975); Westby & Dawson (1995)
artistic	Aljughaiman & Mowrer-Reynolds (2005); Diakidoy & Kanari (1999); Runco (1984); Runco & Johnson (2002); Runco, Johnson, & Bear (1993)
energetic	Aljughaiman & Mowrer-Reynolds (2005); Bull, Montgomery, & Baloche (1995); Runco & Johnson (2002); Runco, Johnson, & Bear (1993); Sussman & Justman (1975)
enthusiastic	Aljughaiman & Mowrer-Reynolds (2005); Bull, Montgomery, & Baloche (1995); Runco, Johnson, & Bear (1993); Sussman & Justman (1975); Zhou, Shen, Wang, Neber, & Johji (2013)
intelligent	Aljughaiman & Mowrer-Reynolds (2005); Chan & Chan (1999); Runco (1984); Runco, Johnson, & Bear (1993); Sussman & Justman (1975)
inventive	Fryer & Collings (1991); Runco (1984); Runco & Johnson (2002); Runco, Johnson, & Bear (1993)
multiple interests	Diakidoy & Kanari (1999); Runco (1984); Runco, Johnson, & Bear (1993); Zhou, Shen, Wang, Neber, & Johji (2013)
adventurous	Runco (1984); Runco & Johnson (2002); Runco, Johnson, & Bear (1993)
clever	Runco & Johnson (2002); Runco, Johnson, & Bear (1993); Sussman & Justman (1975)
motivated/self-directed	Bull, Montgomery, & Baloche (1995); Runco (1984); Zhou, Shen, Wang, Neber, & Johji (2013)
nonconformity	Chan & Chan (1999); Runco (1984); Runco, Johnson, & Bear (1993)

Teachers' Perceptions of Creative Students

Teachers appear to have ambivalent feelings toward creative children and youth (Chan & Chan, 1999; Cropley, 1992; Domino, 1970; Getzels & Jackson, 1962; Karwowski, 2007; Raina, 1975; Raina & Raina, 1971; Scott, 1999; Sussman & Justman, 1975; Swenson, 1978; Torrance, 1963; Westby & Dawson, 1995). While some positive behavioral and personality traits of creativity are valued by teachers, others are less desirable (Cropley, 1992; Davis, 1999; Raina & Raina, 1971; Runco & Johnson, 2002; Scott, 1999; Torrance, 1963; Westby & Dawson, 1995). Teachers tend to associate creativity with misbehavior or disruptiveness, so they may dislike highly creative students and find them troublesome in the classroom (Dawson, 1997; Scott, 1999). In fact, many teachers perceive highly creative students as significantly more defiant, self-centered, disruptive, critical of others, antisocial, stubborn, and less agreeable and conscientious than less creative students (Aljughaiman & Mowrer-Reynolds, 2005; Brandau et al., 2007; Cropley, 2009; Karwowski, 2007, 2010; Scott, 1999), characteristics could make it difficult to maintain discipline in the classroom (Cropley, 2009).

Teachers' perceptions of creative students as behavior problems may be justified (Kaltsounis & Higdon, 1977; Kim & VanTassel-Baska, 2010; Stone, 1980; Wallach & Kogan, 1965). Behavioral manifestations of attention deficit-hyperactivity disorder (ADHD), such as inattention, hyperactivity, and impulsivity, are common in creative children (Cramond, 1995). Disruptive behavior, impulsivity, and extraversion (Brandau et al., 2007), and teacher reports of behavior problems (Kim & VanTassel-Baska, 2010) have been found to relate to high scores on creative thinking tasks. This may be due to the mismatch between traditional school experiences and highly creative students. Lacking opportunities for creative self-

expression, creative students may resent the constraints of the classroom, failing to follow directions and complete schoolwork, which may in turn lead to teacher criticism and ostracism (Kim & VanTassel-Baska, 2010). Teachers must cope with the paradox that while creativity is regarded as positive, creative children may stir problems in the classroom and appear to encourage misbehavior in other students (Cropley, 2009).

On the other hand, a number of studies have found that teachers attributed only positive characteristics to creative students, and negative characteristics to uncreative students (Aljughaiman & Mowrer-Reynolds, 2005; Runco & Johnson, 2002; Runco et al., 1993; Sussman & Justman, 1975). Based on teachers' reported dislike of creative students (Dawson, 1997; Scott, 1999; Westby & Dawson, 1995), this positive view of creativity seems puzzling. One reason may be that teachers lack an understanding of the nature of creativity and what creative students are actually like (Aljughaiman & Mowrer-Reynolds, 2005; Scott, 1999; Westby & Dawson, 1995). Teachers prefer socially acceptable traits that are conducive to classroom management, such as conformity, obedience, and responsibility (Bachtold, 1974; Cropley, 1992; Dettmer, 1981; Getzels & Jackson, 1962; Kaltsounis, 1977; Rudowicz & Yue, 2000; Scott, 1999; Torrance, 1963; Westby & Dawson, 1995), even when they claim to value creativity (Dawson et al., 1999; Hunsaker, 1994; Westby & Dawson, 1995). Thus, they may "identify students as creative if they demonstrate likeable characteristics and are high achievers, but overlook creative students who manifest negative behaviors or low achievement" (Aljughaiman & Mowrer-Reynolds, 2005, p. 12).

Another reason may be differences in traditional and teachers' views of creativity (see previous discussion). If teachers confound intelligence and creativity (Gralewski & Karwowski, 2013), they may be more likely to perceive children with high verbal abilities

as creative. The difference in perceptions may explain the discrepancy between teachers' reports that they view creative students favorably and their apparent dislike of characteristics traditionally associated with creativity (Bachtold, 1974; Dawson et al., 1999; Westby & Dawson, 1995).

In an extensive review of the literature, Davis (1999) found over 200 adjectives and descriptors of creative attitudes. Fifteen of these were considered positive descriptors of creativity: awareness of creative nature, original, independent, risk-taking, energetic, curious, sense of humor, attracted to complexity, capacity for fantasy, artistic, open-minded, needs alone time, intuitive, intelligent, and motivated. Seven were considered negative: egotistical, impulsive, argumentative, immature, absentminded, neurotic, and hyperactive. These negative traits "are likely to cause personal or social adjustment problems" (Davis, 1999, p. 173). Antithetical traits—extroverted and introverted, rebellious and conservative, playfulness and perseverance, and divergent and convergent thinking—appear to be inherent in creative individuals (Csikzentmihalyi, 1996).

Teachers' Attitudes Toward Creative CLED Students

While there is a plethora of research on teachers' perceptions of creativity and creative students, none has specifically focused on teachers' perceptions of creativity in CLED students. In general, teachers do appear to view majority students more favorably than disadvantaged and minority students (Cornbleth & Korth, 1977; Grady, 1971; Harvey & Slatin, 1973; Shoop & Eads, 1977; Zimet & Zimet, 1978). White teachers tend to hold more negative attitudes toward Black students than White students (Shoop & Eads, 1977; Zimet & Zimet, 1978), to rate White students more favorably than Black students (Cornbleth & Korth, 1977), and to expect White students to be more successful in school than Black children across SES levels (Harvey & Slatin,

1973). There is no reason to believe that these trends would not continue in teachers' perceptions of creative CLED students. Unfortunately, to date, that supposition has been neither proven nor disproven.

Gender Differences in Perceptions of Creativity

Some studies have indicated that teachers perceive female students as more creative than male students (Karwowski, Gralewski, Szumski, 2015; Lee & Pfeiffer, 2006; Scott, 1999; Sommer, Fink, & Neubauer, 2008), while others have indicated that teachers perceive male students as more creative than female students (Gralewski & Karwowski, 2013, Lau & Li, 1996). In Sommer et al.'s (2008) study, teachers tended to rate females higher on creativity if they had rated the females high on intelligence. Lau and Li (1996) found that boys were rated as more creative by peers and teachers, with popular children rated highest in comparison to students in other peer-status groups. Kousoulas and Mega (2009) found that teachers rated males and females equally. However, on tasks, girls scored higher in fluency and flexibility than boys, indicating that boys' ratings were too high, and girls' ratings were too low. Not surprisingly, teachers' ratings of students' creativity strongly correlated to their ratings of students' academic performance. It must be pointed out that much of the research on teachers' ratings and students' creativity has involved high school students (Gralewski & Karwowski, 2013; Holland, 1959; Lau & Li, 1996) and may not be applicable to elementary students.

Karwowski, Gralewski, and Szumski (2015) caution that teachers' perceptions of students' creativity can impact students' own perceptions of their creativity, and thus, their creative self-perception and production. Female students may be at particular risk of internalizing messages about a perceived lack of creativity.

Gifted Females

There are a number of gender issues originally publicized in *The AAUW Report: How Schools Shortchange Girls* (Bailey et al., 1992), and *Failing at Fairness: How America's Schools Cheat Girls* (Sadker & Sadker, 1994) that continue to affect male and female students: boys tend to receive more attention, feedback, and instructional time from teachers (Bailey et al., 1992). While assertiveness is discouraged in females, it is rewarded in males (Klein & Zehms, 1996). Girls are more likely than boys to report being bullied or harassed on the basis of sex (U.S. Department of Education (USDOE), 2012b). Girls of all races/ethnicities receive fewer out-of-school suspensions than boys of the same race/ethnicity, yet Black girls receive more suspensions than Latino, White, or Asian-American boys (USDOE, 2012b).

Gender issues also impact gifted students. According to the U.S. Department of Education (USDOE, 2012b), girls in gifted programs have outnumbered boys since 1976. Indeed, the most recent estimates of gifted participation indicate that females outnumber males in gifted programs by 50.8% to 49.2% (USDOE, 2012a). More girls are identified in elementary school, but by tenth grade, they drop out in greater numbers than boys (Kerr, 1994; Sadker, 1999). While all girls need a strong support system, gifted girls need support tailored to their greater talent and potential for achievement (Silverman, 1991; Smutny, 1999). According to Smutny (1999),

> Gifted girls face a quandary...When boys ask questions, call out their answers (sometimes without raising their hands) or engage in debate, adults tend to see the signs of eager minds at work. Girls receive reprimands or disapproval for behavior deemed aggressive, pushy, unfeminine or impolite. This message is not lost on gifted girls (Smutny, 1999).

Gifted girls face both external and internal influences (Reis, 2001, 2002) that gifted boys and nongifted girls do not. The need for acceptance may impel gifted girls to hide their abilities in order to blend in and preserve social relationships (Silverman, 1997; Smutny, 1999). Gifted girls' self-perceived abilities and self-confidence plummet from elementary school through high school (American Association of University Women, 1991; Kline & Short, 1991), at the same time that perfectionism, hopelessness, and discouragement increase (Kline & Short, 1991). Comparing the attitudes and beliefs of 134 gifted girls in grades three, five and eight to a control group, Klein and Zehms (1996) found that elementary school was a positive time for most gifted girls. However, by eighth grade, these girls displayed decreased self-concept compared to grades three and five. In fact, eighth grade gifted girls scored lower than third grade girls on five out of six subscales. Kerr (1994) noted that gifted girls may display a fear of success, which she nicknamed the Horner Effect, in which females deliberately hang back in order to please others instead of competing with them.

Gifted girls also face external influences, such as parental, educational, and societal expectations and attitudes. For example, parents may hold lower expectations for girls, especially in math (Reis, 2002). Teachers perceive gifted girls as working harder and producing higher quality work than boys (Siegle & Reis, 1998), but give them less attention (Reis & Callahan, 1996). Teachers are more likely to underestimate the intelligence of girls (Kramer, 1985; Sadker & Sadker, 1994), perhaps because they have higher expectations for and interact more with gifted boys than gifted girls (Cooley, Chauvin, & Karnes, 1984). Teachers have been found to believe and reinforce one of the most prevalent sex stereotypes - that males have more innate ability, while females must work harder (Reis, 2002). In fact, Bianco et al. (2015) found that teachers were more likely to refer males for gifted services than identically described

females. Teachers described the male in terms of positive gifted characteristics (e.g., independence, creativity, motivation), but focused on negative characteristics when describing the female (e.g., arrogant, self-critical, bossy). While the female was deemed unprepared for gifted services due to social incompetence, no such concern was expressed for the male student.

Conclusions

Since teachers' conceptions of creativity may be incomplete or inaccurate, it is likely that they need training about characteristics of and behaviors associated with creativity. For example, teachers are often asked to recommend students who demonstrate "gifted potential" for gifted programs, without being provided with any real guidance in defining the construct or specific program criteria (Hoge & Cudmore, 1986; Hunsaker, 1994; Siegle & Powell, 2004). While teachers may perceive creativity as an essential component of giftedness, when nominating students for gifted programs, they tend to focus on characteristics connected with intelligence and classroom performance, such as ease of learning, motivation, and work habits, instead of those associated with creativity, such as fluency, flexibility, originality, or the ability to approach problems from many directions (Awanbor, 1989; Aljughaimin & Mowrer-Reynolds, 2005; Guskin, Peng, & Simon, 1992; Hunsaker, 1994; Hunsaker, Finley, & Frank, 1997; Schack & Starko, 1990; Siegle & Powell, 2004; Speirs Neumeister, Adams, Pierce, Cassady, & Dixon, 2007; Tomlinson et al., 1994; Wilson, 1963). When asked to rate students on specific criteria such as "has the most ideas," "finds new ways to approach problems," and "thinks of many details," teachers are more likely to be able to distinguish highly creative students (Yamamoto, 1963, 1964).

In addition, teachers may need a specific ranking situation, such as comparing students to others in the class, to accurately assess creativity (Mayfield, 1979). Instructing

teachers to envision a creative student they have taught, instead of considering creative characteristics in general, appears to help them integrate both positive and negative characteristics of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Dawson, 1997; Gralewski & Karwowski, 2013).

Whether intentionally or unintentionally applied, teachers' implicit theories of creativity shape their understandings of children's creative characteristics and behaviors, which ultimately impact children's creative performance (Chan & Chan, 1999; García-Cepero & McCoach, 2009; Runco, 1990, 2007; Runco & Johnson, 2002; Runco et al., 1993). Additional research is needed to examine the disjunctions and intersections between teachers' implicit theories about creativity and their attitudes toward creative students, in particular creative CLED students.

CHAPTER 3

DEVELOPMENT AND VALIDATION OF THE SURVEY OF TEACHERS' PERCEPTIONS OF CREATIVITY IN STUDENTS -FEMALE (STPCS-F)

For many years, superior mental ability was the sole criterion for admission to gifted programs in Georgia and other states. Over time, traditional notions of intelligence began to change, albeit slowly. Publications such as *The Marland Report* (Marland, 1972) and *National Excellence: The Case for Developing America's Talent* (U.S. Department of Education, 1993) were instrumental in expanding the idea of giftedness beyond IQ to include specific academic and creative aptitudes, and in challenging educational systems to improve educational opportunities for minority and disadvantaged students with outstanding potential.

A number of states responded to the challenge by broadening their definitions of giftedness to include these aptitudes; more than half now include creativity (Callahan, Moon, & Oh, 2013; McClain & Pfeiffer, 2012). Unfortunately, many educators are not familiar with characteristics of creativity and how those characteristics are manifested in students' behaviors (Davis & Rimm, 1997).

The lack of familiarity with the characteristics of creativity can have a significant impact on students' access to gifted services. Since many school districts require that students be referred or nominated before testing for gifted services can take place, teachers frequently act as the initial "gatekeepers" in the referral process (Callahan et al., 2013); students who are not nominated by their teachers may not be considered for additional testing. This begs the question:

If, in many cases, teachers are the initial gatekeepers into gifted programs, how well do they recognize characteristics of giftedness such as creativity in diverse populations?

Previous Research

Teachers' attitudes toward diverse students. There is evidence that students' ethnicity impacts teachers' perceptions of giftedness (Elhoweris, Mutua, Alsheikh, & Holloway, 2005; Guenther, 2009; McBee, 2006; Speirs, Adams, Pierce, Cassady, & Dixon, 2007). White teachers appear to (1) hold more negative attitudes toward Black students than toward White students (Shoop & Eads, 1977; Zimet & Zimet, 1978); (2) rate White students more favorably than Black (Cornbleth & Korth, 1977) or Hispanic students (Masten, Plata, Wengler, & Thedford, 1999); and (3) expect White students to be more successful in school than culturally, linguistically, and economically diverse (CLED) students (Harvey & Slatin, 1973; van den Bergh, Denessen, Hornstra, Voeten, & Holland, 2010). Elhoweris et al. (2005) and Guenther (2009) found that teachers made different recommendations for students of different ethnic backgrounds.

Educators, the majority of whom are White, often base their expectations of gifted behavior on the behaviors of White students, without considering the impact of cultural and linguistic differences, causing them to misunderstand or misinterpret differences in gifted behaviors between White and CLED students (Briggs, Reis, & Sullivan, 2008; Elhoweris et al., 2005; Ford, 1994; Frasier, Martin et al., 1995; Speirs Neumeister et al., 2007). These misconceptions about culture and giftedness carry over into lower referral rates of CLED students for gifted programs (Ford, 1998; Ford, Grantham, & Whiting, 2008; Tenenbaum & Ruck, 2007).

Teacher nomination. Teacher and/or parent nominations are still required in 13 states for a student to be considered for entrance into gifted programs (National Association for Gifted

Children, 2013; McClain & Pfeiffer, 2012). In fact, a large-scale analysis of data provided by state and local coordinators of gifted programs indicated that teacher and parent nomination were "the most commonly used non-standardized procedures in the identification process" (Callahan et al., 2013, p. 19) at the elementary level.

Even though they are an important referral source, teachers appear to be neither efficient (the number of gifted students located by a procedure as compared to the number of gifted students identified) nor effective (the number of gifted students identified as compared to the number of students nominated), when teacher ratings are compared to student scores on IQ and achievement tests (Alexander, 1953; Baldwin, 1962; Fitz-Gibbon, 1974; Gear, 1976; Pegnato & Birch, 1959), even when teachers have received training in gifted education (Gear, 1978). In a comparison of referral sources for gifted students in Georgia, McBee (2006) found that teachers were less likely to nominate Black, Hispanic and low SES students for gifted screening and were far less accurate in their identification of these students than of White and Asian students. Pass rates on the screening process, although different for Black and White students, were considerably smaller than the different nomination rates. Since teacher recommendations are often necessary as an initial step in screening for gifted programs, CLED students may not get to, much less through the screening process (Ford et al., 2008; McBee, 2006).

Teachers' understandings of giftedness and creativity. In addition, although creativity is one of the criteria used for admission into gifted programs in 27 states (McClain & Pfeiffer, 2012), many educators are not familiar with characteristics of creativity and how those characteristics are manifested in students' behaviors (Davis & Rimm, 1997). Teachers often perceive characteristics traditionally recognized as most typical of creativity, such as sets his

or her own rules, impulsive, nonconforming, and emotional, as among the least typical characteristics of creativity (Westby & Dawson, 1995).

Teachers' implicit theories of creativity affect not only their referrals for gifted education, but also their judgments about children's creative characteristics and their tolerance for creative behaviors in the classroom (Chan & Chan, 1999; García-Cepero & McCoach, 2009; Runco, 1990, 2007; Runco & Johnson, 2002; Runco, Johnson, & Bear, 1993). Despite claims that they value creativity, teachers frequently disapprove of highly creative students (Dawson, D'Andrea, Affinito, & Westby, 1999; Torrance, 1963; Westby & Dawson, 1995), indicating a dislike of students with traits typically associated with creativity, such as independence, risk-taking, and curiosity (Bachtold, 1974; Torrance, 1963; Westby & Dawson, 1995).

The Current Study

This project was unique because it addressed an under-researched area of gifted education and CLED students. Creativity appears to be a strength for many CLED students (Torrance, 1971, 1977, 1978), and, thus, may provide an important avenue for entrance into gifted programs. However, if teachers have a low tolerance for behavioral manifestations of creativity, or do not recognize these behaviors as possible indicators of creativity, they are unlikely to refer such students for screening, much less testing. Teachers may not receive any training on characteristics of creativity, and are likely to be unaware of behavioral manifestations of creative potential (Peters & Gentry, 2010).

While a number of studies have examined teachers' conceptions of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Diakidoy & Kanari, 1999; Runco, 1989; Runco & Johnson, 2002; Westby & Dawson, 1995), and others have focused on teachers' attitudes toward diverse and disadvantaged students (Adenika & Berry, 1976; Dusek & Joseph, 1983; Grady,

1971; Harvey & Slatin, 1973; Shoop & Eads, 1977; Zimet & Zimet, 1978), or more specifically, teachers' attitudes toward CLED gifted students (Awanbor, 1989; Elhoweris et al., 2005; Ford, 1995; Frasier, Hunsaker, Lee, Finley, Frank et al., 1995; Guskin, Peng, & Simon, 1992; Hunsaker, Finley, & Frank, 1997; Jones & Derman-Sparks, 1992; McBee, 2006; Speirs Neumister et al., 2007), none have examined whether there are differences in teachers' perceptions of creativity based on students' cultural and/or linguistic backgrounds. The results of this study provided much-needed insights into whether or not teachers perceive creativity differently in minority and majority students.

Research Methods

The purpose of the current study was to establish the validity and reliability of a questionnaire designed to examine characteristics that teachers perceive as being associated with creativity in diverse females. Specifically, there were two objectives: (a) to develop a survey instrument designed to assess whether teachers' ratings of creative characteristics in children vary according to the student's race/ethnicity or socioeconomic status (SES); and (b) to evaluate the reliability and validity of the survey. The survey was designed to examine the questions: What characteristics do teachers associate with creativity? Do these characteristics appear to vary according to a student's ethnic/cultural background and SES? Is there a statistically significant difference in teachers' perceptions of characteristics of creativity based on students' race and SES?

Instrument Development

A questionnaire, the Survey of Teachers' Perceptions of Creativity in Students-Female (STCPS-F), was developed to gather teachers' perceptions of creative characteristics in children from various racial/ethnic groups and SES backgrounds. The vignettes utilized in this instrument

provided information about a fictional female student: demographic information, social skills, academic performance, and family background, including socioeconomic status (SES). The main focus of the vignettes, however, was behaviors based on characteristics of giftedness and creativity as found in the literature (Clark, 2013; Frasier, Hunsaker, Lee, Mitchell et al., 1995; Torrance, 1977). Behaviors reflected both positive (e.g., original, independent, curious, humorous, artistic, clever), and negative (e.g., impulsive, disruptive, arrogant, critical of others) indicators of creativity and giftedness (Davis, 2011), and were descriptive of actual behaviors observed by the author in various classrooms. Each vignette included three to four positive and three to four negative behavioral indicators of giftedness and creativity. The use of vignettes has previously been established in research on teachers' willingness to refer students to gifted programs (Bianco, 2005; Bianco, Harris, Garrison-Wade, & Leech, 2011; Elhoweris et al., 2005; Hollyhand, 2013; Minner, 1989; Minner, Prater, Bloodworth, & Walker, 1987).

The study focused on females, since alternating vignettes between males and females would have added a third variable in addition to race/ethnicity and SES. Extensive reviews of the literature on gender differences in creativity have found little support for the superiority of one gender over the other on tests of creative thinking (Baer & Kaufman, 2008: Kogan, 1974), although Beghetto (2006) found that girls "reported significantly lower levels of creative self-efficacy than did boys" (p. 453). Studies on gender differences in teachers' perceptions of creativity have yielded inconsistent results. Some studies have indicated that teachers perceive female students as more creative than male students (Johnson, 1976; Karwowski, Gralewski, Szumski, 2015; Lee & Pfeiffer, 2006; Scott, 1999; Sommer, Fink, & Neubauer, 2008), while others have indicated that teachers perceive males as more creative than females (Gralewski & Karwowski, 2013, Lau & Li, 1996). Teachers' perceptions of students' creativity can impact

students' own perceptions of their creativity, and thus, their creative self-perception and production. Female students may be at particular risk of internalizing messages about a perceived lack of creativity (Karwowski, Gralewski, & Szumski, 2015).

Three different vignettes depicted low, middle, and upper middle SES students. The student's SES was clearly stated in the vignette. For example, one vignette stated, "Emily is a ten-year-old female in the fifth grade. She lives with her natural mother and father and two younger sisters in an upper middle class neighborhood. The term "upper middle class (SES)" was used instead of "upper class (SES)," as a recent survey found that only one percent of Americans identified themselves as "upper class," while 85 percent described themselves as "middle class:" 28 percent as lower middle class, 44 percent as middle class, and 13 percent as upper middle class (Pew Research Group, 2014). Since the intended audience for the survey was public school teachers, the author believed that "upper middle SES" would more accurately describe a typical public school student than "upper SES."

Three different names were used for each SES level. Names were chosen to suggest—without specifically indicating—race/ethnicity. It was important to select names that would be common in specific ethnic groups, but uncommon in others, so that the racial/ethnic implication was clear. All information contained in the vignette was held constant except for the student's name. Names were chosen after an Internet search for common names associated with certain ethnic/racial groups. Imani was chosen for the vignette depicting a Black female, as it was considered one of the "Blackest" names (ABC News, 2006), and was also listed as one of the ten most popular African American girls' names on several websites. Emily was chosen for the vignette depicting a White female, as it was considered one of the "Whitest" names (ABC News, 2006), and was listed as one of the ten most popular White girls' names. A different name,

Gabriele, was chosen for the vignette depicting a middle class White female, as the background information indicated that the student moved to the United States when she was five, and Gabriele was a popular name among German, Lithuanian, and Scandinavian females. Alejandra was chosen for the vignette depicting a Hispanic female. While it was not in the top ten most popular Hispanic girls' names, it was listed as one of the 30 most popular Hispanic girls' names. Many of the more popular names (e.g., Olivia, Sofia, Emma, Victoria, Samantha) were not distinctly Hispanic, and so were eliminated from consideration.

The pairing of SES and name produced six combinations, or blocks, of vignettes; each combination included one vignette for a Black student, one for a Hispanic student, and one for a White student. Each block also contained one vignette for low SES, middle SES, and upper middle SES. For example, one block included vignettes for a Black upper middle class female, a Hispanic lower class female, and a White middle class female. Each participant received one of the combinations, with the vignettes presented in random order. See Appendix B for vignettes.

The online survey contained a consent form, a request for teacher demographic information, and three short descriptive vignettes. Participants were directed to read each vignette and choose creative characteristics they would expect to find in that student from a list of 36 characteristics, presented in random order. (See Appendix C for a list of characteristics contained in the vignettes.) The list included 34 traits that educators have identified as being associated with creativity in previous research (Aljughaimin & Mowrer-Reynolds, 2005; Bachtold, 1974; Bull, Montgomery, & Baloche, 1995; Chan & Chan, 1999; Diakidoy & Kanari, 1999; Fryer & Collings, 1991; Morais & Azevedo, 2011; Runco, 1989; Runco & Johnson, 2002; Runco et al., 1993; Sussman & Justman, 1975; Swenson, 1978; Zhou, Shen, Wang, Neber, & Johji, 2013), and Gough's (1979) Creative Personality Scale. Two contraindicative traits,

"boring" and "cautious," were also included to prevent a response set. In order to capture participants' full conceptions of creativity, the number of characteristics that could be selected was not limited: participants were instructed to choose as many as they felt were applicable to the student(s). Four additional boxes were provided at the end of the list so that participants could include characteristics that were not listed, for a total of 40 possible response options. Since teachers are frequently asked to nominate students for gifted programs without any training on characteristics of giftedness or creativity (Hoge & Cudmore, 1986; Hunsaker, 1994; Peters & Gentry, 2010; Siegle & Powell, 2004), the instrument did not include a definition of creativity.

Validation Procedures

The validity of an instrument is not found in the test scores themselves, but in the soundness of the research design, the appropriateness of the data analysis, and the suitability of inferences from test scores (Grimm & Wildaman, 2012; Lawshe, 1985; Smith, 2005). Validity indicates the extent to which a data collection instrument measures the construct it is intended to measure (Clark-Carter, 2004), which allows researchers to draw meaningful conclusions from the data collected (Creswell, 2008).

Content validity. Content validity indicates the extent to which the items in the data collection instrument a) are appropriate to the construct under consideration, and b) sample the full range of the construct (Clark-Carter, 2004; Cronbach & Meehl, 1955; Schreiber & Asher-Self, 2011). To ensure content validity, behaviors depicted in the vignettes reflected a wide range of positive and negative traits of giftedness and creativity, as found in the gifted education literature (Clark, 2013; Davis, 2011; Davis & Rimm, 1997; Frasier, Hunsaker, Lee, Mitchell et al., 1995; Torrance, 1977). The list of creative characteristics from which participants could

choose was developed from previous studies on teachers' conceptions of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Diakidoy & Kanari, 1999; Runco, 1989; Runco & Johnson, 2002; Westby & Dawson, 1995), and Gough's (1979) Creative Personality Scale.

Content validity includes the judgments of professionals in the appropriate field. A minimum of three experts, who are expected to demonstrate extensive knowledge of and experience with the construct under consideration (Anastasi, 1986; Smith 2005), is recommended (Lynn, 1986; Polit, Beck, & Owen, 2007). To establish content validity for this instrument, eleven experts were identified and invited to review the instrument for wording, content, and completeness. The specific guidelines used for selection and inclusion of the experts included: a) teachers with at least three years of experience teaching gifted students, and b) located within Georgia. These guidelines ensured that experts were familiar with the operational definition of giftedness and criteria for qualifying for gifted programs mandated by Georgia law.

Experts were contacted via electronic media (email) with an introductory cover letter and a link to an online evaluation form containing an example of each type of vignette: Black middle class, Hispanic upper middle class, and White lower class. For each vignette, experts were requested to a) list characteristics of creativity and giftedness (both positive and negative) that they believed might be exhibited by the child described, and b) provide suggestions on ways in which the vignette could be improved. Finally, from the same list of 36 traits provided to survey participants, experts were directed to choose characteristics that they believed were indicative of creativity. A box was provided at the end in case panelists wanted to add characteristics that were not on the list. Eight experts responded to the email by completing the electronic evaluation form. All were female, with an average of 13.75 years teaching gifted students.

The experts did not offer any suggestions for improving the vignettes, although one expert appeared to misunderstand the question and offered suggestions for teacher interactions with the fictional students ("offer opportunities for her to work with technology for assignments and projects; have her work in groups where she is able to help others; offer a behavior chart for her to keep her aware of her behavior and [allow her to] earn a reward for on-task behavior and completed work"). The experts identified positive and negative characteristics of creativity and giftedness within each vignette. Experts believed the students in the vignettes would possess such characteristics as inquisitive, highly focused, persistent, leadership skills, abstract thinker, unusually expressive, disorganized, forgetful, and sensitive, as well as intelligent, original, emotional, achieving, humorous, clever, inventive, self-confident, imaginative, high ability, and nonconforming.

From the list of 36 characteristics provided, all of the experts selected 15 traits as indicative of creativity: adventurous, artistic, clever, curious, daring, emotional, humorous, imaginative, independent, inventive, multiple interests, nonconforming, questioning, rebellious, and sets own rules. In addition, at least 75% of the experts chose critical of others, enthusiastic, individualistic, and original as indicators of creativity. Based on the responses of the experts, the vignettes were used in a field test of the instrument without any modifications.

Field Testing

A pilot study, or field test, is intended to provide information about individual items and the overall construction of a questionnaire, as well as implementation procedures, before the research study is conducted. The pilot study should provide information about the clarity of instructions, areas of confusion, nonresponse rate of items, and the amount of time required of

participants, and should be conducted with a sample of people from the target population (Clark-Carter, 2004; Dillman, Smyth, & Christian, 2014).

Participants. A convenience sample of graduate students enrolled in two different online gifted endorsement classes through a large public university located in the Southeastern United States participated in the field test of the Survey of Teachers' Perceptions of Creativity in Students-Female (STPCS-F). For one class, participation in the survey was a required activity; students could choose whether or not to allow their responses to be used for research. Fifteen out of fifteen students in the class completed the survey. For the second class, participation in the survey was optional, although students received extra points for completing it. Fifteen out of 23 students in this class completed the survey. Participants were contacted via electronic media (email) with an invitation to participate in the research study and the survey link.

A total of 30 participants, 28 females and two males, all of whom were teachers, completed the survey. Twenty-three teachers had zero to five years of teaching experience, one teacher had six to ten, four had 11 to 15, and two had more than 16. Two teachers identified themselves as African-American, one as Asian-American, one as Latina/Latino, two as Native American, and 27 as Caucasian. The total sums to more than 30, as participants were directed to choose all that apply. Eleven of the participants had no training in gifted education prior to the class. One had received his/her gifted endorsement through a Regional Educational Service Agency (RESA), while 19 had received or were in the process of receiving their gifted endorsements through a college or university. Five participants were working toward or had earned masters' degrees, one was working toward or had earned a specialist degree, and one did not specify the degree. Degrees listed were not necessarily in gifted education.

All participants completed all parts of the survey. The time spent on the survey ranged from three minutes 26 seconds to one hour 29 minutes 41 seconds, for an average time of 12 minutes 50 seconds.

Data Collection and Analysis. Data were collected in June 2015 during a two-week period. A total of 90 vignettes were evaluated by the participants: 30 lower, 30 middle, and 30 upper middle class, and 30 each Black, Hispanic, and White. The vignettes included ten Black lower class, nine Black middle class, 11 Black upper middle class, 11 Hispanic lower class, ten Hispanic middle class, nine Hispanic upper middle class, nine White lower class, 11 White middle class, and ten White upper middle class.

Scores for each vignette were calculated as follows: each indicative trait of creativity received a score of one, and each contraindicative trait received a score of zero. Analysis included calculating the means and standard errors for each of the vignettes for each race/ethnicity and SES. All analyses were completed using SPSS 23 for Windows.

Results

Means and standard deviations for all characteristics, as well as the number and percentage of participants listing each characteristic, are found in Table 3.1. Individual characteristics with the highest means included intelligent, independent, high ability, individualistic, curious, emotional, imaginative, multiple interests, achieving, and questioning. Characteristics with the lowest means included arrogant, humorous, self-centered, adventurous, critical of others, rebellious, daring, active, uninhibited, and disruptive. Characteristics chosen by the greatest percentage of respondents (n = 30) included intelligent (96.7%), self-confident (96.7%), independent (93.3%), individualistic (93.3%), high ability (90%), sets own rules (90%), emotional (86.7%), nonconforming (86.7%), artistic (83.3%), curious (83.3%), and imaginative

Table 3.1. *Characteristics Chosen by Participants*

			Participants listing as a trait (N=30)	
Characteristic	M	SD	Number	Percent
Achieving	0.44	0.50	24	80.0
Active	0.18	0.38	12	40.0
Adventurous	0.14	0.35	10	33.3
Arrogant	0.11	0.31	10	33.3
Artistic	0.37	0.48	25	83.3
Challenging	0.34	0.48	20	66.7
Clever	0.37	0.48	20	66.7
Critical of others	0.14	0.35	11	36.7
Curious	0.51	0.50	25	83.3
Daring	0.18	0.38	13	43.3
Determined	0.40	0.49	23	76.7
Disruptive	0.21	0.41	13	43.3
Emotional	0.51	0.50	26	86.7
Energetic	0.22	0.42	17	56.7
Enthusiastic	0.32	0.47	18	60.0
High ability	0.63	0.48	27	90.0
Humorous	0.12	0.33	10	33.3
Imaginative	0.49	0.50	25	83.3
Impulsive	0.26	0.44	17	56.7
Independent	0.64	0.48	28	93.3
Individualistic	0.59	0.49	28	93.3
Intelligent	0.76	0.43	29	96.7
Inventive	0.39	0.49	21	70.0
Motivated	0.37	0.48	22	73.3
Multiple interests	0.46	0.50	21	70.0
Nonconforming	0.41	0.49	26	86.7
Original	0.41	0.49	22	73.3
Questioning	0.44	0.50	24	80.0
Rebellious	0.17	0.37	10	33.3
Self-centered	0.12	0.33	11	36.7
Self-confident	0.38	0.49	29	96.7
Sets own rules	0.47	0.50	27	90.0
Stubborn	0.27	0.44	18	60.0
Uninhibited	0.20	0.40	16	53.3

(83.3%). Characteristics recognized by less than 40% percent of respondents included adventurous (33.3%), arrogant (33.3%), humorous (33.3%), rebellious (33.3%), critical of others (36.7%), and self-centered (36.7%).

Reliability

Reliability indicates the stability and consistency of scores derived from a measure (Clark-Carter, 2004; Creswell, 2008). Reliability and validity are interwoven in an instrument; in order for a measure to be valid, it must be consistent and stable. Even if a measure is reliable, it may not be valid; that is, it may not measure the construct it is intended to measure (Creswell, 2008).

The survey had a satisfactory level of internal consistency, as determined by Cronbach's alpha (Anastasi & Urbina, 1997) of .87 for the entire sample. Four clusters within the set of characteristics were identified a proiri, and the inter-item consistency of each cluster was confirmed with Cronbach's alpha. The first was a Social-Emotional cluster, which included ten characteristics: active, arrogant, challenging, critical of others, disruptive, emotional, impulsive, rebellious, self-centered, and stubborn. The second was an Attitudinal cluster, consisting of six characteristics: daring, independent, nonconforming, self-confident, sets own rules, and uninhibited. The Individuality and Intellectual clusters each included nine characteristics: adventurous, artistic, clever, curious, humorous, imaginative, individualistic, inventive, and original in the Individuality cluster; and achieving, determined, energetic, enthusiastic, high ability, intelligent, motivated, multiple interests, and questioning in the Intellectual cluster. All clusters were reliable, with alphas of .83 for the Social-Emotional cluster, .75 for the Attitudinal cluster, .73 for the Intellectual cluster, and .70 for the Individuality cluster. All alphas met the minimum acceptable reliability level of .70 proposed by Nunnally and Bernstein (1994),

although it must be noted that alpha tends to increase as the number of items in a scale increases (Anastasi & Urbina, 1997; Cortina, 1993).

An examination of the alpha coefficients, calculated by deleting characteristics one at a time from the cluster, indicated only one instance in which the alpha of a cluster would increase with the removal of a characteristic: the alpha of the Social-Emotional cluster would increase by .03, from .83 to .86, with the removal of the characteristic emotional. In order to more fully assess the impact of the characteristic on the cluster, the inter-item correlation matrix was examined for correlations with other characteristics in the cluster. The characteristic emotional was not significantly correlated with any of the other characteristics from the cluster, with the exception of disruptive ($r = .234$, $p < .05$). Emotional was also correlated with questioning ($r = .338$, $p < .01$), which was in the Intellectual cluster. Including emotional with the other characteristics in the Intellectual cluster caused the alpha of the cluster to decrease by .03, from .73 to .70. Since the decrease in alpha was the same for both clusters, the decision was made to retain emotional in the Social-Emotional cluster.

Correlations between the clusters are given in Table 3.2. Moderate correlations were found between the Attitudinal cluster and the Social-emotional and Intellectual clusters, and the Intellectual and Social-emotional clusters, while weak correlations were found between the Individuality cluster and the Social-emotional, Attitudinal, and Intellectual clusters. The clusters share no more than 30% variance, indicating that the different clusters represent distinct but related aspects of creativity.

Inter-rater reliability was high, ranging from .93 to .98 when participants rated the same block of vignettes. When participants rated blocks with only one vignette in common, inter-rater reliability was considerably lower, ranging from .63 to .70. Inter-rater reliability between all

Table 3.2. *Correlations Between Clusters*

Clusters	Social-emotional	Attitudinal	Individuality	Intellectual
Social-emotional	--	.55**	.28**	.46**
Attitudinal	--	--	.27**	.51**
Individuality	--	--	--	.31**
Intellectual	--	--	--	--

**$p < .01$ (two-tailed tests)

blocks of vignettes was .34. In short, teachers tended to be consistent when rating the same fictional students, and they tended to rate the various blocks of vignettes differently.

Discussion

There were two primary objectives of this pilot study:

- to develop a survey instrument designed to collect teachers' perceptions of characteristic aspects of children's creativity
- to evaluate the reliability and validity of the survey.

Content validity was derived from the use of positive and negative traits of giftedness (Baldwin, 1978; Clark, 2013; Davis, 2011; Davis & Rimm, 1997; Frasier, Hunsaker, Lee, Mitchell et al., 1995; Torrance, 1977), and teachers' perceptions of characteristics of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Diakidoy & Kanari, 1999; Runco, 1984; Runco & Johnson, 2002; Westby & Dawson, 1995) as the basis for the vignettes. In addition, eight experts in the field of gifted education assessed the validity of the vignettes and the characteristics. From the list of 36 characteristics, the experts unanimously selected 15 as indicative of creativity: adventurous, artistic, clever, curious, daring, emotional, humorous, imaginative, independent, inventive, multiple interests, nonconforming, questioning, rebellious, and sets own rules. These results are consistent with Runco and Johnson's (2002) study, in

which teachers chose traits describing creative children from a list of 68 randomly ordered adjectives. The adjectives with the highest means in the 2002 study included imaginative, curious, inventive, resourceful, individualistic, artistic, adventurous, original, clever, daring, and industrious. Nine of the top eleven adjectives from the 2002 study—imaginative, curious, inventive, individualistic, artistic, adventurous, original, clever, and daring—were included in the list of characteristics provided to experts in this study; all nine were unanimously chosen as indicative of creativity.

The survey also exhibited satisfactory inter-item and inter-rater reliability. The use of item clusters to examine inter-item consistency has been confirmed in previous research on teachers' implicit theories of creativity (Runco, 1989). Runco (1989) identified three clusters, with alphas between .81 and .91. Although the clusters identified in this study were composed of different characteristics than those identified in Runco's (1989) study, inter-item consistency was comparable, from .70 to .83. The level of inter-rater reliability, between .93 and .98 for teachers rating the same vignettes, was higher than the inter-rater reliability found in both Runco (1989) and Runco & Johnson (2002).

Individual characteristics with the highest means in the field study—intelligent, independent, high ability, individualistic, curious, emotional, imaginative, multiple interests, achieving, and questioning—represent a range of aspects of creativity, as indicated by the previously-identified clusters (Intellectual, Attitudinal, Individuality, and Social-emotional). Achieving, high ability, intelligent, multiple interests, and questioning are found in the Intellectual cluster, independent in the Attitudinal cluster, curious, imaginative, and individualistic in the Individuality cluster, and emotional in the Social-emotional cluster. Since researchers have suggested that teachers may focus on intelligence or academic achievement as

indicators of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Fleith, 2000; Gralewski & Karwowski, 2013; Karwowski, 2007; Westby & Dawson, 1995), it is encouraging to note that these participants appeared to recognize multidimensional aspects of creativity.

Implications

The overarching purpose of the pilot study was to develop an instrument to collect teachers' perceptions of creativity in diverse female students, and establish the validity and reliability of the survey instrument. The findings indicate that the STPCS-F has the potential to be a useful pre- and post-assessment for evaluating the effects of teacher training in the area of creative behaviors in diverse students, showing satisfactory content validity, as well as inter-item and inter-rater consistency.

Creativity appears to be a strength for many CLED students (Torrance, 1971, 1977, 1978), and, thus, may provide an important avenue for entrance into gifted programs, as it is included in the definition of gifted in 27 states (McClain & Pfeiffer, 2012), including Georgia. Teachers who have not received training on characteristics of giftedness and creativity are unlikely to recognize behavioral manifestations of creativity (Peters & Gentry, 2010), and are unlikely to refer students who demonstrate such behaviors for screening, much less testing. Given that training in gifted education for pre-service teachers is required in only one state, and only two states require training in gifted education after initial certification (NAGC, 2013), it is unlikely that general classroom teachers, those usually called upon to nominate students for gifted education screening, will receive this kind of training. In order to understand characteristics associated with creativity and giftedness, teachers need opportunities for ongoing training and professional development in both positive and negative aspects of creativity and

giftedness and the behaviors associated with these characteristics. A concerted effort to provide such training is needed, as well as changes in the requirements for pre-service teachers.

Limitations

One of the main limitations of this study is the sample. The use of a convenience sample of only 30 graduate students, even though all of the students were also teachers, limits the generalizability of the findings. It can be assumed that all of the participants had enough interest in gifted education to be enrolled in a graduate course in characteristics of gifted students. The lack of required training in gifted education for pre-service and in-service teachers (see previous discussion) suggests that the majority of teachers will not have the same level of familiarity with characteristics of giftedness and creativity.

A second limitation is that the sample consisted predominately of teachers who were White and female, with little teaching experience. Twenty-eight teachers identified themselves as female, 27 as Caucasian, and 23 had zero to five years of teaching experience. Although the sample is representative of the current lack of diversity in the teaching field, a more diverse sample would allow the researcher to determine whether or not teachers from various ethnicities perceive characteristics of creativity differently in diverse students.

An additional limitation is that the study was limited to the state of Georgia. While this allows participants to operate under the same definition of giftedness and creativity, it excludes the perceptions of teachers in other geographic areas who may have different perceptions of creativity in CLED students.

Finally, the use of vignettes is not the same as teachers' knowledge of and interactions with real students. In this study, teachers were asked to choose characteristics that they believed a fictional student would display, based on limited information. If the participants had been

asked to interpret behaviors from real students with whom they were familiar, or to choose characteristics of the most creative student(s) they have taught, they might have responded differently. In addition, although each name was chosen to infer a certain race/ethnicity, it is possible that some participants did not perceive the intended race/ethnicity, and so answered differently than they would have had they perceived the name as the researcher intended. Continued refinements in the survey instrument, such as a question about the participant's perception of the student's race/ethnicity immediately following each vignette, could help researchers determine whether or not the name had the intended effect.

Future research should continue to investigate the validity of the STPCS-F. A larger, more diverse sample should be used for additional research into teachers' perceptions of characteristics of creativity in diverse students. If differences are found in teachers' perceptions of CLED and White students' creativity, additional research is needed to identify possible reasons for differences, and ways that training and professional learning opportunities may help teachers understand behaviors associated with giftedness and creativity in CLED students.

CHAPTER 4

THE RESEARCH STUDY

Sixty-one years ago, in Brown v. Board of Education (1954), the U.S. Supreme Court unanimously overturned "separate but equal" education for Black and White students as a violation of the Fourteenth Amendment. Remnants of the segregated system persist in gifted programs, however, as culturally, linguistically, and economically diverse (CLED) students struggle for inclusion. Many voices decry the current system as "separate and unequal" for Hispanic, as well as Black students (Barkan & Bernal, 1991; Ford, 1995; Green, 2010).

The underrepresentation of CLED and economically disadvantaged students in gifted education programs has been well-documented in gifted education literature for a number of years (Borland, 2004: Ford, 1998; Ford, Grantham, & Whiting, 2008; Ford, Harris, Tyson, & Trotman, 2002; Passow & Frasier, 1996; Richert, 1987; U.S. Department of Education, 1993). Black, Hispanic, and American Indian students have always been underrepresented in gifted programs (Ford, 1998), with the underrepresentation of Black students actually increasing over the years (Ford et al., 2008). The underrepresentation of Hispanic students has gained increasing attention recently, as Hispanics have overtaken Blacks to become the most populous minority in American schools (Aud et al., 2012).

Despite the efforts of some states to address the inequity, Whites and Asian-Americans remain overrepresented in gifted programs, and Blacks and Hispanics remain woefully underrepresented on a national level, often by as much as 20-50% (U.S. Department of Education, 2000, 2004, 2006, 2010, 2012a). (See Table 4.1). While researchers have identified a

Table 4.1. *National Trends in the Representation of Ethnic Groups in Gifted Programs 2000 to 2012*

	2000		2004		2006		2010		2012	
Ethnic Group	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population	% of total enrollment	% of gifted population
White	61.58	74.24 o=17%	58.45	69.67 o=16%	56.42	67.69 o=17%	54.75	64.32 o=15%	51.66	60.80 o=15%
Black	16.99	8.23 u=52%	16.88	8.99 u=47%	17.13	9.15 u=47%	16.64	9.76 u=41%	15.89	8.81 u=45%
Hispanic	16.13	9.54 u=41%	18.94	12.33 u=35%	21.41	12.79 u=40%	22.18	15.28 u=31%	23.58	16.88 u=28%
Asian	4.14	7.08 o=42%	4.50	8.05 o=44%	4.81	9.40 o=49%	5.16	9.48 o=46%	5.12	9.80 o=48%

Note: Source for 2000 to 2012 data: U.S. Department of Education, Office for Civil Rights National and State Estimations (2000, 2004, 2006, 2010, 2012a). "o" indicates overrepresentation in gifted programs and "u" indicates underrepresentation in gifted programs. Percentage of underrepresentation was calculated using the formula: 1-(percentage of gifted population divided by percentage of total enrollment). Percentage of overrepresentation was calculated using the formula: (percentage of gifted population – percentage of total enrollment) divided by percentage of gifted population.

number of factors that contribute to the ability of CLED students to qualify for gifted programs, such as teacher attitudes and beliefs (Bonner, 2000; Ford, 1994, 1998; Ford & Webb, 1994, Hopkins & Garrett, 2010), narrow definitions and outdated theories of giftedness (Bonner, 2000; Ford, 1994, 1998, 2004; Ford & Webb, 1994; Hopkins & Garrett, 2010), and problems with screening and identification of CLED students (Barkan & Bernal, 1991; Bonner, 2000; Castellano & Díaz, 2002; Ford, 1994, 1998; Ford & Webb, 1994; Leung, 1981), the impact of teachers' theories of giftedness on their nominations for gifted programs (Bonner, 2000; Ford, 1994, 1998; Ford & Webb, 1994, Hopkins & Garrett, 2010; Miller, 1973) cannot be overemphasized. In fact, in a recent article, Donna Ford called teacher bias in referral "the number one reason for underrepresentation of minority, low-income and English language learner students" (Phenicie, 2016).

Teacher and/or parent nominations are still required in 13 states for a student to be considered for entrance into gifted programs (McClain & Pfeiffer, 2012; National Association for Gifted Children, 2013). In fact, in a large-scale analysis of data provided by state and local

coordinators of gifted programs, teacher and parent nomination "were identified as the most commonly used non-standardized procedures in the identification process" (Callahan, Moon, & Oh, 2013, p. 19) at the elementary level.

Creativity is one of the criteria used for admission into gifted programs in 27 states (McClain & Pfeiffer, 2012). Unfortunately, teachers are frequently asked to recommend students who demonstrate "gifted potential" for gifted programs, without being provided with any real guidance in defining the construct or specific program criteria (Hoge & Cudmore, 1986; Hunsaker, 1994; Siegle & Powell, 2004). Many educators are not familiar with characteristics of creativity and how those characteristics may be manifested in students' behaviors (Aljughaiman & Mowrer-Reynolds, 2005; Davis & Rimm, 1997; Peters & Gentry, 2010; Scott, 1999; Westby & Dawson, 1995). Teachers often focus on academic traits or behaviors as indicators of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Fleith, 2000; Gralewski & Karwowski, 2013; Karwowski, 2007; Westby & Dawson, 1995), while perceiving characteristics traditionally recognized as most typical of creativity, such as sets his or her own rules, impulsive, nonconforming, and emotional, as among the least typical characteristics of creativity (Westby & Dawson, 1995).

The lack of familiarity with the characteristics of creativity can have a significant impact on students' access to gifted services. Since many school districts require that students be referred or nominated before testing for gifted services can take place, teachers frequently act as the initial "gatekeepers" in the referral process (Callahan et al., 2013; McBee, 2006). This begs the question: If, in many cases, teachers are the initial gatekeepers into gifted programs, how well do they recognize characteristics of giftedness such as creativity in diverse populations?

Previous Research

Teachers' attitudes toward diverse students. There is evidence that students' ethnicity impacts teachers' perceptions of giftedness (Elhoweris, Mutua, Alsheikh, & Holloway, 2005; Guenther, 2009; McBee, 2006; Speirs, Adams, Pierce, Cassady, & Dixon, 2007). White teachers appear to (1) hold more negative attitudes toward Black students than toward White students (Shoop & Eads, 1977; Zimet & Zimet, 1978); (2) rate White students more favorably than Black (Cornbleth & Korth, 1977) or Hispanic students (Masten, Plata, Wengler, & Thedford, 1999); (3) have lower expectations for Black students (Gersherson et al., 2015); and (4) expect White students to be more successful in school than culturally, linguistically, and economically diverse (CLED) students (Harvey & Slatin, 1973; van den Bergh, Denessen, Hornstra, Voeten, & Holland, 2010). Elhoweris et al. (2005) and Guenther (2009) found that teachers made different recommendations for students of different ethnic backgrounds.

Educators, the majority of whom are White, often base their expectations of gifted behavior on the behaviors of White students, without considering the impact of cultural and linguistic differences, causing them to misunderstand or misinterpret differences in gifted behaviors between White and CLED students (Briggs, Reis, & Sullivan, 2008; Elhoweris et al., 2005; Ferguson, 2003; Ford, 1994; Frasier, Martin et al., 1995; Gershenson et al., 2015; Grissom, Rodriguez, & Kern, 2015; Speirs Neumeister et al., 2007). These misconceptions about culture and giftedness carry over into lower referral rates of CLED students for gifted programs (Ford, 1998; Ford et al., 2008; McBee, 2006; Tenenbaum & Ruck, 2007).

Teacher nomination. Unfortunately, teachers appear to be neither efficient (the number of gifted students located by a procedure as compared to the number of gifted students identified)

nor effective (the number of gifted students as compared to the number of students nominated), when teacher ratings are compared to student scores on IQ and achievement tests (Alexander, 1953; Baldwin, 1962; Fitz-Gibbon, 1974; Gear, 1976; Pegnato & Birch, 1959), even when teachers have received training in gifted education (Gear, 1978). In a comparison of referral sources for gifted students in Georgia, McBee (2006) found that teachers were less likely to nominate Black, Hispanic and low SES students for gifted screening and were far less accurate in their identification of these students than White and Asian students. Pass rates on the screening process, although different for Black and White students, were considerably smaller than the different nomination rates. Since teacher recommendations are often necessary as an initial step in screening for gifted programs, CLED students may not get to, much less through the screening process (Card & Giuliano, 2015; Callahan et al., 2013; Ford et al., 2008; Grissom & Redding, 2016; McBee, 2006). Students who are not nominated by their teachers may not be considered for additional testing.

Teachers' understandings of giftedness and creativity. Although creativity is one of the criteria used for admission into gifted programs in 27 states (McClain & Pfeiffer, 2012), many educators are not familiar with characteristics of creativity and how those characteristics are manifested in students' behaviors (Davis & Rimm, 1997). Teachers often perceive characteristics traditionally recognized as most typical of creativity—sets his or her own rules, impulsive, nonconforming, and emotional—as among the least typical characteristics of creativity (Westby & Dawson, 1995).

Teachers' implicit theories of creativity affect not only their referrals for gifted education, but also their judgments about children's creative characteristics and their tolerance for creative behaviors in the classroom (Chan & Chan, 1999; García-Cepero & McCoach, 2009; Runco,

1990, 2007; Runco & Johnson, 2002; Runco, Johnson, & Bear, 1993). Despite claims that they value creativity, teachers frequently disapprove of highly creative students (Dawson, D'Andrea, Affinito, & Westby, 1999; Torrance, 1963; Westby & Dawson, 1995), indicating a dislike of students with traits typically associated with creativity, such as independence, risk-taking, and curiosity (Bachtold, 1974; Torrance, 1963; Westby & Dawson, 1995).

The Current Study

This project was unique because it addressed an under-researched area of gifted education and CLED students. Creativity appears to be a strength for many CLED students (Torrance, 1971, 1977, 1978), and, thus, may provide an important avenue for entrance into gifted programs. However, if teachers have a low tolerance for behavioral manifestations of creativity, or do not recognize these behaviors as possible indicators of creativity, they are unlikely to refer such students for screening, much less testing. Teachers may not receive any training on characteristics of creativity, and are likely to be unaware of behavioral manifestations of creativity (Peters & Gentry, 2010).

While a number of studies have examined teachers' conceptions of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Diakidoy & Kanari, 1999; Runco, 1989; Runco & Johnson, 2002; Westby & Dawson, 1995), and others have focused on teachers' attitudes toward diverse and disadvantaged students (Adenika & Berry, 1976; Dusek & Joseph, 1983; Grady, 1971; Harvey & Slatin, 1973; Shoop & Eads, 1977; Zimet & Zimet, 1978), or more specifically, teachers' attitudes toward CLED gifted students (Awanbor, 1989; Elhoweris et al., 2005; Ford, 1995; Frasier, Hunsaker, Lee, Finley, Frank et al., 1995; Guskin, Peng, & Simon, 1992; Hunsaker, Finley, & Frank, 1997; Jones & Derman-Sparks, 1992; McBee, 2006; Speirs Neumister et al., 2007), none have examined whether there are differences in teachers'

perceptions of creativity based on students' cultural and/or linguistic backgrounds. The results of this study provided much-needed insights into whether or not teachers perceive creativity differently in minority and majority students.

Research Methods

The purpose of the current study was to investigate characteristics that teachers perceive as being associated with creativity, and whether or not these characteristics vary according to a student's race or socioeconomic status (SES). Specifically, the study had two objectives: (a) to administer the Survey of Teachers Perceptions of Creativity in Students-Female (STPCS-F), a previously developed instrument designed to collect teachers' ratings of creative characteristics in young female students, to a sample of the target population; and (b) to analyze the data, and use the results to determine whether teachers' perceptions of characteristics of creativity vary according to a student's race and SES.

Research Design

This study used a quantitative approach: a survey questionnaire was used to collect participants' responses to a series of vignettes describing young students. Participants were asked to read three short vignettes depicting students of various ethnicity and SES and choose characteristics of creativity that they believed the fictional student would possess.

Research questions included:

What characteristics do teachers associate with creativity? Do these characteristics appear to vary according to a student's ethnic/cultural background and SES?

Is there a statistically significant difference in teachers' perceptions of characteristics of creativity based on students' race and SES?

Instrument Development

A field study was previously conducted to investigate the validity and reliability of the survey instrument. The survey exhibited satisfactory content validity, as well as inter-item and inter-rater consistency, leading the researcher to conclude that the instrument had the potential to be a valid and reliable instrument for measuring teachers' perceptions of creativity in diverse students. Results of the pilot study also indicated that teachers' ratings of upper middle SES Black students were statistically significantly higher than those of middle or lower SES Black students, and ratings of upper middle SES White students were statistically significantly higher than those of middle SES White students. In an attempt to better counterbalance positive and negative characteristics in the upper middle and lower SES vignettes, one of the positive characteristics ("She is interested in art and drama and has participated in several community theater productions") was removed from the upper middle SES student and replaced by a negative characteristic ("She seldom completes homework; when she does, she often forgets to turn it in") that was removed from the lower SES student.

Participants

Participants were chosen from five school systems in Georgia. The school systems were selected for the study based on the system's demographics: at least 20,000 students, with greater than 50% free and reduced lunch (FRL), a measure of the poverty level, and fewer than 30% White students. In addition to the required demographics, teachers' email addresses had to be available on individual school's websites.

The criteria for school systems in this study reflected the conditions in America's public school systems. Across the U.S., 51 percent of public school students are low income, as defined by eligibility for FRL (Suitts, 2015), including 13 percent of White children, 39 percent of Black

children, and 32 percent of Hispanic children (Kena et al., 2015). In fact, "poverty rates are highly correlated with the percent of minority students across quartiles and across levels" (Clotfelter, Ladd, Vigdor, & Wheeler, 2006, p. 1352). In 2014, among all public schools, 77 percent of Black students, 76 percent of Hispanic students, and 34 percent of White students attended schools with greater than 50% poverty. Thirty percent of White students attended low-poverty (less than 25% FRL) schools, while only 11 percent of students of color did so. Currently, in some of the nation's largest cities, such as Chicago, New York City, and Los Angeles, as many as 96 percent of Black and Hispanic students attend schools where the majority of students live in poverty (Boschma & Brownstein, 2016).

"High-poverty schools have become poorer over time, both absolutely and relative to the low-poverty schools. This greater concentration over time of poor students in the high-poverty schools exacerbates the educational challenges facing those schools" (Clotfelter et al., 2006, p. 1353). Indeed, high-poverty (greater than 75% of students receiving FRL) and mid-high-poverty (50 to 75% of students receiving FRL) schools face challenges that lower-poverty schools do not, such as high teacher turnover (Bireda & Chait, 2011; Clotfelter et al., 2006; Donovan & Cross, 2002; Guarino, Brown, & Wyse, 2011; Ingersoll, 2004; Ingersoll & May, 2011), less experienced and novice teachers (Clotfelter et al., 2006; Donovan & Cross, 2002), less qualified teachers, with degrees from less competitive institutions, lower teacher test scores, and provisional licenses (Clotfelter et al., 2006; Grissom & Redding, 2016; Guarino, Brown, & Wyse, 2011), in addition to organizational problems such as discipline, inadequate supplies, low levels of classroom autonomy, and lack of support from school administrators (Ingersoll, 2004; Ingersoll & May, 2011). The school systems in this study face many, if not all of these challenges, by virtue of their high poverty and high minority status.

This study focused on larger school districts, as district size is positively correlated with the percentage of identified gifted students who are Black, and negatively correlated with the percentage of identified gifted students who are White (Grissom, Rodriguez, & Kern, 2015). Following this logic, it would be assumed that larger districts would have a higher proportion of Black gifted students, so teachers would be more familiar with characteristics of creativity in Black students. In addition, assessment and placement procedures for gifted programs appear to be more formalized in large districts, resulting in less teacher discretion in the referral process (Nicholson-Crotty, Grissom, Nicholson-Crotty, 2011).

Of the 180 school systems in the state, eight met the demographic criteria. One of the school systems did not provide teacher email addresses on the schools' websites, so that system was eliminated from consideration. From the seven systems that remained, five were selected at random to be included in the study.

The five school systems from which teachers were selected had a total enrollment of 374,294 students, 22% of the 1,723,809 students in Georgia. In the selected school systems, the percent of students eligible for FRL during the 2013-14 school year ranged from 55% to 82%, the percent of Black students ranged from 31% to 76%, the percent of Hispanic students ranged from 4% to 27%, and the percent of White students ranged from 11% to 30%. In Georgia, during the 2013-14 school year, 37% of the student population was Black, 13% was Hispanic, 43% was White, and 62% of students were eligible for FRL (National Center for Education Statistics (NCES), 2015a, 2015b). See Table 4.2 for demographics of the school systems included in the survey.

A list of possible participants was compiled from email addresses available on the websites of all of the elementary schools in the selected school systems. A total of 277 gifted

Table 4.2. *Demographics of School Systems Included in the Survey*

School System	Number of Students	Free and Reduced Lunch		Black Students		Hispanic Students		White Students	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
A	50,131	38,551	76.90	38,171	76.14	3,381	6.74	7,182	14.33
B	24,180	19,808	81.92	17,807	73.64	917	3.90	4,527	18.72
C	37,445	24,490	65.40	21,410	57.18	2,101	4.76	11,229	29.99
D	98,388	72,329	72.77	66,155	66.65	13,433	14.64	10,840	10.91
E	169,150	93,817	55.46	52,270	30.90	42,581	26.87	47,628	28.16
Total	374,294	248,995	66.52	195,813	52.32	62,413	16.67	81,406	21.75

Note: Source for data: National Center for Education Statistics (NCES), 2015a, 2015b.

teachers and 4,534 classroom teachers were identified, and email addresses collected. All the gifted teachers who were identified were included in the sample. Because of the large number of classroom teachers, every teacher was assigned a random number, and the list of teachers was arranged first by system and then by school, with teacher names in numerical order according to the random number assigned to that name. A stratified sample of five teachers was selected from each school, resulting in a pool of 750 classroom teachers. All participants were contacted via electronic media (email) with an invitation to participate in the research study and the survey link. Reminder emails were sent to anyone who had not completed the survey two weeks after the initial email, and again four weeks after the first reminder email. Reminder emails were widely spaced because the winter holiday break began less than two weeks after the first reminder, and the researcher felt that it would be better to send a second reminder after, instead of before the winter holidays.

Of the 277 emails sent to gifted teachers, only 63 were opened, according to the survey results. Fifty-five gifted teachers started the survey: thirty-nine completed all parts of the survey, and three responded to one of the vignettes before leaving the survey, for a total of 120 vignettes

rated on characteristics of creativity. Time spent on the survey ranged from one minute 51 seconds to two hours 26 minutes 36 seconds. Mean time spent on the survey was 15 minutes 48 seconds.

Of the 750 emails sent to classroom teachers, only 88 were opened, according to the survey results. Sixty-one classroom teachers started the survey: thirty-six teachers completed all parts of the survey, two responded to two vignettes, and two responded to one vignette before abandoning the survey, for a total of 114 vignettes rated on characteristics of creativity. Time spent on the survey ranged from three minutes 49 seconds to one hour 33 minutes 56 seconds. Mean time spent on the survey was 28 minutes 42 seconds. See Table 4.3 for the number of gifted and classroom teachers from each school system who were invited to participate and the number of teachers who responded.

Since the request for demographic information was at the end of the survey, no data was available for participants who abandoned the survey after responding to only one or two vignettes. Of the gifted teachers who completed the survey, five were male and 34 were female. There were no teachers with zero to five years of teaching experience. Five teachers had six to ten, ten had 11 to 15, and 24 had 16 or more years of experience. Five teachers identified themselves as African-American, and 34 as Caucasian. One participant had no training in gifted education. Thirteen had received or were in the process of receiving their gifted endorsements through a Regional Educational Service Agency (RESA), while 21 had received or were in the process of receiving their gifted endorsements through a college or university. Three participants were working toward or had earned masters' degrees, one was working toward or had earned a specialist degree, and two did not specify the degree. Degrees earned were not necessarily in gifted education.

Table 4.3. *Survey Invitations and Participants*

School System	Number of schools	Classroom teachers identified	Classroom teachers invited	Classroom teachers responding	Gifted teachers invited	Gifted teachers responding
A	17	398	85	8	40	9
B	5	91	25	2	6	1
C	22	591	110	2	57	3
D	56	1400	280	7	66	2
E	50	2054	250	21*	108	27*
Total	150	4534	750	40*	277	42*

* All participants who responded to only one or two vignettes were from school system E. Totals include four classroom teachers and three gifted teachers who did not complete all three vignettes.

Of the classroom teachers who completed the survey, three were male, and 33 were female. Nine teachers had zero to five years of teaching experience, seven had six to ten, four had 11 to 15, and 16 had more than 15 years of experience. Five teachers identified themselves as African-American, one as Asian-American, two as Latino/Latina, and 25 as Caucasian. Three participants declined to identify their ethnicity. Twenty-two of the classroom teachers had no prior training in gifted education, nine had received or were in the process of receiving their gifted endorsement through a RESA, and five had received or were in the process of receiving their gifted endorsement through a college or university. None of the classroom teachers specified the level of degree earned.

Data Collection and Analysis

Data were collected during a six-week period from November 2015 to January 2016. A total of 234 vignettes were evaluated by the participants: 79 lower, 79 middle, and 76 upper middle class, and 79 Black, 79 Hispanic, and 76 White. The vignettes included 25 Black lower class, 31 Black middle class, 23 Black upper middle class, 30 Hispanic lower class, 25 Hispanic

middle class, 24 Hispanic upper middle class, 24 White lower class, 23 White middle class, and 29 White upper middle class.

Scores for each vignette were calculated as follows: each indicative trait of creativity received a score of one, and each contraindicative trait received a score of zero. A composite score was created for each individual vignette by adding the total number of characteristics selected for that vignette. Analysis included calculating the means and standard errors for each of the vignettes for each race/ethnicity and SES for both composite and individual characteristics scores. The means were then compared using a three-by-three (race/ethnicity by socioeconomic status) factorial analysis of variance (ANOVA) to evaluate the effects of race and SES on participants' ratings of creative characteristics. If the ANOVA indicated significant differences, it was followed by post-hoc t-tests.

Residual analysis was performed to test for the assumptions of the two-way ANOVA. There were two potential outliers, with studentized residual values of +2.92 and +3.05 standard deviations away from the mean. Normality was assessed using Shapiro-Wilk's normality test for each cell of the design, and homogeneity of variances was assessed by Levene's test. Residuals were normally distributed ($p = .16$) and there was homogeneity of variances ($p > .05$).

Results

Means and standard deviations for individual characteristics, as well as the number and percentage of participants listing each characteristic, are found in Table 4.4. These descriptive statistics were used to answer the first research question, “What characteristics do teachers associate with creativity?” Individual characteristics with the highest means included intelligent, high ability, independent, individualistic, imaginative, clever, curious, emotional, multiple interests, and nonconforming. Characteristics with the lowest means included arrogant, critical

Table 4.4. *Characteristics Chosen by Participants*

Characteristic	M	SD	Participants listing as a trait (N=82) Number	Percent
Achieving	.419	.494	56	68.3
Active	.227	.419	38	46.3
Adventurous	.239	.428	39	47.6
Arrogant	.128	.335	30	36.6
Artistic	.406	.492	61	74.4
Challenging	.444	.498	60	73.2
Clever	.568	.497	69	84.1
Critical of others	.137	.344	34	41.4
Curious	.543	.499	69	84.1
Daring	.214	.411	39	47.6
Determined	.397	.490	60	73.2
Disruptive	.222	.417	34	41.5
Emotional	.513	.501	67	81.7
Energetic	.227	.419	35	42.7
Enthusiastic	.244	.430	41	50.0
High ability	.692	.463	70	85.4
Humorous	.158	.366	29	35.4
Imaginative	.573	.496	76	92.7
Impulsive	.274	.447	41	50.0
Independent	.671	.471	70	85.4
Individualistic	.577	.495	68	82.9
Intelligent	.756	.430	74	90.2
Inventive	.423	.495	64	78.0
Motivated	.368	.483	53	64.6
Multiple interests	.500	.501	63	76.8
Nonconforming	.496	.501	67	81.7
Original	.423	.495	58	70.7
Questioning	.423	.495	63	76.8
Rebellious	.150	.357	27	32.9
Self-centered	.171	.377	29	35.4
Self-confident	.393	.490	68	82.9
Sets own rules	.466	.500	68	82.9
Stubborn	.316	.466	50	61.0
Uninhibited	.274	.447	50	61.0

of others, rebellious, humorous, self-centered, daring, disruptive, active, energetic, and adventurous. Characteristics chosen by the greatest percentage of respondents, including those who rated only one or two vignettes (n = 82) included imaginative (92.7%), intelligent (90.2%), high ability (85.4%), independent (85.4%), clever (84.1%), curious (84.1%), individualistic (82.9%), self-confident (82.9%), sets own rules (82.9%), emotional (81.7%), and nonconforming (81.7%). Characteristics recognized by less than 40% percent of respondents included self-centered (32.9%), humorous (35.4%), rebellious (35.4%), and arrogant (36.6%).

The level of inter-rater reliability was between .77 and .92 for teachers rating the same block of vignettes, with the exception of those rating block 3, which contained vignettes describing middle SES Hispanic, upper middle SES Black, and lower SES White students. It is not clear why this particular combination of vignettes received ratings that were less consistent than the other five blocks of vignettes. Inter-rater reliability between all blocks of vignettes was .94. In short, for five out of six blocks, teachers tended to be consistent when rating the same fictional students.

The survey had a satisfactory level of internal consistency, as determined by Cronbach's alpha (Anastasi & Urbina, 1997) of .83 for the entire sample. Four clusters within the set of characteristics were identified a proiri, and the inter-item consistency of each cluster was confirmed with Cronbach’s alpha. The first was a Social-Emotional cluster, which included active, arrogant, challenging, critical of others, disruptive, emotional, impulsive, rebellious, self-centered, and stubborn. The second was an Attitudinal cluster, consisting of daring, independent, nonconforming, self-confident, sets own rules, and uninhibited. The Individuality cluster was made up of adventurous, artistic, clever, curious, humorous, imaginative, individualistic, inventive, and original, and the Intellectual cluster included achieving, determined, energetic,

enthusiastic, high ability, intelligent, motivated, multiple interests, and questioning. All clusters were reliable, with alphas of .76 for the Intellectual cluster, .73 for the Social-Emotional cluster, .72 for the Attitudinal cluster, and .69 for the Individuality cluster. With the exception of the Individuality cluster, all alphas were within the minimum acceptable reliability of .70 proposed by Nunnally and Bernstein (1994), although it must be noted that alpha tends to increase as the number of items in a scale increases (Cortina, 1993).

Correlations between the clusters are given in Table 4.5. Statistically significant correlations were found between all clusters. Moderate correlations were found between the Attitudinal cluster and the Social-emotional, Individuality, and Intellectual clusters, and between the Intellectual cluster and the Social-emotional, Attitudinal, and Individuality clusters. A low degree of correlation was found between the Social-emotional and Individuality cluster. The clusters share no more than 27% variance, indicating that the different clusters represent distinct, although somewhat related, aspects of creativity.

The second research question, “Do these characteristics appear to vary according to a student’s ethnic/cultural background and SES?” was answered by using a factorial analysis of variance (ANOVA) to evaluate the effects of race and SES on participants' ratings of individual characteristics. Table 4.6 shows the F values, significance levels, and effect sizes for individual characteristics.

The main effect of SES on teachers’ ratings was statistically significant for 27 of 34 characteristics: achieving, active, artistic, challenging, critical of others, curious, daring, determined, disruptive, emotional, energetic, enthusiastic, high ability, humorous, imaginative, impulsive, inventive, motivated, nonconforming, original, questioning, rebellious, self-centered, self-confident, sets own rules, stubborn, and uninhibited. There was a significant main effect of

Table 4.5. *Correlations Between Clusters*

Clusters	Social-emotional	Attitudinal	Individuality	Intellectual
Social-emotional		.52**	.21**	.28**
Attitudinal	.52**		.47**	.46**
Individuality	.21**	.47**		.51**
Intellectual	.28**	.46**	.51**	

***p* < .01 (two-tailed tests)

Table 4.6. *F Values, Significance Levels, and Partial Eta Squared for Individual Characteristics*

	Race			SES			Race * SES		
	F	Sig.	η2	F	Sig.	η2	F	Sig.	η2
Achieving	1.231	.294	.011	6.118*	.003*	.052	.999	.409	.017
Active	.631	.533	.006	4.111*	.018*	.035	1.032	.392	.018
Adventurous	.370	.691	.003	2.531	.082	.022	1.280	.279	.022
Arrogant	2.989	.052	.026	56.527	.000	.334	3.014*	.019*	.051
Artistic	.073	.929	.001	33.425*	.000*	.229	.295	.881	.005
Challenging	.029	.971	.000	16.230*	.000*	.126	.479	.751	.008
Clever	.117	.889	.001	1.108	.332	.010	.144	.966	.003
Critical of others	.751	.473	.007	17.284*	.000*	.133	1.361	.248	.024
Curious	.401	.670	.004	8.439*	.000*	.070	1.357	.250	.024
Daring	3.501*	.032*	.030	17.361*	.000*	.134	1.791	.132	.031
Determined	1.659	.193	.015	25.720*	.000*	.186	.415	.798	.007
Disruptive	1.179	.309	.010	7.549*	.001*	.063	1.036	.389	.018
Emotional	.677	.509	.006	36.915*	.000*	.247	.752	.558	.013
Energetic	.019	.981	.000	4.637*	.011*	.040	2.252	.064	.038
Enthusiastic	.336	.715	.003	7.165*	.001*	.060	.490	.743	.009
High ability	.421	.657	.004	15.026*	.000*	.118	.670	.614	.012
Humorous	.360	.698	.003	8.172*	.000*	.068	1.021	.397	.018
Imaginative	.318	.728	.003	14.532*	.000*	.114	.306	.874	.005
Impulsive	.809	.447	.007	3.825*	.023*	.033	1.416	.229	.025
Independent	.151	.860	.001	6.544	.002	.055	3.449*	.009*	.058
Individualistic	.282	.755	.002	4.006	.020	.034	4.000*	.004*	.066
Intelligent	.174	.841	.002	2.486	.085	.022	.223	.926	.004
Inventive	.161	.851	.001	21.794*	.000*	.162	.898	.466	.016
Motivated	.426	.654	.004	13.369*	.000*	.106	.529	.714	.009
Multiple interests	.218	.804	.002	5.617	.004	.048	2.874*	.024*	.049
Nonconforming	.651	.523	.006	14.150*	.000*	.112	1.670	.158	.029
Original	.686	.505	.006	6.585*	.002*	.055	.947	.438	.017
Questioning	1.349	.262	.012	11.984*	.000*	.096	1.595	.177	.028
Rebellious	.746	.476	.007	14.242*	.000*	.112	2.151	.075	.037
Self-centered	.435	.648	.004	13.146*	.000*	.105	.209	.934	.004
Self-confident	.135	.874	.001	101.237*	.000*	.474	.983	.418	.017
Sets own rules	1.943	.146	.017	26.012*	.000*	.188	.793	.531	.014
Stubborn	.073	.929	.001	11.989*	.000*	.096	1.040	.388	.018
Uninhibited	.968	.382	.009	38.036*	.000*	.253	.983	.417	.017

*$p < .05$

race for one characteristic, daring, in addition to the main effect of SES, but no significant interaction effect was noted. Four characteristics indicated an interaction effect between race and SES: arrogant, independent, individualistic, and multiple interests. There were no statistically significant differences in race or SES for teachers' ratings for adventurous, clever, or intelligent.

For 16 of the 27 characteristics indicating a main effect of SES on teachers' ratings, upper middle SES students received ratings that were significantly higher than middle and/or lower SES students. Teachers rated upper middle SES students significantly higher than their middle and lower SES peers for 12 characteristics: challenging, critical of others, determined, disruptive, energetic, nonconforming, rebellious, self-centered, self-confident, sets own rules, stubborn, uninhibited. Upper middle SES students were rated significantly higher than middle, but not lower, SES peers for the characteristics active, enthusiastic, high ability. Upper middle SES students were rated significantly higher than lower, but not middle, SES peers for impulsive.

Middle SES students were rated significantly higher than upper middle SES and lower SES students on two of the 27 characteristics: imaginative, and inventive, and significantly higher than lower, but not upper middle, SES students on humorous and original. Lower SES received higher ratings than middle and upper middle SES students on emotional, and they were rated as significantly more achieving than their middle SES peers.

Teachers rated both middle and lower SES students as significantly more artistic and curious than their upper middle SES peers. Upper middle and lower SES students were rated higher than middle SES students on motivated and questioning. Teachers rated upper middle

and middle SES students as significantly more daring than their lower SES peers, and Hispanic students as significantly more daring than Black students.

A significant interaction effect was found for four characteristics. Upper middle SES students were rated as significantly more arrogant than their lower SES peers for all races/ethnicities. Black and Hispanic upper middle SES students were also rated as more arrogant than middle SES students of the same race/ethnicity. In addition, Black and Hispanic upper middle SES students were rated as significantly more arrogant than White upper middle SES students.

Teachers rated Black upper middle and lower SES students as significantly more independent than Black middle SES students, and Hispanic upper middle SES students as significantly more independent than Hispanic lower SES students. In addition, White and Hispanic middle SES students were rated as significantly more independent than Black middle SES students.

Teachers rated Black upper middle SES students as significantly more individualistic than Black middle SES students, Hispanic upper middle and middle SES students as significantly more individualistic than Hispanic lower SES students, and White middle SES students as significantly more individualistic than White lower SES students. In addition, White and Hispanic middle SES students were rated as significantly more individualistic than Black middle SES students.

Black upper middle SES students were rated as significantly more likely to have multiple interests than Black middle SES students, and Hispanic lower SES students as significantly more likely to have multiple interests than Hispanic upper middle SES or middle SES students. In

addition, Black upper middle SES were rated as significantly more likely to have multiple interests than White or Hispanic upper middle SES students.

The final research question, "Is there a statistically significant difference in teachers' perceptions of characteristics of creativity based on students' race and SES?" was answered by using a factorial analysis of variance (ANOVA) to evaluate the effects of race and SES on the composite characteristics score for each vignette. See Table 4.6 for the means and standard deviations for teachers' ratings based on race and SES.

The main effect of SES on teachers' ratings was statistically significant, $F(2,225) = 14.629$, $p < .001$, partial $\eta 2 = .115$. There was no statistically significant main effect of race on teachers' ratings, $F(2,225) = .327$, $p = .722$, partial $\eta 2 = .003$, nor was there a significant interaction effect between race and SES, $F(4,225) = 1.520$, $p = .197$, partial $\eta 2 = .026$. Therefore, an analysis of main effects for SES was performed.

All pairwise comparisons were run for each main effect with reported 95% confidence intervals and p-values Bonferroni-adjusted within each main effect. There was a statistically significant difference in mean teachers' ratings between upper middle and middle SES level students, and between upper middle and lower SES students. Specifically, upper middle SES students had significantly higher mean teachers' ratings than middle or lower SES students. See Table 4.7 for the main effects of SES on teachers' ratings.

To test the effect of the potential outliers, the ratings were removed from the data set and an ANOVA was performed. The omission of the potential outliers caused a decrease in the mean ($M = 9.00$) and standard deviation ($SD = 4.23$) for teachers' ratings for Black middle SES students, and a decrease in the mean ($M = 14.71$) and standard deviation ($SD = 5.26$) for teachers' ratings for White upper middle SES students, but did not sufficiently change the results

Table 4.7. *Means and Standard Deviations of Teachers' Ratings by Race and SES*

	Low SES		Middle SES		Upper Middle SES		Total	
	M	SD	M	SD	M	SD	M	SD
Black[a]	12.76	5.12	9.58	5.26	16.70	6.00	12.66	6.12
Hispanic[b]	12.33	6.97	10.80	3.30	16.50	6.61	13.11	6.31
White[c]	12.54	5.99	13.39	6.07	15.31	6.08	13.86	6.09
Total	12.53	6.06	11.08	5.19	16.11	6.18	13.20	6.17

[a]$n = 79$. [b]$n = 79$. [c]$n = 76$.

Table 4.8. *Bonferroni Test for Main Effects of SES in Teachers' Ratings*

Group comparison	Difference	*p*
Upper middle SES vs. middle SES	5.03*	.001
Upper middle SES vs. lower SES	3.57*	.001
Middle SES vs. upper middle SES	-5.03*	.001
Middle SES vs. lower SES	-1.46	.351
Lower SES vs. upper middle SES	-3.57*	.001
Lower SES vs. middle SES	1.46	.351

*$p < .05$

of the ANOVA to warrant their exclusion. As was found with the outlier included, there was no statistically significant effect of race on teachers' ratings, $F(2,223) = .323$, $p = .724$, partial $\eta 2 = .003$, although there was a statistically significant effect of SES on teachers' ratings, $F(2,223) = 15.236$, $p < .001$, partial $\eta 2 = .120$. There was not a statistically significant interaction effect between race and SES, $F(4,223) = 2.342$, $p = .056$, partial $\eta 2 = .040$. Results of pairwise comparisons were similar. Since conclusions were essentially the same, the potential outliers remained in the data set.

Discussion

The findings of this study indicate that teachers perceive characteristics of creativity differently based on the SES of the student. These findings are consistent with previous research indicating that students' SES (Dusek & Joseph, 1983; Figlio, 2005; Fitz-Gibbon, 1974; Miller, 1973; Rocha & Hawes, 2009) impacts teachers' academic expectations and ratings. In fact, Rocha and Hawes concluded that "Racial discrimination is contingent on socioeconomic status. When minority groups look similar to Anglos in terms of SES, the level of discrimination they face within the education system is reduced" (p. 340-341). In this study, teachers were significantly more likely to recognize creative attributes in the behaviors of upper middle SES students than in their middle or lower SES peers. Specifically, the ratings of upper middle SES students were significantly higher than the ratings of middle or lower SES students. Although the ratings of lower SES students were higher than those of middle SES students, the difference was not statistically significant. No statistically significant differences were found in teachers' ratings of students by race.

While intellectual characteristics such as intelligence and high ability were recognized in at least one vignette by most of the participants, more than 80% of them also recognized qualities such as sets own rules, imagination, self-confidence, independence, curiosity, emotionality, and nonconformist tendencies. Traits such as self-centered, arrogant, humorous, and rebellious, that teachers have associated with creative students in previous studies (Aljughaiman & Mowrer-Reynolds, 2005; Diakidoy & Kanari, 1999; Runco & Johnson, 2002; Runco et al., 1993), were among the least frequently identified traits, selected by less than 40% of the participants, although it is not clear whether participants did not view these traits as characteristic of creativity or whether they simply did not perceive that students in the vignettes possessed such traits.

Individual characteristics with the highest means—intelligent, high ability, independent, individualistic, imaginative, clever, curious, emotional, multiple interests, and nonconforming—represent a range of aspects of creativity, as indicated by the previously-identified clusters (Intellectual, Attitudinal, Individuality, and Social-emotional). High ability, intelligent, and multiple interests are found in the Intellectual cluster, nonconforming in the Attitudinal cluster, clever, curious, imaginative, independent, and individualistic in the Individuality cluster, and emotional in the Social-emotional cluster. Since researchers have suggested that teachers tend to focus on intelligence or academic achievement as indicators of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Fleith, 2000; Gralewski & Karwowski, 2013; Karwowski, 2007; Westby & Dawson, 1995), it is encouraging to note that these participants appeared to recognize multidimensional aspects of creativity. The use of item clusters to examine inter-item consistency has been confirmed in previous research on teachers' implicit theories of creativity (Runco, 1989). Runco (1989) identified three clusters, with alphas between .81 and .91. Although the clusters identified in this study were composed of different characteristics than those identified in Runco's (1989) study, inter-item consistency was comparable, from .69 to .76.

Evidence from this study indicates that teachers are more likely to identify characteristics of creativity in students from upper middle SES backgrounds than in students from middle or lower SES backgrounds: Upper middle SES students received ratings that were significantly higher than their middle and lower SES peers for 16 of the 27 characteristics with a significant main effect of SES on teachers' ratings, while middle SES students received ratings that were significantly higher than upper middle and/or lower SES students on four of the 27, and lower SES students received ratings that were significantly higher than upper middle and/or middle SES students for only two. While teachers do not appear to perceive characteristics of creativity

differently according to students' race or ethnicity, the fact that they perceive characteristics of creativity differently based on the SES of the student is still of concern. Since far more children of color live in poverty (39 percent of Black children, and 32 percent of Hispanic children, as compared to 13 percent of White children; Kena et al., 2015), and attend schools with greater than 50% poverty (77 percent of Black students, and 76 percent of Hispanic students, as compared to 34 percent of White students; Boschma & Brownstein, 2016), they are more likely to be negatively impacted by teachers' perceptions of upper SES students as exhibiting more characteristics of creativity than middle SES or lower SES students.

Implications

The overarching purpose of this study was to collect teachers' perceptions of creativity in diverse students, and to investigate whether or not these characteristics varied according to a student's racial or socioeconomic (SES) background. The findings indicate that there are statistically significant differences in teachers' perceptions of creativity in students based on SES. Specifically, upper middle SES students had statistically significantly higher mean teachers' ratings than middle or lower SES students, but ratings between students of various races were not statistically significantly different. These results have important implications for the field of gifted education and beyond.

Creativity appears to be a strength for many CLED students (Torrance, 1971, 1977, 1978), and thus may provide an important avenue for entrance into gifted programs, as it is included in the definition of gifted in 27 states (McClain & Pfeiffer, 2012), including Georgia. Teachers who have not received training on characteristics of giftedness and creativity are unlikely to recognize behavioral manifestations of creativity (Peters & Gentry, 2010), and are unlikely to refer students who demonstrate such behaviors for screening, much less testing.

Given that training in gifted education for pre-service teachers is required in only one state, and only two states require training in gifted education after initial certification (NAGC, 2013), it is unlikely that general classroom teachers, those usually called upon to nominate students for gifted education screening, will receive this kind of training. In order to understand characteristics associated with creativity and giftedness, teachers need opportunities for ongoing training and professional development in both positive and negative aspects of creativity and giftedness and the behaviors associated with these characteristics. The STPCS-F appears to offer promise for use as both a pre- and post-assessment to examine whether or not teachers' perceptions of behaviors associated with creativity and giftedness in diverse students change after training. A concerted effort to provide such training is needed, as well as changes in the requirements for pre-service teachers.

Teachers' perceptions of creativity go beyond nominations for gifted programs to impact their willingness to provide creative activities in the classroom. While teachers report favorable attitudes toward creativity (Runco et al, 1993), they may lack understanding about the nature of creativity and the behaviors that creative students display, and how creative potential can be nurtured in the classroom (Aljughaiman & Mowrer-Reynolds, 2005; Myers & Torrance, 1961; Sak, 2004; Torrance, 1963). Instead of encouraging creative thinking, teachers' attitudes and actions may actually work to squelch creativity (Bachtold, 1974; Myers & Torrance, 1961). A classroom climate that promotes creativity provides students with opportunities for inquiry and cooperative learning, accepts different and unusual ideas, encourages humor and risk-taking, and focuses on students' strengths and interests (Fleith, 2000).

Teachers' creative attitudes and behaviors appear to be invaluable in nurturing students' curiosity and creative thinking (Grohman & Szmidt, 2013). However, "teachers are trapped in a

void between the demands of a high-stakes system, and their own beliefs in the value of creativity" (Mullet, Willerson, Lamb, & Kettler, 2016, p. 29), which Matthew Makel (2009) calls the "creativity gap" (p. 38). In this age of standardized testing, teachers may tend to prefer relevant answers and dismiss unusual or unexpected answers (Beghetto (2007a), which can be detrimental to students' creativity (Runco, 2004; Beghetto, 2007b). Teachers who are willing to explore these unusual ideas with students and provide supportive feedback can foster students' creative potential and ideation and increase their creative self-efficacy (Beghetto, 2006, 2013), which has been found to be positively correlated with students' beliefs about their academic abilities in all subject areas (Beghetto, 2006).

Limitations

In general, there are several challenges related to Web surveys, primarily sources of error, such as coverage error, sampling error, and nonresponse error (Dillman, Smyth, & Christian, 2014; Umbach, 2004). One of the main limitations of this study is the sample. In this case, the population was all classroom and gifted teachers in the state of Georgia. The use of publicly available teacher email addresses, as listed on school district websites, limited the range of teachers available to participate in the survey, which introduced bias in the form of coverage and sampling error (Dillman et al., 2014; Umbach, 2004). It is possible that teachers from other districts would have different beliefs about creativity in diverse students.

In addition, only a small percentage of emails were opened, and an even smaller percentage of teachers completed the survey. This low response rate introduced nonresponse bias. Researchers have suggested that online surveys have lower response rates than paper surveys (Dillman et al., 2014; Umbach, 2004), and may even elicit different attitudes (Sax, Gilmartin, and Bryant, 2003). However, it is unknown why there was such a low response rate

for this survey. Since so few teachers opened the emails, it is possible that filters in the school districts' email system sent the email to a spam folder, or that teachers simply ignored emails from an unknown email address.

A third limitation is that the sample consisted predominately of teachers who were White and female. Although two participants declined to answer, of the 75 participants, 67 (89%) identified themselves as female, and 59 (79%) as Caucasian. Although this sample mimics the lack of racial/ethnic and gender diversity in the general teaching field (Boser, 2014; Grissom & Redding, 2016; Grissom et al., 2015), a more diverse sample would allow the researcher to determine whether or not teachers of different ethnicities and genders perceive characteristics of creativity differently in diverse students.

An additional limitation is that the study was limited to the state of Georgia. While this allows participants to operate under the same definition of giftedness and creativity, it excludes the perceptions of teachers in other geographic areas who may have different perceptions of creativity in CLED students.

Finally, the use of vignettes is not the same as teachers' knowledge of and interactions with real students. In this study, teachers were asked to choose characteristics that they believed a fictional student would display, based on limited information. If the participants had been asked to interpret behaviors from real students with whom they were familiar, or to choose characteristics of the most creative student(s) they have taught, they might have responded differently.

A larger, more diverse sample should be used for future research into teachers' perceptions of characteristics of creativity in diverse students. If differences are found in teachers' perceptions of CLED and White students' creativity, additional research is

needed to identify possible reasons for differences, and ways that training and professional learning opportunities may help teachers understand behaviors associated with giftedness and creativity in CLED students.

Conclusions

Specific conditions may help teachers focus on aspects of students' creative potential rather than intelligence and academic achievement. When teachers lack previous knowledge about characteristics of creativity and the criteria for ratings, they should receive explicit definitions of creativity that include what to look for and how to evaluate it (Gralewski & Karwowski, 2013; Yamamoto, 1964). Yamamoto (1963, 1964) found that teachers were able to distinguish highly creative students when asked to rate them on specific criteria such as "has the most ideas," "finds new ways to approach problems," and "thinks of many details."

Teachers may need a specific ranking situation, such as comparing students to others in the class, to accurately assess creativity (Mayfield, 1979). Instructing teachers to envision a creative student they have taught, instead of considering creative characteristics in general, appears to help them integrate both positive and negative characteristics of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Dawson, 1997; Gralewski & Karwowski, 2013).

Teachers' ratings should be used in conjunction with other assessment tools. While teachers can provide useful information about the creative potential of their students, there are limitations associated with any one source. Multiple sources of information, including teachers' judgments and a variety of psychometric instruments that measure different traits related to creative potential, should be used to provide a profile of characteristics, skills, and motivation (Gralewski & Karwowski, 2013; Houtz & Krug, 1995; Isaksen, Puccio, & Treffinger, 1993; Lemons, 2011; Sato, 1974; Treffinger, Young, Selby, & Shepardson, 2002).

Whether intentionally or unintentionally applied, teachers' theories of creativity shape their understandings of children's creative characteristics and behaviors, which ultimately impact children's creative performance (Chan & Chan, 1999; García-Cepero & McCoach, 2009; Runco, 1990, 2007; Runco & Johnson, 2002; Runco et al., 1993). Additional research is needed to examine the disjunctions and intersections between teachers' implicit theories about creativity and their understandings about how creative behaviors may be manifested in CLED students.

CHAPTER 5

A DISCUSSION OF THE FINDINGS

Creativity is one of the criteria used for admission into gifted programs in 27 states (McClain & Pfeiffer, 2012). Unfortunately, teachers are frequently asked to recommend students who demonstrate "gifted potential" for gifted programs, without being provided with any real guidance in defining the construct or specific program criteria (Hoge & Cudmore, 1986; Hunsaker, 1994; Siegle & Powell, 2004). Many educators are not familiar with characteristics of creativity and how those characteristics are manifested in students' behaviors (Aljughaiman & Mowrer-Reynolds, 2005; Davis & Rimm, 1997; Peters & Gentry, 2010; Scott, 1999; Westby & Dawson, 1995). Teachers often focus on academic traits or behaviors as indicators of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Fleith, 2000; Gralewski & Karwowski, 2013; Karwowski, 2007; Westby & Dawson, 1995), while perceiving characteristics traditionally recognized as most typical of creativity, such as sets his or her own rules, impulsive, nonconforming, and emotional, as among the least typical characteristics of creativity (Westby & Dawson, 1995).

While there is a plethora of research on teachers' perceptions of creativity and creative students, none has specifically focused on teachers' perceptions of creativity in CLED students. The purpose of the current study, therefore, was to investigate characteristics that teachers perceive as being associated with creativity, and whether or not these characteristics varied according to a student's race/ethnicity or socioeconomic status (SES).

The Pilot Study and the Research Study

There were two parts to this study: the pilot study and the research study. Both the pilot study and the research study used a quantitative approach: a survey questionnaire was used to collect participants' responses to a series of vignettes describing young students of different races and SES backgrounds.

Participants and Survey Instrument

A convenience sample of graduate students, all of whom were teachers enrolled in a graduate level course on gifted education at a large public university, participated in the pilot study, while a stratified sample of elementary gifted and classroom teachers participated in the research study. All participants were located in one state in the Southeastern United States.

Participants were asked to read three short vignettes depicting students of different races and SES and choose characteristics of creativity that they believed the fictional student would possess from a list of 36 characteristics, presented in random order. (See Appendix C for a list of characteristics contained in the vignettes.) Each vignette provided information about a fictional female student: demographic information, social skills, academic performance, and family background, including socioeconomic status (SES). The main focus of the vignettes, however, was behaviors based on characteristics of giftedness and creativity as found in the literature (Clark, 2013; Frasier, Hunsaker, Lee, Mitchell et al., 1995; Torrance, 1977). Behaviors reflected both positive (e.g., original, independent, curious, humorous, artistic, clever), and negative (e.g., impulsive, disruptive, arrogant, critical of others) indicators of creativity and giftedness (Davis, 2011), and were descriptive of actual behaviors observed by the author in various classrooms. Each vignette included three to four positive and three to four negative behavioral indicators of giftedness and creativity.

Three different vignettes depicted low, middle, and upper middle SES students, and three different names were used for each SES level. Names were chosen to suggest—without specifically indicating—race or ethnicity. It was important to select names that would be common in specific racial/ethnic groups, but uncommon in others, so that the implication was clear. All information contained in the vignette was held constant except for the student's name. (See Appendix B for vignettes.) This allowed six combinations, or blocks, of vignettes; each combination included one vignette for a Black student, one for a Hispanic student, and one for a White student. Each block also contained one vignette for low SES, middle SES, and upper middle SES. For example, one block included vignettes for a Black upper middle class female, a Hispanic lower class female, and a White middle class female. Each participant received one of the combinations, with the vignettes presented in random order.

This study continues the work of previous research using vignettes to investigate teachers' willingness to refer students to gifted programs (Bianco, 2005; Elhoweris, Mutua, Alsheikh, & Holloway, 2005; Hollyhand, 2013; Minner, 1989; Minner, Prater, Bloodworth, & Walker, 1987). However, this study focused on teachers' perceptions of creative characteristics in CLED students based on descriptions of the students' academic and social behaviors, and family background.

Findings

An analysis of variance (ANOVA) was performed to investigate whether or not participants rated characteristics differently according to students' race and SES. The findings of both the pilot study and the research study indicated that teachers perceive characteristics of creativity differently based on the race/ethnicity and SES of the student.

The pilot study found a statistically significant interaction between race and SES on teachers' ratings. Specifically, teachers were significantly more likely to recognize creative attributes in the behaviors of upper middle SES Black students than in their middle or lower SES peers, and in upper middle SES White students than in their middle SES peers. In addition, the ratings of upper middle SES White and Hispanic students were higher than those of their lower SES peers, although the differences were not statistically significant. Differences were also noted across races within the same SES levels: Black upper middle SES students received significantly higher ratings than Hispanic upper middle SES students, and Hispanic middle SES students received significantly higher ratings than White middle SES students.

In the research study, there was a statistically significant main effect of SES on teachers' ratings. Specifically, the ratings of upper middle SES students were significantly higher than the ratings of middle or lower SES students. Although the ratings of lower SES students were higher than those of middle SES students, the difference was not statistically significant. No statistically significant differences were found in teachers' ratings of students by race, nor was there a statistically significant interaction between race and SES.

In the pilot study, individual characteristics with the highest means included intelligent, independent, high ability, individualistic, curious, emotional, imaginative, multiple interests, achieving, and questioning. Characteristics with the lowest means included arrogant, humorous, self-centered, adventurous, critical of others, rebellious, daring, active, uninhibited, and disruptive. Characteristics chosen by the greatest percentage of respondents (n = 30) included intelligent, self-confident, independent, individualistic, high ability, sets own rules, emotional, nonconforming, artistic, curious, and imaginative. Characteristics recognized by fewer than 40%

percent of respondents included adventurous, arrogant, humorous, rebellious, critical of others, and self-centered.

In the research study, individual characteristics with the highest means included intelligent, high ability, independent, individualistic, imaginative, clever, curious, emotional, multiple interests, and nonconforming. Characteristics with the lowest means included arrogant, critical of others, rebellious, humorous, self-centered, daring, disruptive, active, energetic, and adventurous. Characteristics chosen by the greatest percentage of respondents, including those who rated only one or two vignettes (n = 82) included imaginative, intelligent, high ability, independent, clever, curious, individualistic, self-confident, sets own rules, emotional, and nonconforming|. Characteristics recognized by fewer than 40% percent of respondents included self-centered, humorous, rebellious, and arrogant.

Eight characteristics were among those with the highest means in both studies, although not necessarily in the same order: intelligent, independent, high ability, individualistic, curious, emotional, imaginative, and multiple interests. Additional characteristics with the highest means included achieving and questioning in the pilot study, and clever and nonconforming in the research study.

Nine characteristics with the lowest means were common to both studies: arrogant, humorous, self-centered, adventurous, critical of others, rebellious, daring, active, and disruptive. Additional characteristics with the lowest means included uninhibited in the pilot study, and energetic in the research study.

Characteristics chosen by the greatest percentage of respondents in both studies included intelligent, self-confident, independent, individualistic, high ability, sets own rules, emotional,

nonconforming, curious, and imaginative. Additional characteristics chosen by the greatest percentage of respondents in the pilot study included artistic, and clever in the research study.

Characteristics recognized by fewer than 40% percent of respondents in both studies included arrogant, humorous, rebellious, and self-centered. Additional characteristics recognized by fewer than 40% of respondents in the pilot study included adventurous and critical of others.

Discussion

The findings of both studies indicate that teachers perceive characteristics of creativity differently based on the SES and race or ethnicity of the student. These findings are consistent with previous research suggesting that students' race/ethnicity (Dusek & Joseph, 1983; Masten, Plata, Wenglar, & Thedford, 1999; Tenenbaum & Ruck, 2007; van den Bergh, Denessen, Hornstra, Voeten, & Holland, 2010) and SES (Dusek & Joseph, 1983; Figlio, 2005; Fitz-Gibbon, 1974; Miller, 1973; Rocha & Hawes, 2009) impact teachers' academic expectations and ratings. Both studies found that teachers were significantly more likely to recognize creative attributes in the behaviors of upper middle SES students.

While intellectual characteristics such as intelligence and high ability were recognized in at least one vignette by the vast majority of participants in both studies, more than 80% of them also recognized qualities such as imagination, self-confidence, independence, curiosity, emotionality, setting his/her own rules, and individualistic and nonconformist tendencies. Traits such as arrogant, humorous, rebellious, and self-centered, that teachers have associated with creative students in previous studies (Aljughaiman & Mowrer-Reynolds, 2005; Diakidoy & Kanari, 1999; Runco & Johnson, 2002; Runco, Johnson, & Bear, 1993), were among the least frequently identified traits, selected by fewer than 40% of the participants, although it is not clear

whether participants did not view these traits as characteristic of creativity or whether they simply did not perceive that students in the vignettes possessed such traits.

Individual characteristics with the highest means in both studies—intelligent, independent, high ability, individualistic, curious, emotional, imaginative, and multiple interests—represent a range of aspects of creativity, as indicated by the clusters identified in the studies (Intellectual, Attitudinal, Originality, and Social-emotional). Intelligent, high ability, and multiple interests are found in the Intellectual cluster, independent in the Attitudinal cluster, curious, imaginative, and individualistic in the Originality cluster, and emotional in the Social-emotional cluster. Since researchers have suggested that teachers may focus on intelligence or academic achievement as indicators of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Fleith, 2000; Gralewski & Karwowski, 2013; Karwowski, 2007; Westby & Dawson, 1995), it is encouraging to find that participants in both studies appeared to recognize multidimensional aspects of creativity. However, it must be noted that in the pilot study, the ten characteristics with the highest means included achieving and questioning, both found in the Intellectual cluster. This means that five of the ten characteristics with the highest means were related to intellectual aspects of creativity. In the research study, the ten characteristics with the highest means included clever and nonconforming, found in the Originality and Attitudinal clusters respectively. Although participants in both groups recognized multiple aspects of creativity, the participants in the pilot study appear to have focused more on academic and intellectual aspects of creativity, and the participants in the research study appear to have focused more or less equally on intellect, attitude, and originality.

The survey exhibited satisfactory inter-item and inter-rater reliability in both studies. The use of item clusters to examine inter-item consistency has been confirmed in previous research

on teachers' implicit theories of creativity (Runco, 1989). Runco (1989) identified three clusters of creative characteristics, with alphas between .81 and .91. Although the clusters identified in this study were composed of different characteristics than those identified in Runco's (1989) study, inter-item consistency was similar, from .70 to .83 in the pilot study, and from .69 to .76 in the research study.

In both studies, statistically significant correlations were found between all clusters. The strongest correlations were found between the Attitudinal and the Social-emotional clusters, with somewhat lower correlations between the Attitudinal and the Intellectual and Originality clusters. A low degree of correlation was found between the Social-emotional and Intellectual clusters. Between the two studies, the clusters share no more than 34% variance, indicating that the different clusters represent distinct, although somewhat related, aspects of creativity.

The Current Study

This project was unique because it addressed an under-researched area of gifted education and CLED students. Creativity appears to be a strength for many CLED and low SES students (Torrance, 1971, 1977, 1978), and, thus, may provide an important avenue for entrance into gifted programs. If teachers have a low tolerance for behavioral manifestations of creativity, or do not recognize these behaviors as possible indicators of creativity, they are unlikely to refer such students for screening, much less testing. Unfortunately, teachers are frequently asked to nominate students for gifted programs without any training on characteristics of giftedness or creativity (Hoge & Cudmore, 1986; Hunsaker, 1994; Peters & Gentry, 2010; Siegle & Powell, 2004).

In conclusion, it appears that teachers are more likely to identify characteristics of creativity in students from upper middle SES backgrounds than in students from middle or lower

SES backgrounds. However, the fact that teachers perceive characteristics of creativity differently based on the SES of the student is still of concern. According to Rocha and Hawes, "Racial discrimination is contingent on socioeconomic status. When minority groups look similar to Anglos in terms of SES, the level of discrimination they face within the education system is reduced" (p. 340-341). Since far more children of color live in poverty (39 percent of Black children, and 32 percent of Hispanic children, as compared to 13 percent of White children; Kena et al., 2015), and attend schools with greater than 50% poverty (77 percent of Black students, and 76 percent of Hispanic students, as compared to 34 percent of White students; Boschma & Brownstein, 2016), they are more likely to be negatively impacted by teachers' perceptions of upper SES students as exhibiting more characteristics of creativity than middle SES or lower SES students.

Implications

The overarching purpose of the two studies was to collect teachers' perceptions of creativity in diverse students, and to examine whether or not these characteristics varied according to a student's ethnic or socioeconomic (SES) background. The findings indicate that there are statistically significant differences in teachers' perceptions of creativity in students based on SES. These results have important implications for the field of gifted education.

Creativity appears to be a strength for many CLED and low SES students (Torrance, 1971, 1977, 1978), and, thus, may provide an important avenue for entrance into gifted programs, as it is included in the definition of gifted in 27 states (McClain & Pfeiffer, 2012), including Georgia. Given that training in gifted education for pre-service teachers is required in only one state, and only two states require training in gifted education after initial certification (NAGC, 2013), it is unlikely that general classroom teachers, those usually called upon to

nominate students for gifted education screening, will receive this kind of training. In order to understand characteristics associated with creativity and giftedness, teachers need opportunities for ongoing training and professional development in both positive and negative aspects of creativity and giftedness and the behaviors associated with these characteristics. Training focused on "helping teachers recognize giftedness among students from diverse cultural backgrounds, may be necessary for combatting gifted underrepresentation among students of color" (Grissom, Rodriguez, & Kern, 2015, p. 27), and may be a valuable way to reduce racial disparities in teacher referrals (Grissom & Redding, 2016). The STPCS-F appears to offer promise for use as both a pre- and post-assessment to examine whether or not teachers' perceptions of behaviors associated with creativity and giftedness in diverse students change after training. A concerted effort to provide such training is needed, as well as changes in the requirements for pre-service teachers.

Teachers' perceptions of creativity go beyond nominations for gifted programs to impact their willingness to provide creative activities in the classroom. While teachers report favorable attitudes toward creativity (Runco et al, 1993), they may lack understanding about the nature of creativity and the behaviors that creative students display, and how creative potential can be nurtured in the classroom (Aljughaiman & Mowrer-Reynolds, 2005; Myers & Torrance, 1961; Sak, 2004; Torrance, 1963). Instead of encouraging creative thinking, teachers' attitudes and actions may actually work to squelch creativity (Bachtold, 1974; Myers & Torrance, 1961). A classroom climate that promotes creativity provides students with opportunities for inquiry and cooperative learning, accepts different and unusual ideas, encourages humor and risk-taking, and focuses on students' strengths and interests (Fleith, 2000).

Teachers' creative attitudes and behaviors appear to be invaluable in nurturing students' curiosity and creative thinking (Grohman & Szmidt, 2013). However, "teachers are trapped in a void between the demands of a high-stakes system, and their own beliefs in the value of creativity" (Mullet, Willerson, Lamb, & Kettler, 2016, p. 29), which Matthew Makel (2009) calls the "creativity gap" (p. 38). In this age of standardized testing, teachers may tend to prefer relevant answers and dismiss unusual or unexpected answers (Beghetto (2007a), which can be detrimental to students' creativity (Runco, 2004; Beghetto, 2007b). Teachers who are willing to explore these unusual ideas with students and provide supportive feedback can foster students' creative potential and ideation and increase their creative self-efficacy (Beghetto, 2006, 2013), which has been found to be positively correlated with students' beliefs about their academic abilities in all subject areas (Beghetto, 2006).

Limitations

In general, there are several challenges related to Web surveys, primarily sources of error, such as coverage error, sampling error, and nonresponse error (Dillman, Smyth, & Christian, 2014; Umbach, 2004). One of the main limitations of this study is the sample. In this case, the population was all classroom and gifted teachers in the state of Georgia. The use of publicly available teacher email addresses, as listed on school district websites, limited the range of teachers available to participate in the survey, which introduced bias in the form of coverage and sampling error (Dillman et al., 2014; Umbach, 2004). It is possible that teachers from other districts would have different beliefs about creativity in diverse students.

In addition, only a small percentage of emails were opened, and an even smaller percentage of teachers completed the survey. This low response rate introduced nonresponse bias. Researchers have suggested that online surveys have lower response rates than paper

surveys (Dillman et al., 2014; Umbach, 2004), and may even elicit different attitudes (Sax, Gilmartin, and Bryant, 2003). However, it is unknown why there was such a low response rate for this survey. Since so few teachers opened the emails, it is possible that filters in the school districts' email system sent the email to a spam folder, or that teachers simply ignored emails from an unknown email address.

A third limitation is that the sample consisted predominately of teachers who were White and female. Although two participants declined to answer, of the 75 participants, 67 (89%) identified themselves as female, and 59 (79%) as Caucasian. Although this sample mimics the lack of racial/ethnic and gender diversity in the general teaching field (Boser, 2014; Grissom & Redding, 2016; Grissom et al., 2015), a more diverse sample would allow the researcher to determine whether or not teachers of different ethnicities and genders perceive characteristics of creativity differently in diverse students.

An additional limitation is that the study was limited to the state of Georgia. While this allows participants to operate under the same definition of giftedness and creativity, it excludes the perceptions of teachers in other geographic areas who may have different perceptions of creativity in CLED students.

Finally, the use of vignettes is not the same as teachers' knowledge of and interactions with real students. In this study, teachers were asked to choose characteristics that they believed a fictional student would display, based on limited information. If the participants had been asked to interpret behaviors from real students with whom they were familiar, or to choose characteristics of the most creative student(s) they have taught, they might have responded differently.

Future research

A larger, more diverse sample should be used for future research into teachers' perceptions of characteristics of creativity in diverse students. In the current study, all information contained in the vignette was held constant except for the student's name. Adapting the vignettes to hold all information constant except for the student's family background and SES could help researchers confirm or contradict the findings that teachers rate students' creativity differently based on SES. If differences are found in teachers' perceptions of creativity for different races, ethnicities, or SES groups, additional research is needed to identify possible reasons for differences, and ways that training and professional learning opportunities may help teachers understand behaviors associated with giftedness and creativity in CLED students.

This research study was limited to teachers' perceptions of creativity in young female students. The use of vignettes depicting males as opposed to females would be likely to find significant differences in teachers' ratings. Some characteristics, such as arrogance, disruptive, and impulsive, may be seen as gender-based, with boys more likely to display these characteristics than girls. In addition, males of different races/ethnicities may be viewed differently, especially by teachers of a different race. For example, White teachers' expectations of Black males tend to be lower than those of Black teachers (Gershenson, Holt, & Papageorge, 2016). Black female teachers have significantly higher expectations for Black males than White female and Black male teachers, while White male teachers have lower expectations for Black females. On the other hand, Black and White teachers appear to have similar expectations for White students (Gershenson et al., 2016). Ross and Jackson (1993) used vignettes to examine teachers' ratings of hypothetical fourth grade Black students. Black males were rated lower than

Black females, with autonomous, independent Black males, those who display behavior that is consistent with high creativity, rated lowest of all. Given that 72% of teachers in Georgia are White, and 77% are female (National Center for Education Statistics (NCES), 2013), research into teachers' perceptions of creativity in young males is likely to indicate a teacher race-gender interaction. Additional studies of teachers' perceptions of creativity in males and females of different races/ethnicities and SES, and further refinement and testing of the STPCS-F, as well as the development of a survey instrument for males, would yield valuable information on how teachers view creativity in young students.

Conclusions

Specific conditions may help teachers focus on aspects of students' creative potential rather than intelligence and academic achievement. When teachers lack previous knowledge about characteristics of creativity and the criteria for ratings, they should receive explicit definitions of creativity that include what to look for and how to evaluate it (Gralewski & Karwowski, 2013; Yamamoto, 1965). Yamamoto (1963, 1964) found that teachers were able to distinguish highly creative students when asked to rate them on specific criteria such as "has the most ideas," "finds new ways to approach problems," and "thinks of many details."

In addition, teachers may need a specific ranking situation, such as comparing students to others in the class, to accurately assess creativity (Mayfield, 1979). Instructing teachers to envision a creative student they have taught, instead of considering creative characteristics in general, appears to help them integrate both positive and negative characteristics of creativity (Aljughaiman & Mowrer-Reynolds, 2005; Dawson, D'Andrea, Affinito, & Westby, 1997; Gralewski & Karwowski, 2013).

Teachers' ratings should be used in conjunction with other assessment tools. While teachers can provide useful information about the creative potential of their students, there are limitations associated with any one source. Multiple sources of information, including teachers' judgments and a variety of psychometric instruments that measure different traits related to creative potential, should be used to provide a profile of characteristics, skills, and motivation (Gralewski & Karwowski, 2013; Houtz & Krug, 1995; Isaksen, Puccio, & Treffinger, 1993; Lemons, 2011; Sato, 1974; Treffinger, Young, Selby, Shepardson, 2002).

Whether intentionally or unintentionally applied, teachers' implicit theories of creativity shape their understandings of children's creative characteristics and behaviors, which ultimately impact children's creative performance (Chan & Chan, 1999; García-Cepero & McCoach, 2009; Runco, 1990, 2007; Runco & Johnson, 2002; Runco et al., 1993). Additional research is needed to examine the disjunctions and intersections between teachers' implicit theories about creativity and their understandings about how creative behaviors may be manifested in CLED students.

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Appendix A

Studies of Teachers' Perceptions of Creativity

Authors	Focus of Study	Characteristics of Creativity
Aljughaiman & Mowrer-Reynolds (2005)	Teachers' conceptions of creativity	Thinks differently, imaginative, risk-taking, artistic, rich vocabulary, deep thinking, enthusiastic about learning, intelligent, sense of humor, curious. critical of others, independent, impulsive, determined, stubborn, inquisitive
Bachtold (1974)	Teachers' and parents' conceptions of ideal and creative students	Sense of humor, independent, self-confident, curious
Bull, Montgomery, & Baloche (1995)	College faculty members' beliefs about personality characteristics of creativity	Open to experience, curious, enthusiastic, tolerance for ambiguity, energetic, independent, reflective, self-confident, intuitive, motivated, introspective
Chan & Chan (1999)	Hong Kong teachers' implicit theories of characteristics of creative students	Questioning, imaginative, quick in response, intelligent, nonconforming, rebellious, self-centered, arrogant
Diadikoy & Kanari (1999)	Student teachers' beliefs about creativity	Imaginative, ability to set own goals, self-confident, divergent thinking, independent, autonomy, critical thinking ability, multiple interests, sets own rules, innate talent, artistic
Fryer & Collings (1991)	Teachers' conceptions of creativity	Imaginative, original ideas, self-expressive
Morais & Azevedo (2011)	Teachers' conceptions of creative pupils	Alternative problem-solving strategies, original ideas, many appropriate ideas (fluency), transfer of knowledge. reasoning
Runco (1984)	Student teachers' beliefs about characteristics of creative students	Self-directed, curious, original, artistic, intelligent, multiple interests, exploratory, unique, innovative, flexible, imaginative, always questioning, nonconforming, challenging, uninhibited, independent, sensitive, expressive, inventive
Runco & Johnson (2002)	Differences in parents' and teachers' implicit theories	Imaginative, curious, inventive, resourceful, individualistic, artistic, original, adventurous, clever, daring, industrious
Runco, Johnson, & Bear (1993)	Differences in parents' and teachers' implicit theories	Active, adventurous, alert, ambitious, artistic, capable, curious, dreamy, energetic, enthusiastic, imaginative

Scott (1999)	Teachers' attitudes toward creative and less creative students	Attracted to novelty, flexible, reorganizes ideas, fanciful ideas, disruptive in class
Sussman & Justman (1975)	Teachers' perceptions of creativity in preadolescent boys	Capable, rational, active, independent, adaptable, clear-thinking, energetic, individualistic, curious, clever, alert, intelligent
Westby & Dawson (1995)	Teachers' perceptions of creative students	Individualistic, risk-taking, progressive, determined, sincere, appreciative, good-natured, responsible, logical, reliable
Zhou, Shen, Wang, Neber, Johji (2013)	Differences in German, Chinese, and Japanese teachers' conceptions of creativity	Imaginative, willing to try, original, curious, observant, flexible, multiple interests, enthusiastic, takes initiative, divergent thinking

Appendix B

Vignettes

Block 1

Q1-1 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Imani is a nine-year-old female in the fourth grade. She lives with her natural mother and father, two older brothers and one younger sister in a middle class neighborhood. Imani moved to the United States when she was five and received English for Speakers of Other Languages (ESOL) services for two years, although she has since been dismissed from the program.

Imani is slightly above grade level in both math and reading. She excels in mathematical reasoning and problem-solving, but frequently makes errors in calculations. She avoids writing, although she can tell elaborate—and frequently unbelievable—stories about her life. When asked to correct or complete assignments, Imani will often make several starts and give up in frustration because she can't get it right the first time. At home, she likes to build constructions out of unusual materials she finds around the house and yard. In class, she spends free time manipulating small blocks or Legos and can get lost in doing so.

Imani often appears distracted and withdrawn, and may make jokes at inappropriate times. She has difficulty working in a group, as she gets off-track easily, and many of her peers view her as a little "weird." Her teachers indicate that she is an abstract thinker, but quiet and sensitive to criticism.

Q1-2 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Alejandra is a ten-year-old female in the fifth grade. She lives with her natural mother and father and two younger sisters in an upper middle class neighborhood.

Alejandra demonstrates advanced verbal abilities; she reads on a tenth grade level and has a large vocabulary. She enjoys reading fables and historical fiction, and is fascinated by the early 1900s. Her writing shows that she finds hidden themes and relationships that are not readily apparent to others. In class, Alejandra often prefers to socialize and "do her own thing" rather than follow teacher-directed activities. When she chooses to participate, she tends to either dominate discussions or go off on tangents with unrelated ideas. She seldom completes homework; when she does, she often forgets to turn it in.

Alejandra is outgoing and friendly, and is comfortable and charming with adults. She has a small circle of friends who enjoy similar interests. However, she is also opinionated and does not hesitate to strongly express her views, sometimes becoming argumentative and defiant. This verbal sparring can get her into trouble with her teachers, although this does not seem to stop her. Many of her peers perceive her as bossy and condescending. Alejandra is well-aware that she is different and is comfortable in her own skin.

Q1-3 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate

characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Emily is a seven-year-old female in the second grade. She lives with her mother, older brother, and younger sister and brother in a lower class neighborhood, and qualifies for free and/or reduced lunch at school. Her father is currently in jail and has been in and out of her life.

Emily has been successful in school; she reads above grade level and shows superior mathematical abilities. Her teachers indicate that she is quick to learn, inquisitive, and highly verbal. She enjoys math, science, and using technology in the classroom. When Emily is interested in a topic, she is engaged and asks a lot of questions, showing persistence and intense concentration. She is able to see relationships among unrelated ideas and transfer those relationships to new situations. However, she seems to be bored with the regular curriculum and her work is often disorganized or incomplete.

Emily is sensitive, and she may shut down if she is tired or frustrated, crawling under a desk and refusing to work or communicate her needs. She dislikes working in a group and prefers to work alone, although her teachers characterize her as kind and caring.

Block 2

Q2-1 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Imani is a nine-year-old female in the fourth grade. She lives with her natural mother and father, two older brothers and one younger sister in a middle class neighborhood. Imani moved

to the United States when she was five and received English for Speakers of Other Languages (ESOL) services for two years, although she has since been dismissed from the program.

Imani is slightly above grade level in both math and reading. She excels in mathematical reasoning and problem-solving, but frequently makes errors in calculations. She avoids writing, although she can tell elaborate—and frequently unbelievable—stories about her life. When asked to correct or complete assignments, Imani will often make several starts and give up in frustration because she can't get it right the first time. At home, she likes to build constructions out of unusual materials she finds around the house and yard. In class, she spends free time manipulating small blocks or Legos and can get lost in doing so.

Imani often appears distracted and withdrawn, and may make jokes at inappropriate times. She has difficulty working in a group, as she gets off-track easily, and many of her peers view her as a little "weird." Her teachers indicate that she is an abstract thinker, but quiet and sensitive to criticism.

Q2-2 Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Emily is a ten-year-old female in the fifth grade. She lives with her natural mother and father and two younger sisters in an upper middle class neighborhood.

Emily demonstrates advanced verbal abilities; she reads on a tenth grade level and has a large vocabulary. She enjoys reading fables and historical fiction, and is fascinated by the early 1900s. Her writing shows that she finds hidden themes and relationships that are not readily apparent to others. In class, Emily often prefers to socialize and "do her own thing" rather than

follow teacher-directed activities. When she chooses to participate, she tends to either dominate discussions or go off on tangents with unrelated ideas. She seldom completes homework; when she does, she often forgets to turn it in.

Emily is outgoing and friendly, and is comfortable and charming with adults. She has a small circle of friends who enjoy similar interests. However, she is also opinionated and does not hesitate to strongly express her views, sometimes becoming argumentative and defiant. This verbal sparring can get her into trouble with her teachers, although this does not seem to stop her. Many of her peers perceive her as bossy and condescending. Emily is well-aware that she is different and is comfortable in her own skin.

Q2-3 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Alejandra is a seven-year-old female in the second grade. She lives with her mother, older brother, and younger sister and brother in a lower class neighborhood, and qualifies for free and/or reduced lunch at school. Her father is currently in jail and has been in and out of her life.

Alejandra has been successful in school; she reads above grade level and shows superior mathematical abilities. Her teachers indicate that she is quick to learn, inquisitive, and highly verbal. She enjoys math, science, and using technology in the classroom. When Alejandra is interested in a topic, she is engaged and asks a lot of questions, showing persistence and intense concentration. She is able to see relationships among unrelated ideas and transfer those relationships to new situations. However, she seems to be bored with the regular curriculum and her work is often disorganized or incomplete.

Alejandra is sensitive, and she may shut down if she is tired or frustrated, crawling under a desk and refusing to work or communicate her needs. She dislikes working in a group and prefers to work alone, although her teachers characterize her as kind and caring.

Block 3

Q3-1 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Alejandra is a nine-year-old female in the fourth grade. She lives with her natural mother and father, two older brothers and one younger sister in a middle class neighborhood. Alejandra moved to the United States when she was five and received English for Speakers of Other Languages (ESOL) services for two years, although she has since been dismissed from the program.

Alejandra is slightly above grade level in both math and reading. She excels in mathematical reasoning and problem-solving, but frequently makes errors in calculations. She avoids writing, although she can tell elaborate—and frequently unbelievable—stories about her life. When asked to correct or complete assignments, Alejandra will often make several starts and give up in frustration because she can't get it right the first time. At home, she likes to build constructions out of unusual materials she finds around the house and yard. In class, she spends free time manipulating small blocks or Legos and can get lost in doing so.

Alejandra often appears distracted and withdrawn, and may make jokes at inappropriate times. She has difficulty working in a group, as she gets off-track easily, and many of her peers

view her as a little "weird." Her teachers indicate that she is an abstract thinker, but quiet and sensitive to criticism.

Q3-2 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Imani is a ten-year-old female in the fifth grade. She lives with her natural mother and father and two younger sisters in an upper middle class neighborhood.

Imani demonstrates advanced verbal abilities; she reads on a tenth grade level and has a large vocabulary. She enjoys reading fables and historical fiction, and is fascinated by the early 1900s. Her writing shows that she finds hidden themes and relationships that are not readily apparent to others. In class, Imani often prefers to socialize and "do her own thing" rather than follow teacher-directed activities. When she chooses to participate, she tends to either dominate discussions or go off on tangents with unrelated ideas. She seldom completes homework; when she does, she often forgets to turn it in.

Imani is outgoing and friendly, and is comfortable and charming with adults. She has a small circle of friends who enjoy similar interests. However, she is also opinionated and does not hesitate to strongly and dramatically express her views, sometimes becoming argumentative and defiant. This verbal sparring can get her into trouble with her teachers, although this does not seem to stop her. Many of her peers perceive her as bossy and condescending. Imani is well-aware that she is different and is comfortable in her own skin.

Q3-3 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate

characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Emily is a seven-year-old female in the second grade. She lives with her mother, older brother, and younger sister and brother in a lower class neighborhood, and qualifies for free and/or reduced lunch at school. Her father is currently in jail and has been in and out of her life.

Emily has been successful in school; she reads above grade level and shows superior mathematical abilities. Her teachers indicate that she is quick to learn, inquisitive, and highly verbal. She enjoys math, science, and using technology in the classroom. When Emily is interested in a topic, she is engaged and asks a lot of questions, showing persistence and intense concentration. She is able to see relationships among unrelated ideas and transfer those relationships to new situations. However, she seems to be bored with the regular curriculum and her work is often disorganized or incomplete.

Emily is sensitive, and she may shut down if she is tired or frustrated, crawling under a desk and refusing to work or communicate her needs. She dislikes working in a group and prefers to work alone, although her teachers characterize her as kind and caring.

Block 4

Q4-1 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Alejandra is a nine-year-old female in the fourth grade. She lives with her natural mother and father, two older brothers and one younger sister in a middle class neighborhood. Alejandra moved to the United States when she was five and received English for Speakers of Other

Languages (ESOL) services for two years, although she has since been dismissed from the program.

Alejandra is slightly above grade level in both math and reading. She excels in mathematical reasoning and problem-solving, but frequently makes errors in calculations. She avoids writing, although she can tell elaborate—and frequently unbelievable—stories about her life. When asked to correct or complete assignments, Alejandra will often make several starts and give up in frustration because she can't get it right the first time. At home, she likes to build constructions out of unusual materials she finds around the house and yard. In class, she spends free time manipulating small blocks or Legos and can get lost in doing so.

Alejandra often appears distracted and withdrawn, and may make jokes at inappropriate times. She has difficulty working in a group, as she gets off-track easily, and many of her peers view her as a little "weird." Her teachers indicate that she is an abstract thinker, but quiet and sensitive to criticism.

Q4-2 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Emily is a ten-year-old female in the fifth grade. She lives with her natural mother and father and two younger sisters in an upper middle class neighborhood.

Emily demonstrates advanced verbal abilities; she reads on a tenth grade level and has a large vocabulary. She enjoys reading fables and historical fiction, and is fascinated by the early 1900s. Her writing shows that she finds hidden themes and relationships that are not readily apparent to others. In class, Emily often prefers to socialize and "do her own thing" rather than

follow teacher-directed activities. When she chooses to participate, she tends to either dominate discussions or go off on tangents with unrelated ideas. She seldom completes homework; when she does, she often forgets to turn it in.

Emily is outgoing and friendly, and is comfortable and charming with adults. She has a small circle of friends who enjoy similar interests. However, she is also opinionated and does not hesitate to strongly express her views, sometimes becoming argumentative and defiant. This verbal sparring can get her into trouble with her teachers, although this does not seem to stop her. Many of her peers perceive her as bossy and condescending. Emily is well-aware that she is different and is comfortable in her own skin.

Q4-3 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Imani is a seven-year-old female in the second grade. She lives with her mother, older brother, and younger sister and brother in a lower class neighborhood, and qualifies for free and/or reduced lunch at school. Her father is currently in jail and has been in and out of her life.

Imani has been successful in school; she reads above grade level and shows superior mathematical abilities. Her teachers indicate that she is quick to learn, inquisitive, and highly verbal. She enjoys math, science, and using technology in the classroom. When Imani is interested in a topic, she is engaged and asks a lot of questions, showing persistence and intense concentration. She is able to see relationships among unrelated ideas and transfer those

relationships to new situations. However, she seems to be bored with the regular curriculum and her work is often disorganized or incomplete.

Imani is sensitive, and she may shut down if she is tired or frustrated, crawling under a desk and refusing to work or communicate her needs. She dislikes working in a group and prefers to work alone, although her teachers characterize her as kind and caring.

Block 5

Q5-1 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Gabriele is a nine-year-old female in the fourth grade. She lives with her natural mother and father, two older brothers and one younger sister in a middle class neighborhood. Gabriele moved to the United States when she was five and received English for Speakers of Other Languages (ESOL) services for two years, although she has since been dismissed from the program.

Gabriele is slightly above grade level in both math and reading. She excels in mathematical reasoning and problem-solving, but frequently makes errors in calculations. She avoids writing, although she can tell elaborate—and frequently unbelievable—stories about her life. When asked to correct or complete assignments, Gabriele will often make several starts and give up in frustration because she can't get it right the first time. At home, she likes to build constructions out of unusual materials she finds around the house and yard. In class, she spends free time manipulating small blocks or Legos and can get lost in doing so.

Gabriele often appears distracted and withdrawn, and may make jokes at inappropriate times. She has difficulty working in a group, as she gets off-track easily, and many of her peers view her as a little "weird." Her teachers indicate that she is an abstract thinker, but quiet and sensitive to criticism.

Q5-2 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Imani is a ten-year-old female in the fifth grade. She lives with her natural mother and father and two younger sisters in an upper middle class neighborhood.

Imani demonstrates advanced verbal abilities; she reads on a tenth grade level and has a large vocabulary. She enjoys reading fables and historical fiction, and is fascinated by the early 1900s. Her writing shows that she finds hidden themes and relationships that are not readily apparent to others. In class, Imani often prefers to socialize and "do her own thing" rather than follow teacher-directed activities. When she chooses to participate, she tends to either dominate discussions or go off on tangents with unrelated ideas. She seldom completes homework; when she does, she often forgets to turn it in.

Imani is outgoing and friendly, and is comfortable and charming with adults. She has a small circle of friends who enjoy similar interests. However, she is also opinionated and does not hesitate to strongly and dramatically express her views, sometimes becoming argumentative and defiant. This verbal sparring can get her into trouble with her teachers, although this does

not seem to stop her. Many of her peers perceive her as bossy and condescending. Imani is well-aware that she is different and is comfortable in her own skin.

Q5-3 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Alejandra is a seven-year-old female in the second grade. She lives with her mother, older brother, and younger sister and brother in a lower class neighborhood, and qualifies for free and/or reduced lunch at school. Her father is currently in jail and has been in and out of her life.

Alejandra has been successful in school; she reads above grade level and shows superior mathematical abilities. Her teachers indicate that she is quick to learn, inquisitive, and highly verbal. She enjoys math, science, and using technology in the classroom. When Alejandra is interested in a topic, she is engaged and asks a lot of questions, showing persistence and intense concentration. She is able to see relationships among unrelated ideas and transfer those relationships to new situations. However, she seems to be bored with the regular curriculum and her work is often disorganized or incomplete.

Alejandra is sensitive, and she may shut down if she is tired or frustrated, crawling under a desk and refusing to work or communicate her needs. She dislikes working in a group and prefers to work alone, although her teachers characterize her as kind and caring.

Block 6

Q6-1 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate

characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Gabriele is a nine-year-old female in the fourth grade. She lives with her natural mother and father, two older brothers and one younger sister in a middle class neighborhood. Gabriele moved to the United States when she was five and received English for Speakers of Other Languages (ESOL) services for two years, although she has since been dismissed from the program.

Gabriele is slightly above grade level in both math and reading. She excels in mathematical reasoning and problem-solving, but frequently makes errors in calculations. She avoids writing, although she can tell elaborate—and frequently unbelievable—stories about her life. When asked to correct or complete assignments, Gabriele will often make several starts and give up in frustration because she can't get it right the first time. At home, she likes to build constructions out of unusual materials she finds around the house and yard. In class, she spends free time manipulating small blocks or Legos and can get lost in doing so.

Gabriele often appears distracted and withdrawn, and may make jokes at inappropriate times. She has difficulty working in a group, as she gets off-track easily, and many of her peers view her as a little "weird." Her teachers indicate that she is an abstract thinker, but quiet and sensitive to criticism.

Q6-2 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate

characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Alejandra is a ten-year-old female in the fifth grade. She lives with her natural mother and father and two younger sisters in an upper middle class neighborhood.

Alejandra demonstrates advanced verbal abilities; she reads on a tenth grade level and has a large vocabulary. She enjoys reading fables and historical fiction, and is fascinated by the early 1900s. Her writing shows that she finds hidden themes and relationships that are not readily apparent to others. In class, Alejandra often prefers to socialize and "do her own thing" rather than follow teacher-directed activities. When she chooses to participate, she tends to either dominate discussions or go off on tangents with unrelated ideas. She seldom completes homework; when she does, she often forgets to turn it in.

Alejandra is outgoing and friendly, and is comfortable and charming with adults. She has a small circle of friends who enjoy similar interests. However, she is also opinionated and does not hesitate to strongly express her views, sometimes becoming argumentative and defiant. This verbal sparring can get her into trouble with her teachers, although this does not seem to stop her. Many of her peers perceive her as bossy and condescending. Alejandra is well-aware that she is different and is comfortable in her own skin.

Q6-3 Directions: Please read the following case vignette. Think about the creative characteristics that you would expect to see in such a child and select the appropriate

characteristics following the vignette. There is no limit on the number of characteristics that you can select; you may choose as many as you feel would be applicable to the student.

Imani is a seven-year-old female in the second grade. She lives with her mother, older brother, and younger sister and brother in a lower class neighborhood, and qualifies for free and/or reduced lunch at school. Her father is currently in jail and has been in and out of her life.

Imani has been successful in school; she reads above grade level and shows superior mathematical abilities. Her teachers indicate that she is quick to learn, inquisitive, and highly verbal. She enjoys math, science, and using technology in the classroom. When Imani is interested in a topic, she is engaged and asks a lot of questions, showing persistence and intense concentration. She is able to see relationships among unrelated ideas and transfer those relationships to new situations. However, she seems to be bored with the regular curriculum and her work is often disorganized or incomplete.

Imani is sensitive, and she may shut down if she is tired or frustrated, crawling under a desk and refusing to work or communicate her needs. She dislikes working in a group and prefers to work alone, although her teachers characterize her as kind and caring.

Appendix C

Characteristics of Creativity Contained in Vignettes

curious
sets own rules
challenging
enthusiastic
determined
boring
individualistic
artistic
arrogant
rebellious
emotional
achieving
original
motivated
adventurous
clever
disruptive
active
daring
nonconforming
cautious
self-confident
multiple interests
impulsive
intelligent
independent
imaginative
self-centered
energetic
humorous
stubborn
uninhibited
questioning
high ability
inventive
critical of others
other (please specify) _____