

AN INVESTIGATION OF THE ASSOCIATION BETWEEN TEACHERS' USE OF  
CULTURALLY RESPONSIVE STRATEGIES, CULTURALLY RESPONSIVE TEACHING  
SELF-EFFICACY, AND TEACHERS' ABILITY TO MANAGE STUDENT BEHAVIOR

by

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A dissertation submitted to Johns Hopkins University in conformity with the  
requirements for the degree of Doctor of Education

Baltimore, MD

May 2015

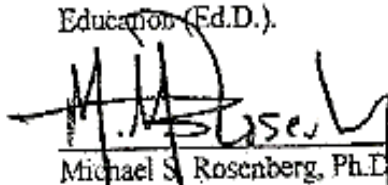
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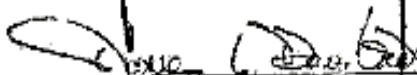
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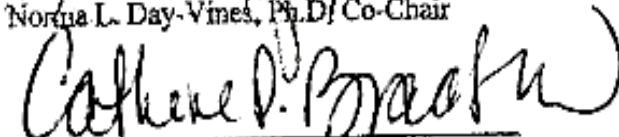
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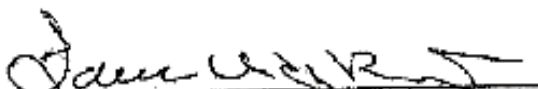
APPROVAL OF THE DISSERTATION

This dissertation, "An Investigation of the Association between Teachers' Use of Culturally Responsive Strategies, Culturally Responsive Teaching Self-Efficacy, and Teachers' Ability to Manage Student Behavior", has been approved by the faculty of the School of Education in partial fulfillment of the requirements for the degree of Doctor of Education (Ed.D.).

  
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## ABSTRACT

Students with disabilities and African American students are more likely to experience exclusionary discipline than typically developing, White students. Some suggest that using culturally responsive teaching practices may improve student behavior. The purpose of this study was to determine whether teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy were associated with teachers' ability to manage student behavior. Since research suggests that the relationship among these variables may be influenced by teacher characteristics and social desirability, the influence of these variables was also examined.

Responses from a battery of self-report and observation measures completed by 180 teachers from 12 schools were analyzed using structural equation modeling (SEM) to test research questions related to teachers' use of culturally responsive strategies, culturally responsive teaching self-efficacy, and teachers' ability to manage student behavior. Broadly, these research questions focused on the associations among teachers' use of culturally responsive strategies, culturally responsive teaching self-efficacy, social desirability, and teacher characteristics and how these associations hold up after accounting for social desirability and teacher characteristics.

Results indicated that teachers' use of culturally responsive strategies in the classroom was not associated with culturally responsive teaching self-efficacy, even after accounting for the influence of social desirability and teacher characteristics. Additionally, results suggested that teachers' use of culturally responsive strategies was associated with teachers' ability to manage student behavior, but that culturally responsive teaching self-efficacy was not, even after accounting for social desirability and teacher characteristics. Implications for pre- and in-service teacher research, training, and evaluation in special and general education are discussed.

## ACKNOWLEDGEMENTS

“No one who achieves success does so without the help of others.” –Alfred North Whitehead

To my students who inspired me, to my professors and colleagues who challenged me, and to my family and friends who supported me, thank you. A special thank you to my committee members for making this work possible: Michael S. Rosenberg, Norma L. Day-Vines, Catherine P. Bradshaw, and Laurie U. deBettencourt. No words could ever adequately express my appreciation for all who have travelled this journey with me.

With love and gratitude,

Kristine E. Larson

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## CHAPTER I

### Introduction

#### **Statement of the Problem**

Students with disabilities and students from ethnic/racial minority backgrounds are more likely to experience exclusionary discipline than their typically developing, White peers (Burke & Nishioka, 2014; Losen & Gillespie, 2012). Exclusionary discipline generally refers to actions that remove students from a classroom or school, such as suspensions or expulsions (Burke & Nishioka, 2014). Specifically, students with disabilities are twice as likely to get suspended as their non-disabled peers and African Americans are three times as likely to get suspended as Whites (Losen & Gillespie, 2012). Moreover, both groups are more likely to receive exclusionary discipline for physical and verbal aggression as well as insubordination than White, typically developing students (Burke & Nishioka, 2014). Unfortunately, exclusionary discipline has been associated with poor academic outcomes, school dropout, entry into the juvenile justice system, future unemployment, and abject poverty (Skiba et al., 2011; Wald & Losen, 2003). Taken together, students with disabilities and African American students are more likely than White, typically developing students to experience negative short and long-term outcomes as a result of exclusionary disciplinary practices. Since exclusionary discipline is generally the result of disciplinary infractions, these findings suggest either that students with disabilities and students from ethnic/racial minority backgrounds tend to behave in ways that require higher rates of disciplinary action or that teachers may not be able to manage the behavior of these students.

Some researchers have reported that students with disabilities tend to exhibit more externalizing and disruptive behaviors than their typically developing peers (Daniel & King, 1997) and that typically developing students who have greater numbers of classmates with

disabilities tend to demonstrate greater externalizing behaviors (Gottfried, 2014). Externalizing behaviors are the defiant, aggressive, and noncompliant student actions that disrupt school and classroom activities (Rosenberg, Westling, & McLeskey, 2011). Both teachers and parents of students in inclusive classrooms are more likely to report behavior problems than teacher and parents of students in non-inclusive classrooms (Daniel & King, 1997). Inclusive classrooms are general education classrooms that include high proportions of students with disabilities (Daniel & King, 1997). These research findings regarding high rates of externalizing behavior for students with and without disabilities in inclusive classrooms suggest that both special and general educators may need extra training or support managing student behavior in these environments.

There is also research indicating differences in behavior patterns between African American and White students (Hosp & Hosp, 2001; Peters, Kranzler, Algina, Smith, & Daunic, 2014; Skiba, Simmons, Ritter, Kohler, Henderson & Wu, 2006b). Differences in behavior patterns or “styles” have been found between these two groups in terms of orientation, physicality, and communication (Hosp & Hosp, 2001). Orientation refers to how a person relates to the world. For instance, some researchers have suggested that students operating in African American behavior style may revolve their orientation around people, while students who operate in the Caucasian behavioral style might orient themselves more around objects (Hosp & Hosp, 2001). Moreover, students operating in African American behavioral style may tend to exhibit movement, while students operating in the Caucasian behavioral style tend to exhibit more passive behaviors (Hosp & Hosp, 2001). Similarly, students operating in the African American behavioral style might be more interactive with the person speaking, while students who operate in the Caucasian style may be more apt to take turns in speaking. As an example, a

student who operates in African American orientation style may be more social with classmates (expressing people orientation), may get up and walk around (expressing physicality), or make comments without raising his or her hand (expressing communication style). The following statement by one teacher in a study by Skiba et al. (2006b) pinpoints how teachers' perceptions of and subsequent reactions to African American behavioral style may be at the root of the disparities in exclusionary disciplinary practices. She said, "African American children seem to be more outspoken. They seem to be louder. They seem to be active. They seem to be what we would call 'disrespectful,' and for that reason, sometimes teachers don't want to deal with them" (Skiba et al., 2006b). Unfortunately, the reluctance to "deal" with this group of children may be the root cause of the differential patterns of exclusionary discipline experienced by African American students.

Taken together, perceived differences in behavior between students with disabilities and typically developing peers as well as between African American students and White students may prompt teachers to refer these students to the principal or guidance counselor more often than they would typically developing or White students. Perceived differences in behavior may then contribute to higher rates of exclusionary discipline and subsequent negative outcomes for students with disabilities and students from ethnic/racial minority backgrounds compared to typically developing and White students. Research suggests that perceived differences in behavior between students may be mediated by teachers' self-efficacy to manage student behavior (Peters et al., 2014). Teacher self-efficacy has been linked with preparedness, such that higher self-efficacy is associated with higher ratings of preparedness (Pas, Bradshaw, & Hershfeldt, 2012).

To prepare future teachers for multicultural diversity and a variety of student behaviors, colleges and schools of education across the United States offer curricula in culturally responsive teaching and classroom management. For instance, to align with accreditation requirements, degree programs either offer courses that embed multicultural education within the curriculum (Bales & Saffold, 2011; Fitchett, Starker, & Salyers, 2012; Kea & Trent, 2013; Trent, Kea, & Oh, 2008) or require pre-service teachers to take a class on multicultural education (Utley, Delquadri, & Obiakor, 2000). Similarly, many universities also provide courses in classroom management (Banks, 2003; Monroe, Blackwell, & Pepper, 2010; O’Neill & Stephenson, 2012). Despite these supports, however, teachers report feeling underprepared to manage misbehavior (O’Neill & Stephenson, 2012), particularly the misbehaviors of students with disabilities who exhibit challenging behaviors (Gao & Mager, 2011) and “difficult to teach” students from diverse backgrounds (Siwatu & Starker, 2010).

Not surprisingly, teachers who feel less prepared tend to leave the profession more quickly (Henke, Chen, Geis, & Knepper, 2000). It is estimated that one-third of teachers leave the profession within their first three years, and that 40–50 percent do so within their first five years (Ingersoll & Smith, 2003). Since teachers become more effective with experience (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006; Clotfelter, Ladd, & Vigdor, 2007; Easton-Brooks & Davis, 2009), high turnover rates negatively affect the overall quality of the teaching force. Taken together, this research suggests that teachers’ efficacy to manage behavior may impact the achievement of students, particularly students with disabilities and students from ethnic/ racial minority backgrounds.

## **Rationale**

Research suggests teachers' use of evidence-based classroom management strategies is associated with student task engagement and achievement (Dunlap, Iovannone, Wilson, Kincaid, & Strain, 2010; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). Evidence-based classroom management strategies include clearly stating expectations, engaging students in lessons, and a continuum of strategies to responding to appropriate and inappropriate behavior (Dunlap et al., 2010; MacSuga & Simonsen, 2011; Pisacreta, Tincani, Connell, & Axelrod, 2011; Simonsen et al., 2008). Unfortunately, traditional classroom management approaches fail to take into account the role of culture in classroom behavior and may be ineffective for students from ethnic and racial minority backgrounds (Siwatu & Starker, 2010). Consequently, scholars have recommended using culturally responsive classroom management strategies (Bondy, Ross, Galligane & Hambacher, 2007; Brown, 2004).

Research has found that effective classroom managers, particularly of students from ethnic/racial minority backgrounds, build strong relationships with students, create caring environments that focus on learning, encourage socialization and discussion, and teach with assertiveness, and clearly state expectations (Brown, 2004; Bondy et al., 2007). These strategies are firmly rooted in the literature on culturally responsive teaching (Gay, 2002; Ladson-Billings, 1995a; Ladson-Billings 1995b; Ladson-Billings 2001; Villegas & Lucas, 2002). Although this research suggests an association between culturally responsive strategies and teachers' ability to manage behavior, little empirical research exists that examines the extent to which culturally responsive strategies are associated with student outcomes (Ahram, Fergus & Noguera, 2011; Moore & Ratchford, 2007; Reglin, Akpo-Sanni & Losike-Sedimo, 2009).

Studies examining the association between culturally responsive strategies and student behavior outcomes have typically used small samples, analyzed data using descriptive statistics,

and relied heavily on disciplinary and special education referral data (Ahram et al., 2011; Moore & Ratchford, 2007; Reglin et al., 2009). These limitations in the research make it impossible to know whether decreases in referrals are due to teachers' use of culturally responsive strategies, changes in school policies, or other confounding factors. As such, it is suggested that researchers use alternate methods to assess teachers' ability to manage student behavior, such as classroom observations of student behavior.

Moreover, much of the research on culturally responsive teaching has relied heavily on self-reports (Chu, 2013; Chu & Garcia, 2014; Siwatu, 2007; Siwatu, 2009; Siwatu & Starker, 2010; Siwatu, 2011). However, research, particularly in counseling, suggests that self-reports of cultural competence are likely to be influenced by social desirability (Constantine, 2001; Granello & Wheaton, 1998; Katz & Hoyt, 2014; Liu, Sheu, & Williams, 2004; Ohm & Rosen, 2011; Sadowsky et al., 1998; Worthington, Mobley, Franks, & Tan, 2000). Social desirability is a participant's need for social approval and acceptance and the belief that this can be attained by means of culturally acceptable and appropriate behaviors (Marlowe & Crowne, 1961). At this time, few studies in education have taken social desirability into account when measuring self-reports of culturally responsive teaching (Spanierman et al., 2011). If social desirability is associated with culturally responsive teaching, then failure to account for this type of bias may result in inaccurate conclusions drawn about teachers' use of culturally responsive teaching practices. It is also possible that social desirability may be associated with observations of culturally responsive teaching since teachers may act in socially desirable ways when they are being observed. As such, more research is needed to determine whether this relationship exists.

Additionally, research in counseling has found that cultural competence is associated with practitioner characteristics, but research in education is limited (Chu & Garcia, 2014) and

does not take into account a number of teacher characteristics that can potentially influence culturally responsive teaching such as teacher role, gender, or years of experience. For instance, there appear to be differences between special and general educators with regards to ability to deliver culturally responsive teaching (Daunic, Correa, & Reyes-Blanes, 2004; Imler, 2009). As such, additional research is needed to determine whether such characteristics influence culturally responsive teaching.

Taken together, further research is needed in several areas as it pertains to culturally responsive teaching and teachers' ability to manage student behavior. First, few studies have examined the extent to which culturally responsive strategies are associated with alternative measures of student outcomes. Second, there is evidence that culturally responsive teaching is influenced by factors such as social desirability and teacher characteristics; however, additional research is needed to examine this relationship and to account for these factors. Similarly, prior work suggests that culturally responsive teaching self-efficacy predicts implementation of culturally responsive strategies (Siwatu, 2009). As such, additional investigations are needed to better understand the extent to which self-reports of culturally responsive teaching are related to observations of culturally responsive teaching.

### **Overview of the Current Study**

The purpose of this study was to examine the extent to which teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy were associated with general and special educators' ability to manage student behavior, taking into account the influence of social desirability and teacher characteristics (e.g., role, race, gender, and experience). Specifically, the current study was designed to address the following areas of research questions. The first area focuses on the extent to which social desirability and teacher



characteristics influence teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy. The second area focuses on whether teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy variables affect the relationship between student behavior when taking into account social desirability and teacher characteristics. Specifically, this study aimed to address the following research questions.

1. What are the associations among teachers' use of culturally responsive strategies, culturally responsive teaching self-efficacy, social desirability, and teacher characteristics?
  - A. To what extent is teachers' use of culturally responsive strategies associated with culturally responsive teaching self-efficacy?
  - B. To what extent do social desirability and teacher characteristics influence teachers' use of culturally responsive strategies?
  - C. To what extent do social desirability and teacher characteristics influence culturally responsive teaching self-efficacy?
  - D. To what extent is teachers' use of culturally responsive strategies associated with culturally responsive teaching self-efficacy, after accounting for social desirability and teacher characteristics?
2. After accounting for social desirability and teacher characteristics, to what extent are teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy associated with teachers' ability to manage student behavior?
  - A. To what extent is teachers' use of culturally responsive strategies associated with teachers' ability to manage student behavior, after accounting for social desirability and teacher characteristics?

- B. To what extent is culturally responsive teaching self-efficacy associated with teachers' ability to manage student behavior, after accounting for social desirability and teacher characteristics?

This line of research has important implications for the assessment of teachers' culturally responsive teaching, as well as professional development to optimize teachers' use of culturally responsive strategies. A clearer understanding of the associations among teachers' use of culturally responsive strategies, culturally responsive teaching self-efficacy, and teachers' ability to manage student behavior may also facilitate knowledge about how to prepare teachers to work in school settings that serve a wide range of students.

## CHAPTER II

### Review of the Literature

The following chapter provides an overview of the theoretical framework of culturally responsive teaching, self-efficacy, and culturally responsive teaching self-efficacy. Next, a review of empirical studies related to these constructs and teachers' ability to manage student behavior is presented. Last, literature pertaining to potential factors that may influence the relationship between culturally responsive teaching and teachers' ability to manage student behavior is analyzed.

### **Theoretical Framework**

#### **Culturally Responsive Teaching**

African American students continue to be disproportionately represented in exclusionary disciplinary actions such as office referrals, suspensions, expulsions, and referrals to school counselors for disruptive behavior (Bryan, Day-Vines, Griffin, Holcomb-McCoy, & Moore-Thomas, 2012; Gregory, Skiba, & Noguera, 2010; Noltemeyer & Mcloughlin, 2010; Vincent, Sprague, & Tobin, 2012; Wallace, Goodkind, Wallace, & Bachman, 2008). Disproportionality refers to a phenomenon in which students, relative to their proportion in the population, experience overrepresentation or underrepresentation along a particular data point (Bryan et al., 2012). For example, African Americans are three times as likely to get suspended as Whites (Losen & Gillespie, 2012) and lose approximately twice as many days of instruction as White students to exclusionary discipline (Vincent, Sprague, & Tobin, 2012). Reasons for exclusionary discipline differ by race such that White students receive exclusionary discipline for more objective infractions like smoking, leaving without permission, and obscene language. African American students, however, tend to receive exclusionary discipline for more subjective offenses

such as disrespect and perceived threat (Skiba, Michael, Nardo, & Peterson, 2002). Exclusionary discipline is particularly detrimental since students need to be in school to succeed.

Disciplinary problems are a prominent factor in minority special education referrals (Bradshaw, Buckley, & Jalongo, 2008; Ford, 2012). Specifically, African American students are more likely to be disproportionately represented in overall special education services and nearly twice as likely as their White counterparts to be classified with emotional and behavioral disabilities (Hosp & Reschly, 2003; Oswald, Coutinho, & Best, 2002; Skiba et al., 2006a; Skiba et al., 2008). Disproportionality in special education is problematic when the placement in special education is inappropriate or when the services received are inadequate (Harry & Klingner, 2006). Unfortunately, scholars contend that the intended outcomes of special education, in many cases, have not been realized in part because of labelling effects, restrictive placements, large class sizes, teacher shortages, and variable teacher quality (Artiles, Kozleski, Trent, Osher, & Ortiz, 2010; Harry & Klingner, 2006; Hosp & Reschly, 2003). These realities of special education have taken a detrimental toll on the performance of students with disabilities. For instance, 33% of students with learning disabilities (LD) and 50-59% of students with emotional and behavior disabilities are reported to drop out of school (Artiles et al., 2010); these rates are considerably higher than the 11% drop out rate of students without disabilities. Moreover, 40% of school-aged students with disabilities are employed compared to 63% of students without disabilities. Taken together, exclusionary discipline and placement in special education have been associated with poor school and career outcomes (Raines, Dever, Kamphaus, & Roach, 2012; Skiba et al., 2011; Wald & Losen, 2003).

Discipline problems are particularly challenging in schools that serve high percentages of minority students (Guin, 2004; National Center for Education Statistics, 2008). To understand

why these schools tend to face higher rates of discipline problems, however, it is first critical to understand the broader context that contribute to inequality in education for students from ethnic/racial minority backgrounds (Darling-Hammond, 2010). For instance, schools that serve large proportions of minority students are generally located in urban or urban-fringe areas. These communities typically face challenges such as poverty, lack of high-quality teachers, tracking, and unsupportive school settings, all of which contribute to the growing disparities in educational outcomes faced by children from ethnic/racial minority backgrounds (Darling-Hammond, 2010).

The percentage of U.S. children living in poverty increased from 15% in the 1970s to 23% in 2007, thereby creating additional stresses on families that make it challenging for children to develop social and emotional skills needed to be successful in school (Darling-Hammond, 2010). Since these skills are predictive of future success or failure, and since poverty impacts the development of these skills, it is virtually impossible for schools to be successful when large proportions of the children who attend them are experiencing the effects of poverty. Moreover, schools in low-income areas face over-crowding, poor libraries, fewer materials, and outdated resources. With conditions like these, it is no wonder why these schools face teacher shortages and a subsequent inexperienced teaching force (Darling-Hammond, 2010). While alternative certification programs have attempted to alleviate teacher-shortages in hard-to-staff schools, researchers posit that they may actually have detrimental effects on student achievement, particularly if students experience novice teachers year after year. As a result of these contextual challenges, novice teachers may blame students for their own lack of skills (Darling-Hammond, 2010). As one teacher stated, “I found myself having problems with cross-cultural teaching issues—blaming my kids because the class was crazy and out of control, blaming parents as though they didn’t care about their kids” (p. 49, Darling-Hammond, 2010).

The statement above supports the notion that a “disconnect” between school and home in terms of values, communication styles, and language patterns, may contribute to disproportionality (Cholewa & West-Olatunji, 2008). For instance, a teachers’ expectation that students raise their hands and wait to be called on may be discrepant from the communication norms of students from ethnic/ racial minority backgrounds who may want to provide encouragement through verbal response and movement; these student behaviors may be interpreted by the teacher as disruptive thereby prompting the teacher to refer the child to the office for disciplinary concerns (Cholewa & West-Olatunji, 2008). To alleviate this disconnect between home and school culture and improve outcomes of students from ethnic/racial minority backgrounds, scholars suggest that educators understand the relationship between students’ culture and behavior (Cholewa & West-Olatunji, 2008; Hosp & Hosp, 2001; Skiba, Poloni-Staudinger, Gallini, Simmons, & Feggins-Azziz, 2006a), as well as incorporate students’ culture into their teaching (Gay, 2002; Ladson-Billings, 1995a; Ladson-Billings, 1995b; Villegas & Lucas, 2002).

Generally speaking, incorporating students’ culture into teaching is often referred to as *culturally responsive teaching* (Gay, 2002; Villegas & Lucas, 2002) or *culturally relevant pedagogy* (Ladson-Billings, 1995a; Ladson-Billings, 1995b). Scholars have struggled to define culturally responsive teaching competence making it a difficult construct to study and measure. Some authors define a culturally responsive teacher as one who engages in self-reflection (Dray & Wisneski, 2011), uses cultural and linguistic responsive decision making and problem-solving (Ortiz, Wilkinson, Robertson-Courtney, & Kushner, 2006), incorporates views and histories of marginalized people into the curriculum (Epstein, Mayorga, & Nelson, 2011) and is culturally sensitive (DeJaeghere & Zhang, 2008). Others describe a culturally responsive teacher as

someone who uses culturally relevant teaching methods (Devereaux, Prater, & Jackson, 2010; Hyland, 2005; Young, 2010), addresses discriminatory practices (Middleton, 2003), sets high expectations, uses metacognitive strategies, understands critical literacy, and connects lessons with students' cultures (Rozansky, 2010). Concisely stated, culturally responsive teaching refers to the essential dispositions, knowledge, and skills for teaching in a culturally diverse society (Villegas & Lucas, 2002). While the particulars of the definition may differ, it is generally recommended that educators incorporate students' culture into their lessons, be culturally competent, and employ culturally relevant and culturally responsive teaching strategies into their practice (Gay, 2002; Ladson-Billings, 1995a; Ladson-Billings 1995b; Ladson-Billings, 2001; Villegas & Lucas, 2002). Theoretical frameworks for promoting culturally responsive teaching are described in the section that follows.

**Frameworks for promoting culturally responsive teaching.** There has been much interest in potential frameworks for promoting culturally responsive teaching. For instance, Ladson-Billings (1995a, 1995b, 2001) emphasized the need for teachers to employ culturally relevant pedagogy. Teachers who employ culturally relevant pedagogy demonstrate three criteria in their classrooms: (a) students experience academic success, (b) students develop and/or maintain cultural competence, and (c) students develop a critical consciousness through which they challenge the status quo of the current social order (Ladson-Billings, 1995b). In order for students to experience academic success, the first tenant of culturally relevant pedagogy, teachers must demand nothing less than academic excellence. Teachers do this by setting high standards and expecting mastery of content. Moreover, students need to be given the tools necessary to live successfully in a democratic society which includes skills in reading, math, technology, and politics (Ladson-Billings, 1995b).

The second element of culturally relevant pedagogy is that students develop and/ or maintain cultural competence (Ladson-Billings, 1995b). Teachers help facilitate this endeavor by connecting the curriculum to students' culture, interests, and community and by supporting students' family and community values. For students to develop or maintain their cultural competence, it is imperative for teachers to be culturally competent. Indicators of cultural competence include understanding the role of culture in education, taking responsibility for learning about students' culture and community, and using student culture as a foundation for learning (Ladson-Billings, 2001).

If teachers understand culture and the role of culture in education, then they are able to facilitate students' critical consciousness, the third component of culturally relevant pedagogy (Ladson-Billings, 1995b). When students have a critical consciousness, they are able to critique cultural norms, values, and institutions that sustain social inequities (Ladson-Billings, 1995b). This process is realized in classrooms where, for instance, students write letters to local newspapers to effect change in their community.

Related conceptual work by Gay (2002) highlighted the importance of the following five strategies for effective and culturally responsive teaching: (a) cultural knowledge, (b) designing culturally relevant curricula, (c) demonstrating cultural caring and building a learning community, (d) effective cross cultural communication, and (e) cultural congruity in classroom instruction. Gay (2002) argued that culturally responsive teaching goes beyond awareness and respect for cultural diversity; rather it is a deep understanding of the cultural particularities and achievements of specific groups (e.g., African, Latino, Native American). Once teachers have a deep understanding of various cultures, they are able to design culturally relevant curricula (Gay, 2002).



Related to the first strategy, Gay (2002) believes that teachers who employ culturally responsive teaching embed their cultural knowledge into the curricula by ensuring that issues of race, gender, poverty are directly confronted in the context of power. Similar to Ladson-Billings (1995b), Gay (2002) posited that when teachers have deep knowledge and understanding about power and privilege and are connected to various identities related to culture and background, they are in a position to demonstrate cultural caring and build a learning community in their classrooms. Teachers who build learning communities accept nothing less than high level success and they support students until success is achieved (Gay, 2002). In order to build a learning community, it is imperative that teachers are able to effectively communicate across cultures. This ability comes from understanding various communication styles. Only when teachers have deep knowledge, can create lesson plans that confront issues related to power and understand various communication styles, teachers are then ready to implement cultural congruity in their classroom instruction. Essentially, cultural congruity refers to applying cultural knowledge to strengthen the connection between lessons and learners (Gay, 2002). This may include using culturally responsive teaching practices such as storytelling, cooperative learning, drama, or lessons that require movement (Gay, 2002).

Similarly, Villegas and Lucas (2002) proposed six characteristics of curriculum to prepare culturally responsive teachers. The characteristics of a culturally responsive teacher include: (a) recognizing multiple ways of perceiving reality, and understanding that perceptions are guided by one's experiences and background; (b) having affirming views of diverse students; (c) seeing oneself as responsible for and capable of changing schools to make them more responsive to all students; (d) understanding how learners construct knowledge, and having the ability to promote learners knowledge construction; (e) knowing the lives of his or her students;

and (f) using knowledge about students' lives to design instruction based on students' life experiences. In short, they believed that these six "strands" should be woven throughout the program experiences and coursework for prospective teachers.

Similar to Ladson-Billings (1995b) and Gay (2002), Villegas and Lucas (2002) believed that pre-service teachers need to understand that people's thinking, believing, and actions are influenced by race, ethnicity, social class, and language. Until a teacher develops this understanding, he or she will continue to feel different and apart from his or her students. As such, it is important that teacher education programs allow opportunities for teachers to deeply reflect about who they are in terms of their cultural identities. Examples of this reflection can take place in autobiographical explorations that force teachers to critically examine their lives as experienced in terms of race, ethnicity, social class, and language. In these autobiographies, teachers can examine issues of power and how power promotes social inequalities. Moreover, Villegas and Lucas (2002) encouraged teachers to explore and understand how traditional schooling perpetuates these social inequalities.

The second strand of preparing culturally responsive teachers is an affirming attitude towards diversity (Villegas & Lucas, 2002). These teachers believe that all students can learn and draw on students' backgrounds to add to the learning experience. In order to have this affirming attitude towards diversity, however, it is necessary for teachers to have a sociocultural consciousness (Villegas & Lucas, 2002). Teachers who have a sociocultural consciousness have positive attitudes towards diversity and students from diverse backgrounds hold students accountable for learning to high expectations. In turn, teachers who have sociocultural consciousness and an affirming attitude towards diversity are able to build meaningful

relationships with their students, which is similar to one component in Gay (2002) of demonstrating cultural caring and building a learning community.

Third, teacher education programs must prepare prospective teachers for committing to and acting as agents of change (Villegas & Lucas, 2002). If school is “the great equalizer” then schools need to be created equal, and teachers committed to taking action to see this vision become a reality are demonstrating the third strand for culturally responsive teaching. To create change, however, it is necessary that teachers have a clear understanding of who they are (sociocultural consciousness) and the goals of education. Villegas and Lucas (2002) argued that teacher educators can prepare future teachers to create change by focusing on the moral dimension of education, exposing them to the change process, helping them to understand barriers to change, and providing them with skills for collaboration and conflict resolution.

Fourth, culturally responsive teaching includes viewing learning from a constructivist perspective. This means that students’ culture is central to their learning (Villegas & Lucas, 2002). To facilitate student learning teachers make connections between what students already know from their personal and cultural experiences with new ideas. Similar to the previous strands, teachers need to know their students in order to make these connections between students’ lives and the curriculum.

Learning about students is the fifth strand of Villegas and Lucas’ (2002) framework for culturally responsive teaching. Getting to know students requires asking students questions about students’ family lives and activities outside of school. Once a teacher knows, for instance, about students’ hobbies and activities that they excel at outside of school, he or she is able to draw upon that knowledge to connect students to the curriculum. The more teachers know about their students, the more they are able to design lessons that are tailored to students’ interests, thereby

increasing academic engagement. Not only can teachers ask students questions to learn about them, but teachers can also conduct home visits and talk to family and community members. These people can provide insight and perspective about students in teachers' classrooms.

Last, teachers must engage in culturally responsive teaching practices (Villegas & Lucas, 2002). These practices consist of including all students in learning activities, building on cultural experiences, helping students examine curriculum from multiple perspectives, using a variety of assessments to measure learning, and making culture a part of all activities in the classroom. Involving students in projects that have personal meaning is an example of a culturally responsive teaching practice (Villegas & Lucas, 2002). For instance, one method to teaching in culturally responsive manners might involve multiple methods of representation and expression such as through poetry or rap (Villegas & Lucas, 2002). Moreover, creating lessons that allow students to feel a sense of purpose is critical to culturally responsive teaching. A sense of purpose might come from identifying problems that students have an interest in solving.

Taken together, it is clear that scholars generally agree about the basic principles culturally responsive teaching. For instance, culturally responsive teaching generally begins with knowledge (Gay, 2002; Ladson-Billings, 1995a; Ladson-Billings 1995b; Ladson-Billings 2001; Villegas & Lucas, 2002). This knowledge is embodied in a critical conscious framework, such that teachers know not only about their students in terms of their interests, and that they also have a deep understanding about culture in the context of power and privilege; teachers with this knowledge are able to connect their own identities to the broader implications of how race, ethnicity, gender and other identities shape the learning and life experiences of people. Second, scholars would agree that teachers need to have certain dispositions in order to effectively teach students from ethnic/racial minority backgrounds. For instance, teachers need to create

welcoming learning environments that demand excellence (Gay, 2002; Ladson-Billings, 1995a; Ladson-Billings 1995b; Ladson-Billings 2001; Villegas & Lucas, 2002). Third, teachers need to have the skills to teach diverse students. These skills include a mastery of content and an ability to incorporate students' culture into lessons pedagogy (Gay, 2002; Ladson-Billings, 1995a; Ladson-Billings 1995b; Ladson-Billings 2001; Villegas & Lucas, 2002).

Research has found that pre-service teachers are most likely to receive theoretical information about culturally responsive teaching and less likely to receive practical suggestions or procedural steps to carry out these skills (Siwatu, 2011). While theory suggests that culturally responsive teaching is important to the success of teaching students from ethnic/ racially diverse backgrounds, teachers may not have adequate skills to get use these strategies. Arguably, without the self-efficacy to use these skills, demonstrations of culturally responsive teaching strategies may be absent from teacher classrooms, thereby minimizing the success of students from ethnic/ racially minority backgrounds.

### **Self-Efficacy**

Self-efficacy is an individual's belief or confidence in his or her capabilities to execute specific actions or tasks (Bandura, 1977). It was hypothesized that high levels of self-efficacy would be useful coping mechanisms in the face of adversity. As such, self-efficacy may be predictive of persistence and resilience in future situations. Moreover, Bandura hypothesized a person's self-efficacy or belief in mastery predicts their expectations regarding outcomes, but that these are two distinctly different constructs. For instance, a person may believe they can master a skill, but if they believe that mastery of this skill will not change the outcome of a situation, they will not attempt to master the skill.

Self-efficacy is impacted by performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal (Bandura, 1977). Performance accomplishment refers to personal mastery or a person's past capabilities to execute specific actions. If an individual has had successful past performances, then his or her self-efficacy is impacted in a positive manner such that individual will have confidence to perform the same or similar task. Since self-efficacy is thought to be associated with resilience and persistence, performance accomplishments can serve to help individuals sustain their effort during difficult situations and decrease their anxiety to accomplish tasks (Bandura, 1977).

Vicarious experience refers to seeing others perform tasks successfully in difficult situations (Bandura, 1977). For example, if an individual sees a colleague with similar abilities perform a task well then his or her self-efficacy to perform the same or similar task is impacted in a positive manner. Using this comparative information can increase one's own belief in one's capabilities to complete a task.

Verbal persuasion refers to receiving praise and encouragement from others to perform (Bandura, 1977). If an individual's parent, advisor, teacher, or friend ensures the individual that he or she will be able to accomplish a task, then the individual's self-efficacy is positively impacted. While verbal persuasion alone may not be sufficient to increase an individual's self-efficacy, when a person experiences one of the other components of self-efficacy like performance accomplishments or vicarious experiences, then verbal persuasion may be the catalyst for a person to perform a task that, prior to the verbal persuasion, may have been unlikely.

Lastly, emotional arousal refers to physiological states or feelings associated with a performance or task (Bandura, 1977). If, for instance, an individual is relaxed, excited or has

positive feelings about completing a particular task, then their sense of self-efficacy or confidence to complete the task will be positively impacted. Conversely, if any of these components of self-efficacy suggest to an individual that they will not be able to perform a task, then his or her self-efficacy will be negatively impacted. Emotional arousal may be influenced by the three prior components of self-efficacy, such that verbal persuasion may alleviate fear associated with completing task. Similarly, having already successfully performed a certain task may also alleviate and instead bring about feelings of excitement (Bandura, 1977).

Taken together, understanding the components of self-efficacy is important in the development of interventions that will increase the likelihood of task mastery in the future. As such, interventions to improve a skill should target performance accomplishments, vicarious experiences, verbal persuasion, and emotional arousal. For instance, trials to develop a skill should be designed and scaffolding in such a way that the few trials to demonstrate mastery increase with difficulty over time, thereby building self-efficacy in performance accomplishments. During these skill development sessions, a researcher or interventionist can use verbal persuasion and modelling to alleviate negative emotional arousal of individuals participating in the task, thereby increasing the likelihood that an individual will persist through a difficult or threatening task until mastery (Bandura, 1977).

Originally, self-efficacy was thought of as a global construct (Bandura, Adams, Hardy & Howells, 1980; Tipton & Worthington, 1984). Researchers soon discovered, however, that global self-efficacy was unrelated to task-self-efficacy, suggesting that self-efficacy is domain-specific (Wang & Richarde, 1988). Since then, researchers have studied self-efficacy in a number of areas including parenting (Cutrona & Troutman, 1986), technology (Murphy, Coover & Owen, 1989), and counseling (Sutton & Fall, 1995) to name a few.

Self-efficacy research on teachers dates back to the early 1980s when Gibson and Dembo developed an instrument to measure teacher self-efficacy and found a relationship between teacher self-efficacy and observable teacher behaviors. They found that teachers' sense of self-efficacy was related to students' achievement gains, thereby confirming the necessity for researchers and teacher educators to develop interventions to improve teacher self-efficacy (Dembo & Gibson, 1985). Several subsequent studies have found that teachers may have high teaching efficacy in one area, but that capacities may not translate to other contexts, suggesting that teacher self-efficacy, much like general self-efficacy, is domain specific (Starko & Schack, 1989). As such, interest in self-efficacy shifted from general teacher efficacy to specific areas of self-efficacy, such as gifted education (Starko & Schack, 1989), math (Midgley, Feldlaufer, & Eccles, 1989), science (Riggs & Enochs, 1990), as well as classroom management (Emmer & Hickman, 1991; Lin, Gorrell, & Taylor, 2002; Woolfolk & Hoy, 1990), teaching students with disabilities (Soodak, & Podell, 1993; Soodak, Podell, & Lehman, 1998), and teaching students from diverse backgrounds (Banks, Dunston, & Foley, 2013; Chu, 2013; Guyton & Wesche, 2005; Pang & Sablan, 1998; Siwatu, 2007; Sorrells, Schaller, & Yang, 2004; Tucker et al., 2005). The current study focused on the specific area of culturally responsive teaching self-efficacy (Siwatu, 2007).

### **Culturally Responsive Teaching Self-Efficacy**

Culturally responsive teaching self-efficacy is guided by theories and research on cultural responsive teaching and self-efficacy (Siwatu, 2007). Culturally responsive teaching self-efficacy refers to perceptions of one's own competence to execute specific practices and tasks associated with culturally responsive teaching (Siwatu, 2007). Siwatu (2007) noted that self-efficacy is domain specific, and that it was therefore necessary to conceptualize self-efficacy as it



related to the specific domain of culturally responsive teaching. To conceptualize culturally responsive teaching, this theory was developed using literature from a variety of disciplines including education, psychology, and anthropology. Not only does culturally responsive teaching consist of efficacy in general teaching practices, but culturally responsive teaching also consists of culturally sensitive, responsive, and equitable practices (Siwatu, 2007). Specifically, culturally responsive teaching self-efficacy is comprised of four competencies: (a) curriculum and instruction, (b) classroom management, (c) student assessment, and (d) cultural enrichment (Siwatu, 2007). Specifically, a teacher who has high culturally responsive teaching self-efficacy believes that he or she has the capacity to incorporate students' culture into the environment, assessment, and curriculum. Moreover, Siwatu (2007) argued that teachers with high culturally responsive teaching self-efficacy are able to teach students skills that enable them to function in mainstream culture while maintaining their cultural identity. Taken together, Siwatu drew from the literature on both culturally responsive teaching and self-efficacy to develop the construct of culturally responsive teaching self-efficacy.

In sum, culturally responsive teaching, self-efficacy, and culturally responsive teaching self-efficacy provide the foundation for the current study's investigation. Since culturally responsive teaching (Gay, 2002; Ladson-Billings, 1995a; Ladson-Billings 1995b; Villegas & Lucas, 2002) and culturally responsive teaching self-efficacy (Siwatu, 2007) are theorized to be essential components of effective teaching, it is hypothesized that these variables will predict teachers' ability to manage student behavior, one of the many skillsets needed to teach effectively in inclusive settings (Sharma, Loreman, & Forlin, 2012). The next section highlights empirical studies that have informed the current investigation into the links among culturally

responsive teaching, self-efficacy, and culturally responsive teaching self-efficacy, particularly as they relate to teachers' ability to manage challenging behavior.

## **Empirical Review of the Literature**

### **Culturally Responsive Teaching Research**

Research suggests an association between culturally responsive teaching and teachers' ability to manage student behavior (Ahram et al., 2011; Moore & Ratchford, 2007; Reglin, Akpo-Sanni, & Losike-Sedimo, 2009; Utley, Delquadri, & Obiakor, 2000). One study that investigated the perceptions of 403 general and special educators in Kansas working with multicultural students with and without disabilities found that many teachers do not receive training about how to educate students from multicultural backgrounds (Utley et al., 2000). This research, collected via surveys, suggested that 40% of teachers are not provided coursework in teaching multicultural students with and without disabilities in their pre-service training programs and 37% of teachers receive no professional development training in multicultural education (Utley et al., 2000). Lastly, many teachers (30%) believe that cultural knowledge would "frequently" help them handle behavior problems.

Taken together, these findings suggest that a significant number of teachers do not receive training in multicultural education, and that a number of teachers feel strongly that receiving multicultural training in both pre-and in-service courses may improve their ability to manage behavior of students from ethnic/racial minority backgrounds with and without disabilities. The study by Utley et al. (2000) relates to the theoretical framework of the current study in that it examined the association between multicultural training and teachers' ability to manage student behavior and found that many teachers thought multicultural training would improve student behavior. Although the study by Utley et al. (2000) included a large number of

participants, a major limitation was that the measured outcomes were descriptive in nature, thereby undermining researchers' ability to measure the strength of statistical correlations between culturally responsive teaching and managing student behaviors.

Some studies reported on the impact of interventions influenced by culturally responsive strategies on student behavior (Moore & Ratchford, 2007; Reglin et al., 2009). For example, one study examined the impact of a student mentoring and professional development intervention on student disciplinary referrals (Moore & Ratchford, 2007). The 10 students in the study comprised just 2% of the population, but received 32% of all discipline referrals. In an effort to reduce discipline referrals for these 10 students, the principal's fraternity brothers met with these students to assist with homework and serve as motivational speakers. Additionally, cultural diversity trainings were provided to middle school staff. Results indicated a 60% reduction in discipline referrals for the 10 students. Similar to the study by Utley et al. (2000), a major limitation to this study was that only descriptive statistics were reported, thereby failing to establish a causal connection between the intervention and the outcome. The study by Moore and Ratchford (2007) draws on culturally responsive teaching in that the principal not only tried to connect students with members of the community who were successful, but also in that teachers received cultural diversity trainings.

Unfortunately, it is not clear from the study by Moore and Ratchford (2007) whether the decrease in behavior referrals for these students were as a result of the tutoring they received or if the decrease in behavior referrals were a result of a change in the teachers' teaching or a combination of both. Moreover, since no baseline data were collected regarding teachers' use of culturally responsive strategies, it is unclear whether these trainings promoted an increase in

teachers' use of culturally responsive strategies in their classroom, which in turn lead to a decrease in behavior referrals for the students in the study.

A related study investigated the effect of a professional development classroom management model on teachers who sought to reduce disruptive behaviors for at-risk elementary school students in an urban environment (Reglin et al., 2009). Similar to the study by Moore and Ratchford (2007), Reglin et al. (2009) examined the impact of a comprehensive 18-week intervention. Unlike the study by Moore and Ratchford (2007) which evaluated an intervention designed for students and teachers, the intervention by Reglin et al. (2009) was designed only for teachers. Specifically, teachers in the Reglin et al. (2009) study were provided readings and coaching on classroom management. First, teachers were requested to read an article that described a classroom management strategy. Second, the teachers received an additional 50-minute coaching session to discuss questions about the strategy. Third, the coach modeled the strategy for the teacher. Coaches encouraged teachers to analyze students' behavior as it related to cultural differences. Pre- and post-test data were collected on the number of discipline referrals and suspensions 90 days before and 90 days during the intervention implementation. Results demonstrated a significant decrease in discipline and suspension referrals. Since the intervention had a significant impact on suspensions and disciplinary referrals, the authors recommended that teachers develop cultural competence to reduce student misbehaviors.

While the study by Reglin and colleagues examined the effects of the intervention and used a slightly more sophisticated analysis than previous studies (Utley et al., 2000; Moore & Ratchford, 2007), the sample size was small ( $n = 11$ ), thereby undermining the generalizability of the results. Moreover, the only mention of culture in the intervention was regarding asking teachers to think about students' behavior as it related to cultural differences. Similar to the study

by Moore and Ratchford (2007), Reglin et al. (2009) failed to clearly establish an association between culturally responsive teaching practices and improvements in student behavior. Specifically, the teachers received an intervention about classroom management that included components of culture, but it is unclear whether it was coaching teachers on general classroom management strategies that improved student behavior or whether encouraging teachers to think about culture as it related to behavior improved student behavior.

Research also suggests that comprehensive culturally responsive professional development can reduce special education referrals for students from ethnic/racial minority backgrounds (Ahram et al., 2011). Unlike previous research that examined the impact of professional development interventions in individual schools and on small groups of teachers, Ahram et al. (2011) examined the impact of professional development on school districts. Disproportionality was found to be the result of ineffective school practices and cultural deficit thinking. Results suggested that when technical support and professional development are provided to address ineffective school practices, the number of special education referrals, particularly for students from ethnic/racial minority backgrounds decreased. Despite these positive changes, however, teachers continued to attribute students' academic troubles to socioeconomic status, family, and culture, suggesting that culturally deficit thinking was difficult to eliminate. Specifically, findings from the study by Ahram et al. (2011) suggest that low income and minority students were labeled as having a disability if they did not behave in ways similar to White middle-class students, thereby suggesting that special education referrals may be a consequence of teachers' judgments of student behavior (or misbehavior) rather than ability.

While that study reported decreases in referrals to special education were consequences of the supports provided to the school districts, it is impossible to determine causality given that

the study was descriptive in nature (Ahram et al., 2011). Moreover, the study also reported that focus group interviews were conducted, but did not provide details about the circumstances of these interviews. For instance, it is unclear what was asked during the interviews or how notes from the interviews were recorded, which is an important indicator of qualitative studies (Brantlinger, Jimenez, Klingner, Pugach, & Richardson, 2005). Additionally, there is no description of how data were collected, leaving it unclear how conclusions were formed. Also, very little description of the intervention was provided, making replication of the study nearly impossible. Lastly, and similar to previous studies (Moore & Ratchford, 2007; Reglin et al., 2009), Ahram et al. (2011) did not explicitly test the relationship between use of culturally responsive strategies and student behavior. It is important to examine referrals to special education since disciplinary issues are often a contributing factor for minority referrals to special education (Bradshaw et al., 2008). Findings from studies on disproportionality in special education speak to broader challenges of educators' ability to manage behavior, particularly of culturally and linguistically diverse students.

Taken together, it is clear that there are significant gaps in the literature surrounding the relationship between culturally responsive teaching and student behavior. Many of the studies have used weak research designs, non-descript measures, and/ or descriptive analyses to examine this relationship leaving many plausible alternatives as to why student disciplinary referrals or referrals to special education decreased. Unless more rigorous research designs are used, the association between the use of culturally responsive teaching strategies and student behavior will remain largely theoretical.

### **Self-Efficacy Research**

While much research has been conducted on teacher self-efficacy, few have examined the intersection of self-efficacy with regards to race, disability, and behavior (Gao & Mager, 2011; Peters et al., 2014). One such study examined how pre-service teachers' attitudes towards school diversity and their perceived sense of efficacy changed over time in an inclusive general/ special education preparation program (Gao & Mager, 2011). The preparation program promoted a strong commitment to understanding and respecting diversity in order to address social injustices and inequalities. Data were collected using data from 168 pre-service teachers using four questionnaires: (a) demographic questionnaire, (b) Teacher Efficacy Scale (TES) (c) Attitudes toward Inclusive Education Scale (ATIES), and (d) Professional and Personal Beliefs of Diversity (BoD). Results indicated that over the course of the preparation program, pre-service teachers' sense of efficacy and attitudes about socio-cultural diversity increased, but that teachers' attitudes toward teaching children with behavior disabilities remained negative.

The study by Gao and Mager (2011) relied on survey data to draw conclusions regarding the association between attitudes about diversity and student behavior. Relying solely on survey data is problematic for three reasons. First, using survey data supports previous research regarding the emphasis in pre-service preparation programs on changing attitudes about diversity rather than providing skills to teach students from diverse backgrounds (Siwatu, 2009). Second, pre-service teachers in that study had positive beliefs about inclusion and diversity, but negative attitudes about teaching students with challenging behavior, suggesting that improving only attitudes or self-efficacy beliefs about diversity and inclusion may not be sufficient to promote self-efficacy in behavior management. Third, relying on survey data may not provide adequate information about actual teacher practice. Consequently, future research should examine the association between self-efficacy to teach students from diverse backgrounds and student

behavior. Moreover, research may also want to examine the association between teachers' actual use of culturally responsive strategies and student behavior.

Other studies on teacher efficacy suggest that race plays a significant role in feelings of teacher self-efficacy to manage behaviors (Peters et al., 2014). For example, when behavior ratings of 982 fourth and fifth grade students were compared from 65 teachers, results of hierarchical linear modelling (HLM) analyses indicated that teachers tended to rate African Americans significantly higher on externalizing behaviors compared to Caucasian students. Even more compelling, however, was the finding that teacher self-efficacy for behavior management significantly predicted the teacher differences on behavior rating scales between African American and Caucasian students. Specifically, as teachers' sense of self-efficacy regarding their behavior management and classroom discipline skills increased, there were fewer differences in teacher ratings of student behaviors by race. Not only do these findings suggest that it is important that teachers have high self-efficacy in classroom management and discipline, but that there might be a relationship between ability to manage student behaviors and educating students from ethnic/racial minority backgrounds. Similarly, these findings about differences between Caucasian and African American students on behavior ratings may also help educators understand disproportionate representation of culturally and linguistically diverse students in disciplinary and special education referrals (Peters et al., 2014). One limitation of the study by Peters et al. (2014) is that behavior ratings of teachers were used to measure student behavior; therefore, it is unclear whether teachers' actual ability to manage student behavior is associated with teachers' self-efficacy.

**Culturally responsive teaching self-efficacy research.** There is growing interest in culturally responsive teaching self-efficacy (Chu, 2013; Chu & Garcia, 2014; Siwatu, 2007;



Siwatu, 2009; Siwatu & Starker, 2010). Several studies have examined culturally responsive teaching self-efficacy with pre-service general education teachers (Siwatu, 2007; Siwatu, 2009; Siwatu & Starker, 2010), while others studies have examined culturally responsive teaching self-efficacy with in-service special education teachers (Chu, 2013; Chu & Garcia, 2014). The sections that follow provide information regarding findings in these two areas of research on culturally responsive teaching self-efficacy.

***Pre-service research.*** Two measures were developed to measure culturally responsive teaching self-efficacy and culturally responsive teaching outcome expectancy (Siwatu, 2007). Psychometric properties found the internal reliability of the Culturally Responsive Teacher Self-Efficacy (CRTSE) and the Culturally Responsive Teaching Outcome Expectancy (CRTOE) measures to be reliable, ( $\alpha = .96$ ) and ( $\alpha = .95$ ), respectively. Drawing upon data from 275 pre-service teachers, the study examined the relationship between the two constructs and found a significant positive relationship between scores on the CRTSE and CRTOE scales ( $r = .70, p < .001$ ) suggesting that pre-service teachers believe that student outcomes will be positive, provided they can implement culturally responsive teaching practices (Siwatu, 2007).

There are two major limitation of the study by Siwatu (2007). First, social desirability was not considered in the development of the scale. Socially desirability may be particularly present in measures concerning race since research suggests that people may underreport racial biases (Baron & Banaji, 2006). Second, the theory about culturally responsive teaching self-efficacy (Siwatu, 2007) had several distinct components (e.g., curriculum and instruction, classroom management, student assessment, and cultural enrichment), but factor analyses in the study found only a one item solution that accounted for only 44% of the variance. The study also

reported some low factor loadings ( $\beta = .39$ ), specifically related to English Language learners. These findings suggest that researchers may want to consider making scale modifications.

In another study by Siwatu (2009), a group of 50 teachers (8% of whom were special educators) were surveyed using the Culturally Responsive Teaching Self-Efficacy scale (CRTSE) and the Implementation of Culturally Responsive Teaching Practices scale. Descriptive analyses and linear regression found that culturally responsive teaching self-efficacy was associated with the frequency of implementation of specific practices (Siwatu, 2009). Specifically, the more efficacious pre-service teachers feel about using a specific practice, the more frequently the student would self-report using the practice. Results suggested that the skills that teachers felt the least efficacious were those that required teachers to incorporate students' culture into the teaching-learning process (e.g., examining the curriculum to determine whether it reinforces negative stereotypes). In short, this research suggests that student teachers feel more efficacious to implement general teaching practices than teaching practices that require incorporating student culture into lessons (Siwatu, 2009). The limitations of this study include the use of self-reports that do not account for social desirability, and a fairly homogenous group of white, female, pre-service general educators. It is unclear how teacher characteristics, particularly teaching experience, may have impacted these results.

A study conducted with 84 pre-service general educators assessed the association among five variables: (a) number of courses addressing issues of diversity; (b) ratings of effectiveness of coursework; (c) the Culturally Responsive Teaching Self-Efficacy Scale (CRTSE); (d) case study self-efficacy; and (e) sense of preparedness to handle problems (e.g., cultural conflicts) with culturally diverse, "difficult-to-teach" students (Siwatu & Starker, 2010). Pre-service teacher participants in the study were asked to read a 300-word case study about a "difficult-to-

teach” African American student and rate their “case-study self-efficacy” and sense of preparedness to handle cultural conflicts on a scale of 1-100. In this study, “difficult to teach” was defined as disruptive in class; speaking without permission; slow in completing assignments.

A series of correlational and multiple regression analyses indicated several significant associations. First, sense of preparedness to handle cultural conflicts with culturally diverse, difficult-to-teach students was positively and significantly correlated with ratings of the effectiveness of coursework, CRTSE, and case study self-efficacy. These findings suggest that experience may contribute to levels of CRTSE and ability to manage student behavior. Second, case study self-efficacy was associated with CRTSE (Siwatu & Starker, 2010), suggesting that self-efficacy to handle cultural conflicts is associated with self-efficacy to use culturally responsive strategies.

Multiple-regression analyses indicated that sense of preparedness and CRTSE beliefs were predictive self-efficacy assessed through a case-study method. Moreover, sense of preparedness to handle problems with culturally diverse, “difficult-to-teach” students, and culturally responsive teaching self-efficacy were the most influential variables influencing case study self-efficacy beliefs (Siwatu & Starker, 2010). This finding is surprising in that number of courses and effectiveness of the coursework did not contribute significantly to teachers’ case study self-efficacy, but rather that preparedness and CRTSE were more important. Since it is likely that sense of preparedness and self-efficacy are highly correlated constructs, research should examine the association between CRTSE and observed student behaviors, rather than another efficacy outcome measure.

Several limitations weaken the conclusions by Siwatu and Starker (2010). First, and similar to previous studies, there was a reliance on self-reports to assess the association among

variables. While theory suggests that self-efficacy is predictive of future performance (Bandura, 1977), reliance on self-reports may be influenced by social desirability and therefore not associated with teacher practice. Second, the research by Siwatu and Starker (2010) also used pre-service general educators, thereby not allowing the results to generalize to special educators or in-service teachers. As such, further examination of culturally responsive teaching self-efficacy in in-service special educators is needed.

***In-service research.*** Several studies have examined culturally responsive teaching self-efficacy with in-service special educators (Chu, 2013; Chu & Garcia, 2014). One descriptive research study with 31 special educators suggests that these teachers believe they are the strongest in creating supportive learning environments and in using a variety of teaching methods to assist their students with disabilities learn content (Chu, 2013). Although these two skills are effective teaching strategies, elements of culture are not embedded within the question. Similar to Siwatu (2009), these findings suggest that teachers may be less familiar with how to connect aspects of students' culture into lessons. Special educators in this study felt least confident in determining whether curriculum appropriately represents culturally and linguistically diverse groups (Chu, 2013). Similarly, this finding supports earlier research with pre-service teachers suggesting that teachers may have high levels of general teaching self-efficacy, but lower levels of self-efficacy related to culturally responsive teaching (Siwatu, 2009).

The study by Chu (2013) has several limitations that impact the research findings. The original CRTSE scale was 40-items. The study by Chu (2013) reported findings from an abbreviated 20-item scale, but it was not clear how these 20 items were chosen. Future research may consider using items based on strong theoretical justifications or high factor loadings.

Moreover, the study by Chu (2013) used a 5 point-Likert scale, but did not justify the reduction from 0-100 Likert-scale to a 1-5 Likert-scale. Fortunately, there is empirical support for using a 5-point Likert scale can be found in research conducted in a study by Chomeya (2010). Another limitation of the study by Chu (2013) was the use of descriptive statistics to analyze the data. Few conclusions or inferences can be drawn when relying on descriptive statistics, thereby diminishing the utility of the study. Future research may want to consider using inferential statistics to draw conclusions about associations among variables.

Research with in-service teachers also suggests an association between culturally responsive teaching self-efficacy and personal characteristics (Chu & Garcia, 2014). Specifically, one study surveyed 344 special educators about their culturally responsive teaching practices in three districts. In addition to completing modified Culturally Responsive Teaching Self-Efficacy (CRTSE) items, demographic information was collected. Unlike the previous study which only used descriptive statistics (Chu, 2013), the study by Chu and Garcia (2014) used correlational, ANOVA, and multiple regression analyses to analyze how items on the CRTSE were associated with demographic information. Findings reported that culturally responsive teaching self-efficacy was significantly associated with teacher characteristics.

Specifically, CRTSE scores were positively and significantly associated with non-White teachers in comparison with White/non-Hispanic teachers (Chu & Garcia, 2014) suggesting that race and ethnicity may influence culturally responsive teaching self-efficacy. Additionally, special educators with higher CRTSE scores were more likely to teach in resource or self-contained classrooms (vs. in inclusive classrooms), suggesting a possible link between CRTSE and student behavior since students with emotional and behavior disabilities tend to spend a significant amount of time in self-contained classrooms (Lane, Wehby, Little, & Cooley, 2005).

Additionally, CRTSE scores were also higher for teachers who reported that they did not teach White students, suggesting that experience with students from ethnic/racial minority backgrounds is an important influence of CRTSE. Moreover, findings suggested that having a certification in bilingual education, attendance in a program designed to work with diverse populations, and participation in professional development sessions about diversity were positively associated with higher CRTSE. Taken together, it is important that future studies examine the associations and account for the influence of teacher characteristics such as ethnicity and experience on CRTSE.

The study by Chu and Garcia (2014) has several limitations, three of which are pertinent to the current study. First, although information about teacher participants' gender was collected, the study did not report on the association of gender and CRTSE. Prior research has found gender differences in beliefs about diversity such that females may have higher beliefs about diversity than males (Gao & Mager, 2011). Consequently, future research should examine and account for the influence gender on CRTSE. Another limitation of the study by Chu and Garcia (2014) was the failure to account for social desirability on self-reports of culturally responsive teaching self-efficacy. Lastly, this research was limited to special educators in urban school districts so it is unknown whether these findings generalize to general education teachers in other environments, such as suburban school districts.

**Teacher role as a potential factor influencing culturally responsive teaching.** With the growing diversity in today's classrooms, both in terms of students' ethnic/racial background as well as ability, it is necessary that both special and general educators use culturally responsive practices. While previous studies examined culturally responsive teaching self-efficacy of pre-service general educators (Siwatu, 2007) and in-service special educators (Chu, 2013), few have

examined how differences in teacher role might influence observations of culturally responsive teaching (Daunic et al., 2004) and self-reports of culturally responsive teaching (Imler, 2009).

***Teachers' Use of Culturally Responsive Strategies.*** Despite similarities in training with regards to coursework and internship experiences, differences between general and special educators' use of culturally responsive practices have been reported in research (Daunic et al., 2004). Specifically, analyses from Praxis III observation reports of 68 general and special educator teacher participants found that special educators use more culturally responsive practices than general educators (Daunic et al., 2004). Specifically, this research suggests that special educators have more knowledge about students' backgrounds and fairness than general educators, but that general educators were better able to encourage students to extend their thinking than special education teachers (Daunic et al., 2004).

The first major limitation of the study by Daunic et al. (2004) was that the instrument used in the study was not specifically designed to measure culturally responsive teaching, thereby undermining conclusions about the extent to which beginning teachers use culturally responsive teaching practices. Moreover, assessors using the Praxis III participated in a weeklong training by the Educational Testing Service (ETS), but there was no inter-rater reliability for lesson observations using the Praxis III (Daunic et al., 2004). While it was established in the study that assessors experienced extensive training, it cannot be assumed that extensive training produced reliability between assessors. Consequently, more research in observations of culturally responsive teaching is needed to assess whether differences exist between general and special educators.

***Self-Reports of Culturally Responsive Teaching.*** Research suggests that very few general and special educators respond to student diversity in their classes (Imler, 2009).

Specifically, 283 pre-service general and special educators enrolled in a special education introduction course at a college located in a Northeastern urban area interviewed 283 in-service general and special educators to determine how they “multiculturalized” or responded to student diversity in their teaching their classrooms. This research reported that only 1% of teachers could articulate how they multiculturalized their classrooms. Of the teachers who articulated these strategies, all were special educators (Imler, 2009). These findings suggest that, while the majority of general and special education teachers receive multicultural coursework, there may be qualitative differences in preparation that special educators and general educators receive, thereby contributing to different levels of cultural competence.

One limitation of the study by Imler (2009) was that it failed to report how students recorded and transcribed interviews. Just over 280 students collected notes from an interview, therefore, it is possible that some of the notes were inaccurate since there was no mention of what instruments were used to collect the data. Consequently, the conclusions in the study by Imler (2009) about the extent to which teachers “multiculturalize” their classroom may not be accurate. Additionally, simply being able to articulate how one multiculturalizes one’s classroom may not evidence use of culturally responsive strategies in practice; rather, it may assesses the communication skills or memory of the person interviewed.

### **Summary**

This review examined theories and empirical literature related to culturally responsive teaching, self-efficacy, and culturally responsive teaching self-efficacy. Five main themes arise from this review and guide the current study: (a) culturally responsive teaching self-efficacy may predict the frequency of using culturally responsive strategies (Siwatu, 2009); (b) there may be an association between culturally responsive teaching self-efficacy and teachers’ perceived



ability to manage student behavior (Siwatu & Starker, 2010; Chu & Garcia, 2014); (c) there is a potential association between teachers' use of culturally responsive strategies and teachers' ability to manage student behavior (Moore & Ratchford, 2007; Reglin, Akpo-Sanni, & Losike-Sedimo, 2009; Utley, Delquadri, & Obiakor, 2000); and (d) potential factors such as social desirability and teacher characteristics (e.g., teacher role, race, gender, and experience) may influence culturally responsive teaching self-efficacy and teachers' use of culturally responsive teaching (Chu & Garcia, 2014; Daunic et al., 2004; Gao & Mager, 2011; Imler, 2009).

Limitations of these studies can be described in terms of content, sample, analyses, and measures. With regard to the content, many of the studies lacked a clear connection between culturally responsive teaching and teachers' ability to manage behavior (Moore & Ratchford, 2007; Reglin et al., 2009; Utley, 2000), so this relationship needs to be explicitly tested. With regard to the sample, some studies used fairly small sample sizes (Chu, 2013; Reglin et al., 2009). Moreover, the majority of studies used samples were composed of general educators (Siwatu, 2007; Siwatu & Starker, 2010) or special educators (Chu, 2013; Chu & Garcia 2014). Few studies examined culturally responsive practices of both general education and special educators (Daunic et al., 2004; Imler, 2009). With regard to the analyses, several studies were descriptive or used descriptive analyses which lack the ability to make inferences (Ahram et al., 2011; Utley et al., 2000; Chu, 2013). Of the studies that used multiple regression (Siwatu & Starker, 2010; Chu & Garcia, 2014), only one provided a table that identified regression coefficients (Chu & Garcia, 2014). Similarly, of these two studies, one did not describe the properties of the data, or how data were prepared and screened (Siwatu & Starker, 2010). With regard to the measures, some studies used outcome measures like referral data (Moore & Ratchford, 2007; Reglin et al., 2009) or survey data (Chu, 2013; Utley et al., 2000), but no

studies used observational measures. Lastly, none of the studies examined in the literature review examined the impact of social desirability on self-reports. As such, the current study seeks to build from this research and will examine the relationship between culturally responsive teaching self-efficacy, teachers' use of culturally responsive strategies, and teachers' ability to manage student behavior while accounting for social desirability and teacher characteristics (e.g., teacher role, race, gender, and experience).

## CHAPTER III

### Methodology

Survey and observational data from a larger study were used to examine the associations among culturally responsive teaching self-efficacy, teachers' use of culturally responsive teaching strategies, social desirability, teacher characteristics, and teachers' ability to manage student behaviors. Prior to summarizing the methodology, a description of the larger study is given to provide context for readers. The chapter then describes the participants and setting, measures, and procedure for data analysis of the current study.

#### **Context of the Study**

**Double Check Project.** The data from this study come from a four-year Institute of Education Sciences (IES) Goal-2 "Development" grant which aimed to first develop, then subsequently test a professional development and coaching process called Double Check. This model builds upon School-Wide Positive Behavioral Interventions and Supports (SW-PBIS; Sugai & Horner, 2006) to improve student behavior outcomes by promoting culturally responsive practices through five components: *Reflective Thinking*, *Authentic Relationships*, *Effective Communication*, *Sensitivity to Students' Culture*, and *Connection to the Curriculum* (Hershfeldt et al., 2009; Bottiani et al., 2012). The Double Check project was implemented in a Maryland district experiencing disproportionality in disciplinary actions. Although elements of the Double Check curriculum align with scholars' conceptualization of culturally responsive teaching, the major focus of Double Check is to provide teachers with behaviorally-focused skills and tools rather than attempting to change beliefs and attitudes.

*Reflective Thinking* encourages teachers to consider that behaviors can be culturally motivated and reinforced and posits that a culturally responsive practitioner can understand

different behaviors without assigning judgment. Although this is similar to Gay (2002) in that teachers are encouraged think about and reflect on issues related to race, it is distinctly different in that teachers are not asked to use the knowledge for transformative social action. *Authentic Relationships* is about teachers knowing who their students are in order to plan interventions and support learning within a cultural context. This Double Check component is aligned with scholars' assertions that teachers must demonstrate cultural caring and build a learning community (Gay, 2002; Villegas & Lucas, 2002). *Sensitivity to Students' Culture* and *Effective Communication* is also aligned with scholars' recommendations for promoting culturally responsive teaching and suggests that teachers need to draw on students' cultural strengths and language (Gay, 2002; Ladson-Billings, 1995a; Ladson-Billings, 1995b). *Connection to the Curriculum* posits that teachers incorporate students' home/ community life and interests into the curriculum is most closely aligned with scholars' recommendations that teachers draw on students' culture when designing and implementing lessons (Gay, 2002; Ladson-Billings, 1995a; Villegas & Lucas, 2002). By providing professional development and coaching to teachers in these five areas, it is proposed that teachers will use these culturally responsive practices, thereby increasing student behavior and engagement.

**Sample.** The Maryland district participating in this project was also experiencing disproportionality in disciplinary actions, particularly as it related to supports for African American students. In response to a request for technical assistance, the research team collaborated with district personnel in conducting a study of the Double Check model, with the goal of reducing disproportionality and improving student outcomes. District personnel were interested in the Double Check intervention and encouraged school principals to participate in Double Check. The research team held several recruitment sessions. The first recruitment session

was for school principals within the district to inform them about the Double Check. Participating principals provided written consent for their school's involvement in the project. Following the schools' enrollment into the project, recruitment sessions for school staff were held at each school. School staff who volunteered for the project, which included the possibility of receiving individual coaching in culturally responsive and positive behavior supports, provided written consent for participation. After all volunteers had been recruited, participants were randomly assigned to either the intervention or control group (See Figure 1). All consenting teachers completed a battery of instruments in the fall and the spring. Observational data were also collected in all classrooms by project staff using the Assessing School Settings: Interactions of Students and Teachers (ASSIST; Rusby, Taylor, & Milchak, 2001).

### **Participants and Setting**

**Double Check Project.** Fall baseline data were obtained from 220 voluntary participants across the 12 schools (6 middle schools; 6 elementary schools) in the third year of the Double Check for the parent randomized trial (see Table 1). Of the total sample, 70% ( $n = 154$ ) were general educators and 12% ( $n = 26$ ) were special educators. The remaining participants were Education/ Teacher Assistants (2%,  $n = 4$ ), ESOL/ Resource (1%;  $n = 3$ ), Paraprofessionals (.5%;  $n = 1$ ), Specials (e.g., music, gym, art) Course Teachers (7%;  $n = 16$ ), Student Services/ Mental Health Professionals (e.g., school psychologist, social worker, counselor) (2%;  $n = 4$ ). The remaining participants (3%;  $n = 6$ ) identified themselves "Other" for staff role.

**Current Study.** One of the aims of the current study was to examine how teacher role influenced the relationship among culturally responsive teaching self-efficacy, teachers' use of culturally responsive strategies, and teachers' ability to manage student behavior. The sample was limited to include only special and general educators ( $n = 180$ ) since these are the two

groups responsible for delivering core content (e.g., English, Math, Reading, Social Studies) to students and because there is literature to support potential differences in use of culturally responsive teaching between these groups. This resulted in a subsample of 180 participants for the current study, which was comprised of 85% ( $n = 154$ ) general educators and 14% ( $n = 26$ ) special educators. Thirty-four percent ( $n = 61$ ) of teachers were between the ages of 20-30, 25% ( $n = 45$ ) were between the ages of 31-40, 21% ( $n = 37$ ) were between the ages of 41-50, 18% ( $n = 33$ ) were between the ages of 51-60 and 2% ( $n = 4$ ) were over the age of 60. Eighty-five percent ( $n = 153$ ) were female and 15% ( $n = 27$ ) were male. Fifty-four percent ( $n = 97$ ) of the teachers were middle school teachers teaching grades 6-8, 22% ( $n = 40$ ) were elementary school teachers teaching grades 1-5, 9% ( $n = 16$ ) taught pre-K or K, and 15% ( $n = 27$ ) reported teaching multiple grades. Roughly 78% ( $n = 140$ ) identified as Caucasian/White, 13% ( $n = 24$ ) identified as African American/Black, 3% ( $n = 5$ ) identified as Hispanic/ Latino, 1% ( $n = 2$ ) identified as Asian/ Pacific Islander, and 4% ( $n = 8$ ) identified themselves as “other”. In terms of years at school, 51% ( $n = 92$ ) were in their first three years at the school, and 49% ( $n = 88$ ) had been in their current school for four or more years. Thirty percent ( $n = 53$ ) of teachers were in their first three years of teaching, 26% ( $n = 47$ ) had been teaching between 4-8 years, and 44% ( $n = 80$ ) had been teaching for more than nine years (See Table 2).

## **Measures**

The battery of assessments administered included demographic questions and 12 subscales, for a total of 107 items. Observational data were also collected through the Assessing School Settings: Interactions of Students and Teachers (ASSIST; Rusby et al., 2001). Together, these two primary sources of data were used to examine the extent to which culturally responsive teaching self-efficacy and teachers’ use of culturally responsive strategies were associated with

teachers' ability to manage student behaviors. These measures and their related subscales are summarized in Table 3 and described in the sections that follow.

**Teacher Characteristics.** Information about teacher role, race, gender, years of experience in education, and years of experience in the school were collected to examine the extent to which teacher characteristics influence the relationship between culturally responsive teaching self-efficacy and teachers' ability to manage challenging student behaviors.

**Culturally Responsive Teaching Self-Efficacy.** A modified version of the *Culturally Responsive Teaching Self-Efficacy* scale (CRSTE; Siwatu, 2007) was used to record teachers' self-efficacy to implement culturally responsive teaching strategies and practices. The original instrument operationalized Siwatu's (2007) culturally responsive teaching self-efficacy construct. Sample items included, "I obtain information about my students' cultural backgrounds" and "I critically examine curricula and instructional materials to determine whether they reinforce negative cultural stereotypes." These questions were derived using theories in culturally responsive teaching, but Siwatu (2007) did not assess the validity of his instrument. Siwatu (2007) did, however, conduct a factor analysis of the scale. Factor analysis revealed three factors, but according to Siwatu (2007) these factors were not interpretable. As such, the Culturally Responsive Teaching Self-Efficacy scale measured a global measure of culturally responsive teaching self-efficacy. During the development of the scale, psychometric analysis revealed that the 40-item scale was reliable [ $\alpha = .96$ ]. The original measure developed by Siwatu used a response scale of 0-100 where 0 indicated "no confidence at all" and 100 indicated "complete confidence" to implement a specific culturally responsive practice.

During a more recent study by Chu (2013), several modifications were made to Siwatu's (2007) *Culturally Responsive Teaching Self Efficacy Scale*. Chu (2013) used a 5-point Likert-

scale rather than a 100-point scale. Additionally, rather than using 40 items, Chu (2013) used an abbreviated version of this scale that included 12 items. Despite these modifications, Chu (2013) found the scale to have adequate internal consistency ( $\alpha = .93$ ). A 10-item, 6-point Likert-scale was used in the Double Check project to measure culturally responsive teaching self-efficacy. Research has found that 6-point Likert scales have higher discrimination and reliability than 5-point Likert's scales (Chomeya, 2010). The reliability of the *Culturally Responsive Teaching Self-Efficacy Scale* (CRTSE; Siwatu, 2007) in the current study was  $\alpha = .79$  (See Table 3 for psychometric properties and Appendix A for survey items).

**Social Desirability.** The *Marlowe-Crowne Scale of Social Desirability* (Crowne & Marlowe, 1960) measures the extent to which survey respondents answer questions in a manner that will be viewed favorably by others. The original Marlowe-Crowne (1960) contained 33 true/false items describing behaviors that are socially approved, but improbable such as “I am always courteous, even to people who are disagreeable” and “I never hesitate to go out of my way to help someone in trouble.” The original scale had an internal consistency of .88 and demonstrated a test-retest correlation of .89 (Crowne-Marlowe, 1960). Moreover, the test was highly correlated with the Edwards (1957) scale of social desirability suggesting adequate construct validity (Crowne & Marlowe, 1960). The Marlowe-Crowne was not significantly correlated with the subscales of repression, hysteria, and depression, suggesting adequate divergent validity. Past studies using the original measure of the Marlowe-Crowne social desirability scale have shown the scale to have a fairly wide range of internal consistency whereby alphas ranged from .65-.88 (Constantine & Ladany, 2000; Constantine, 2000; Constantine, Juby, & Liang, 2001; Constantine, 2001; Worthington et al., 2000).



Research concluded that using shortened forms of the Marlowe-Crowne scale are reasonable, particularly when time is limited as was the case in the Double Check Project (Ballard, 1992; Fischer & Fick, 1993; Strahan & Gerbasi, 1972). Past studies have reported the average reliability of the short-version of the Marlowe-Crowne scale of social desirability using Kuder-Richardson formula to be .62 (Strahan & Gerbasi, 1972). The 10-item abbreviated scale used in the Double Check project was modified into a 6-point Likert-scale where “1” indicated strong disagreement and “6” indicated strong agreement. High scores represented greater need for approval. Some items were reverse coded to reflect that higher scores indicated higher social desirability. The reliability of the short form of the Marlowe-Crowne scale of social desirability (Strahan & Gerbasi, 1972) in the current study was  $\alpha = .59$  (See Table 3 for psychometric properties and Appendix A for survey items).

**Assessing School Settings: Interactions of Students and Teachers (ASSIST).** The Assessing School Settings: Interactions of Students and Teachers (ASSIST; Rusby et al., 2001) is an observation system used to record information about various student and teacher behaviors. During a 15-minute observation, trained data collectors unaware of the teachers’ intervention status tallied the number of teacher and student behaviors across several dimensions. This included teacher observations of proactive behavior expectations, reactive behavior management, approval/ tangible reinforce, disapproval/ tangible punitive consequences, opportunities to respond. Student tallies include non-comply, disruptive, verbal aggression, physical aggression. At the end of each 15-minute observation session, data collectors left the teacher’s classroom and immediately completed a series of global rating items.

The classroom global ratings included the following scales: Culturally-Responsive Strategies, Teacher Control of the Classroom, Teacher Anticipation, Teacher Monitoring,

Teacher Proactive Behavioral Management, Teacher and Student Meaningful Participation, Student Compliance, and Student Socially Disruptive Behaviors. All global ratings were scored on a 5-point Likert-type scale where 0 = Never and 4 = Almost continuously or 0 = never (0 times) and 4 = Often occurred (6+ times). All data collectors received training in four stages: 1) an initial didactic session, 2) on-site practice, 3) on-site inter-observer agreement or reliability, 4) on-site recalibration. Each data collector was trained until they reached a reliability criterion of 80% (for additional information on the scale and its administration, see Debnam, Pas, Bottiani, Cash, & Bradshaw, in press; Pas, Cash, O'Brennan, Debnam, & Bradshaw, 2015).

The ASSIST instrument used in the current study is a modified version of Rusby and colleagues' (2001) original ASSIST. For example, slight modifications in wording of statements were made (e.g., the scale of the current study used the word "N/A"; Never/ Seldom, Some of the Time/ A lot of the Time/ Almost Continuously instead of "no basis/ very low/ somewhat low/ average/ somewhat high/ very high"). Moreover, the global ratings' wording were changed from past to present tense. Also, as opposed to "level of" when referring to compliance or cooperation, the scale used in the current study reads: "students comply" and "students cooperate".

A confirmatory factor analysis on the ASSIST conducted by the Double Check research team confirmed the eight global rating scales: *Culturally-Responsive Strategies*, *Teacher Control of the Classroom*, *Teacher Anticipation*, *Teacher Monitoring*, *Teacher Proactive Behavioral Management*, *Teacher and Student Meaningful Participation*, *Student Compliance*, and *Student Socially Disruptive Behaviors*. The fit statistics for the final CFA of the ASSIST global rating scales were RMSEA = 0.037, CFI = 0.960, TLI = 0.956, WRMR = 1.385 indicating that the data fit the model (Hu & Bentler, 1999; Kline, 2011; Schreiber, Nora, Stage, Barlow, & King, 2006);

these analyses accounted for clustering at the school level. The following two global rating scales used in the current study are described in detail below.

***Teachers' use of culturally-responsive strategies.*** The *Teacher Culturally-Responsive Strategies* (TCRS) subscale of the ASSIST was comprised of 4 items and assessed the use of culturally responsive strategies in the classroom (See Appendix B for items). Sample items include, "Teacher connects lessons to real world examples," and "Teacher integrates cultural artifacts reflective of students' interests into learning activities." Higher scores reflect greater use of culturally responsive strategies. The internal reliability of the *Teacher Culturally Responsive Strategies* scale was  $\alpha = .56$  (Debnam, Pas, Bottiani, Cash, & Bradshaw, in press). The reliability on the *Teacher Culturally Responsive Strategies* scale in the current study was  $\alpha = .65$  (See Table 3).

***Teachers' ability to manage student behaviors.*** Teachers' ability to manage student behaviors was measured using the *Student Compliance (SC)* scale on the ASSIST (See Appendix B for Items). The *Student Compliance* scale was comprised of 7 items and measured how often students complied with rules, were respectful, and met expectations for academic readiness. Sample items include, "Students comply," and "Students are focused and engaged." Higher scores reflected greater student compliance. The reliability of the *Student Compliance* scale in previous studies was  $\alpha = .89$ . The internal reliability for the *Student Compliance* subscale for the current study was  $\alpha = .93$  (See Table 3).

## **Procedure**

The purpose of this study was to examine the association among teachers' use of culturally responsive strategies, culturally responsive teaching self-efficacy, social desirability,

teacher characteristics, and teachers' ability to manage student behaviors. Specifically, the research questions are:

1. What is the association between teachers' use of culturally responsive strategies, culturally responsive teaching self-efficacy, social desirability, and teacher characteristics?
  - A. To what extent is teachers' use of culturally responsive strategies associated with culturally responsive teaching self-efficacy?
  - B. To what extent do social desirability and teacher characteristics influence teachers' use of culturally responsive strategies?
  - C. To what extent do social desirability and teacher characteristics influence culturally responsive teaching self-efficacy?
  - D. To what extent is teachers' use of culturally responsive strategies associated with culturally responsive teaching self-efficacy, after accounting for social desirability and teacher characteristics?
2. After accounting for social desirability and teacher characteristics, to what extent are teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy associated with teachers' ability to manage student behavior?
  - A. To what extent is teachers' use of culturally responsive strategies associated with teachers' ability to manage student behavior, after accounting for social desirability and teacher characteristics?
  - B. To what extent is culturally responsive teaching self-efficacy associated with teachers' ability to manage student behavior, after accounting for social desirability and teacher characteristics?

From these research questions, six hypotheses were formulated. First, it was hypothesized that teachers' use of culturally responsive strategies would be associated with culturally responsive teaching self-efficacy. Second, it was hypothesized that social desirability and teacher characteristics would influence teachers' use of culturally responsive strategies. Third, it was hypothesized that social desirability and teacher characteristics would influence culturally responsive teaching self-efficacy. Fourth, after controlling for social desirability and teacher characteristics, it was hypothesized that that teachers' use of culturally responsive strategies would be associated with culturally responsive teaching self-efficacy. Fifth, after accounting for social desirability and teacher characteristics, it was hypothesized that teachers' use of culturally responsive strategies would be associated with teachers' ability to manage student behavior. Sixth, after accounting for social desirability and teacher characteristics, it was hypothesized that culturally responsive teaching self-efficacy would be associated with teachers' ability to manage student behavior (See Figure 2 for hypothesized structural model).

**Data preparation.** Prior to conducting structural equation modelling, the data was prepared and screened (Tabachnick & Fidell, 2013). First, dummy codes were created for categorical variables. Next, output was inspected for accuracy (e.g., out of range values and plausible means and standard deviation) using IBM SPSS Frequencies. Third, an analysis of missing data was conducted to evaluate the amount and distribution and pattern of missing data. Fourth, data was checked for linearity, homoscedasticity, and normality.

**Dummy coding.** Categorical variables of teacher characteristics (teacher role, race, gender, years of teaching experience in role, and years of teaching experience in school) were dummy coded to ensure that the categorical data could be used in the SEM analysis (Aiken & West, 1991; Tabachnick & Fidell, 2013). Dichotomous reference group categories were created

based on dominant groups in the sample. For instance general educators, Whites, and females were coded as a “1” and were compared to special educators, non-Whites, and males. Dummy codes were also created for *years of experience* since this variable was originally ordinal data. The original categories for the ordinal data were 1<sup>st</sup> year, 1-3 years, 4-8 years, 9 or more years. The data were split to create a dummy variable for “years of experience in role” and “years of experience in school” where “1” indicated 4+ years of experience and “0” indicated 0-3 years of experience.

***Accuracy of input.*** The data were screened for accuracy of input (e.g., out-of-range values, plausible means and standard deviations, and univariate outliers) using IBM SPSS Frequencies (Tabachnick & Fidell, 2013). Examination of data minimums, maximums, and means were plausible in that there were no data that were less than 0 or greater than 6.

***Missing data.*** SPSS Missing Values Analysis (MVA) was used to highlight patterns of missing values (Tabachnick & Fidell, 2013). Of the measured variables ( $n = 31$ ), only one had more than 5% of the data missing (e.g., SC\_49: Students handle transitions well). Data collectors observed transitions in only 30% of classrooms. The second highest frequency of missing cases was 9 (5%) on item CR\_93 (“I use a learning preference inventory to gather data about how my students like to learn”). The 29 remaining variables had less than 3% ( $n \leq 5$ ) of missing data. As such, the analyses was run without deleting cases, deleting variables, or estimating missing data since the majority of the data were present ( $\geq 95\%$ ) for the majority of the variables and handling such a small amount of missing data using any one of these techniques would yield similar results (Tabachnick & Fidell, 2013).

***Linearity, homoscedasticity, and normality.*** Data were also screened for linearity, homoscedasticity, and normality using IBM SPSS. All independent variable items ( $n = 29$ )

including items from the Culturally Responsive Teaching Self-Efficacy ( $n = 10$ ), teachers' use of Culturally Responsive Teaching Strategies ( $n = 4$ ), Social Desirability ( $n = 10$ ), and Student Compliance ( $n = 7$ ) were regressed on one another. Collinearity statistics using Variance Inflation Factor (VIF) indicated no multicollinearity among the independent variables ( $VIF < 2$ ). Data were also screened for homoscedasticity using IBM SPSS. Regression standardized residuals and regression standardized predicted values for all independent variables on all dependent variables including items from the Culturally Responsive Teaching Self-Efficacy (CRTSE) scale, Teachers' Use of Culturally Responsive Strategies (TCRS) scale, and student compliance (SC) scale were visually inspected on scatterplots. Residual graphs displayed a flat horizontal fit line and all residual mean estimates for the student compliance items were 0, indicating the residuals were not linear and therefore homoscedastic (Tabachnick & Fidell, 2013). Lastly, measures of kurtosis and skewness for all measured variables had absolute values of  $< 3$  and  $< 10$ , respectively (see Table 4), indicating the data were normal (Kline, 2011; Tabachnick & Fidell, 2013).

**Analyses.** After conducting the initial round of descriptive and regression analyses in SPSS, the primary analytic approach employed was structural equation modelling (SEM) using Mplus version 7.11 (Muthén & Muthén, 2013). In general, this type of analysis was chosen primarily because it allowed more flexibility to answer the proposed research questions than more standard statistical techniques, such as analysis of variance (ANOVA) and multiple regression (Kline, 2011). Specifically, SEM allowed simultaneous testing of the association and directionality among latent variables (Kline, 2011; Schreiber et al., 2006; Teo, 2010). Briefly, latent variables are presumed to reflect a construct that is not directly observable (Kline, 2011). Using latent variables in SEM is particularly attractive to researchers since other techniques, like

multiple regression, tend to have unrealistic assumptions about measurement error (Kline, 2011; Schreiber et al. 2006). Specifically, error variance in SEM is estimated for the entire model, so latent variables themselves are essentially free from measurement error, offering to a more realistic analysis of data (Kline, 2011; Schreiber et al. 2006). SEM also provides more information than other types of statistical techniques, not only about the association among the variables, but also about the indicators that comprised each latent variable and scale (Kline, 2011). For example, rather than examining and reporting about individual effects, SEM allowed an evaluation of the entire model based on an a priori theory (Kline, 2011). Similarly, rather than solely relying on Cronbach's alpha to test a scales reliability, the degree to which each item or indicator from each scale loaded onto its given latent variable was examined to understand how specific items may strengthen or weaken a scale's reliability.

***Measurement model.*** An SEM model with latent variables is comprised of a measurement model and a structural model (Kline, 2011). In building this model, the first step was to perform a confirmatory factor analysis (CFA) to examine the extent to which the measured variables loaded onto the hypothesized latent constructs (Kline, 2011; Ullman, 2013). Latent variables in this study were not directly measured, but rather assessed using several Likert-scaled and observation items from the measures described above. The hypothesized measurement model is described graphically in Figure 2. Ten items comprised the latent variable culturally responsive teaching self-efficacy (CRTSE), 4 items comprised the latent variable teachers' use of culturally responsive strategies (TCRS), 10 items comprised the latent variable social desirability (SD), 7 items comprised the latent outcome variable student compliance (SC) which was used as a proxy to assess teachers' ability to manage student behavior (see Appendices A and B for items). The results of the CFA will be reported in the following chapter.



**Structural model.** The relationship between the measured items and the latent variables was examined using a latent variable path analysis (LVPA) to answer the primary research questions. An LVPA determined the extent to which the latent variables (culturally responsive teaching self-efficacy and teachers' use of culturally responsive strategies) were associated with teachers' ability to manage student behavior when controlling for the latent variable social desirability and specific measured teacher characteristics (e.g., role, race, gender, years of experience in role, and years of experience in school). The hypothesized structural model is described graphically in Figure 2. The results of the LVPA will be reported in the next chapter.

**Evaluation of model fit.** A series of fit indices was examined to determine the fit of the SEM models; specifically, this is an indication of adequate fit between the model and the observed data. Specifically, the root mean square error of approximation (RMSEA), comparative fit index (CFI), Tucker-Lewis Index (TFI), and weighted root mean residual (WRMR) were computed to determine model fit (Kline, 2011). Prior research suggests the following values for adequate model fit: RMSEA <.06, CFI > .95, and TFI > .95, and WRMR is close to 1.0 (Hu & Bentler, 1999; Kline, 2011; Schreiber et al., 2006). Research also suggests including chi-square and associated significance level (Schreiber et al., 2006). Since the analysis of the current study took into account clustering of schools and consequently used weighted least squares means and variance adjusted (WLSMV) estimation, the chi square value was not analyzed (Muthén & Muthén, 2013). Instead, chi-square ( $\chi^2$ ) values were calculated using the DIFFTEST option in Mplus.

### Summary

This chapter highlighted the measures and the procedures that will be used in the current study. Specifically, five measures will be used including a demographic questionnaire, a measure

of social desirability (Strahan & Gerbasi, 1972), the Teachers' Use of Culturally Responsive Strategies (TCRS), the Culturally Responsive Teaching Self-Efficacy (CRTSE) scale, and the Student Compliance (SC) scale. The chapter also included methods for data preparation (dummy coding, missing data, and checks for normality, multicollinearity, linearity, and outliers) as well as the rationale and procedures for using the structural equation modelling (SEM) techniques. Specifically, latent variable path analysis (LVPA) will be used to test relationships among latent variables.

The following chapter will report the results of the confirmatory factor analysis (CFA) as well as the direct, indirect, and total effects among latent constructs (Schreiber et al., 2006). Specifically, the research questions will address the direct effect of culturally responsive teaching self-efficacy and teachers' use of culturally responsive strategies on teachers' ability to manage student behavior (as measured by student compliance) and the indirect effects of social desirability and teacher demographics among these relationships.

## CHAPTER IV

### Results

This chapter summarizes the findings from the analysis regarding the relationship among teachers' use of culturally responsive strategies, culturally responsive teaching self-efficacy, and teachers' ability to manage student behavior. First, descriptive analyses of the data are provided. This information includes analyses of the means and standard deviations of each scale. Second, results from the confirmatory factor analysis are described, including factor loading estimates and covariance and correlation coefficients among the latent variables. Third, an evaluation of fit based on the model fit indices and coefficients of hypothesized relationships are discussed (Schreiber et al., 2006). Last, direct, indirect, and total effects for each model and corresponding research question are presented.

#### **Descriptive Analyses**

The analysis of the subscales measuring teachers' use of culturally responsive practices (TCRS), culturally responsive teaching self-efficacy (CRTSE), social desirability (SD), and student compliance (SC) was based on data from 180 general and special educators enrolled in the *Double Check* project. Descriptive analyses (see Table 5) indicated that the range of mean scores on the CRTSE was 3.89 - 4.69 ( $M= 4.16, SD = .99$ ) and 2.71- 5.26 ( $M=3.59, SD=.90$ ) on the 6-point CRTSE and the social desirability scales, respectively. While scores on the individual variables reached criterion values for normality, the average results of the scales suggest that when taken together, teachers' teachers tended to report on the higher end on the 6-point Likert scales. Scores on the CRTSE and the scale of social desirability also suggest that there was not much variability in those scores.

The means on the 5-point Likert-scales and ranged from .73 - 2.80 ( $M= 1.32$ ,  $SD= 1.45$ ) for teachers' use of culturally responsive strategies (TCRS) and 3.77 - 5.54 ( $M= 4.50$ ,  $SD=1.16$ ) on the student compliance scale (SC). The results from the TCRS suggest that there was little evidence of teachers implementing culturally responsive practices in their classrooms, and a fair amount of variability on this subscale. The range of scores on the SC suggests that students in teachers' classrooms tended to be compliant and cooperative.

### **Confirmatory Factor Analysis**

A confirmatory factor analysis was conducted using the weighted least squares with mean and variance (WLSMV) estimator (Muthén & Muthén, 2013) to examine the extent to which the measured variables loaded onto the hypothesized latent constructs (Kline, 2011; Ullman, 2013). A graphic illustration of the confirmatory factor analysis is presented in Figure 3 and a correlation table with standardized and unstandardized correlation coefficients is shown in Table 6. These results show that the model demonstrated adequate fit with an RMSEA= 0.035, CFI= 0.977, TLI= 0.976, WRMR= 1.234 (Hu & Bentler, 1999; Schreiber et al., 2006).

On average, the factor loading estimates were adequate in that they exceeded .60; however, some individual scales had fairly low individual loadings. The lowest loading on the CRTSE was .28 for variable CR\_93RPR on the Cultural Teaching Self-Efficacy scale stated, "I use a learning preference inventory to gather data about how my students like to learn." This low loading may be because of the small number of participants who answered this question (5%;  $n=9$ ) or that the question about learning preference inventories is qualitatively different than the other questions that are more specific to culture. The variable with the lowest loading on the TCRS was CRT\_44 that stated, "Teacher uses positive humor to engage students or defuse problems." This item had a low loading (.30) in comparison to the rest of the items on the scale.

This low loading may be because humor can be subjective and thus is difficult for observers to detect and be consistent about. Only one item on the social desirability scale exceeded a loading of  $>.60$  (SD\_50). This item stated: “I never hesitate to go out of my way to help someone in trouble.” This finding suggests that the items on this scale may not adequately contribute to the construct’s overall reliability. The student compliance (SC) scale had the highest loadings of the subscales. All the loadings on the SC scale surpassed  $.90$  and only one item loaded onto the scale at  $.62$ .

These findings regarding the factor loadings of items are disconcerting, particularly on the Marlowe-Crowne. While SEM does not make up for less than adequate psychometric properties, it does allow more flexibility in using scales with lower loadings since measurement error is accounted for by the model. It is worth noting, too, that the standard errors of each of the items were small ( $<.10$  in the majority of cases) and averaging  $.06$ . Lastly, the average factor loadings was  $.61$  and all of the factors were moderately to strongly correlated with their factor ( $p < .01$ ) indicating that there was a positive correlation between the items and their corresponding factor.

## **Research Findings**

**Research Question 1a: To what extent is teachers’ use of culturally responsive strategies associated with culturally responsive teaching self-efficacy?** The research hypothesis stated that there would be a positive and significant relationship between teachers’ use of culturally responsive strategies and culturally responsive teaching self-efficacy. SPSS regression program was used to examine this relationship. For this sample ( $n= 174$ ), no significant relationship was found between teachers’ use of culturally responsive strategies and culturally responsive teaching self-efficacy ( $\beta = .01, p > .05$ ). This hypothesis was not supported,

such that teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy were not related; this calls into question the role of social desirability and teacher characteristics on the relationship between these two variables.

**Research Question 1b: To what extent do social desirability and teacher characteristics influence teachers' use of culturally responsive strategies?** It was hypothesized that social desirability and teacher characteristics (e.g., role, years teaching in role, years teaching in current school, gender, and race) would be positively associated with observations of teachers' use of culturally responsive strategies (TCRS). Latent variable path analysis with the weighted least squares with mean and variance (WLSMV) estimator was used to examine this hypothesis. Not only was chi-square significant ( $\chi^2 = 15.770, p < .01$ ), but the fit indices also indicated that the data did not fit the model (RMSEA= 0.044, CFI= 0.720, TLI= 0.681, WRMR = 1.188; See Table 7, LVPA 1 and Figure 4).

There are several reasons for the lack of appropriate fit. First, while it was hypothesized that social desirability would be associated with TCRS, this association was not found ( $\beta = .105, p > .05$ ; See LVPA 1, Table 8). Moreover, it was also hypothesized that teacher characteristics would influence TCRS. Only being a general educator was significantly associated with TCRS ( $\beta = .249, p < .001$ ). Other teacher characteristics were not associated with TCRS. For example, four or more years in role was not associated with TCRS ( $\beta = -.157, p > .05$ ); four or more years in current school was not associated with TCRS ( $\beta = .106, p > .05$ ); being female was not associated with TCRS ( $\beta = .125, p > .05$ ); and being White was not associated with TCRS ( $\beta = .031, p > .05$ ). Lastly, a typical and recommended sample size in studies where SEM is used is about 200 cases (Kline, 2011). As such, a small sample size ( $n = 180$ ) used in this study may also have contributed to the lack of appropriate fit.

**Research Question 1c: To what extent do social desirability and teacher characteristics influence culturally responsive teaching self-efficacy?** It was hypothesized that social desirability and teacher characteristics (e.g., role, experience in role, experience in current school, gender, and race) would be associated with teachers' culturally responsive teaching self-efficacy (CRTSE). Latent variable path analysis with the WLSMV estimator was used to examine this hypothesis. Not only was chi-square significant ( $\chi^2 = 77.232, p < .001$ ), but the fit indices similarly indicated that the data did not fit the model (RMSEA= 0.046, CFI= 0.801, TLI= 0.781, WRMR = 1.327; See Table 7, LVPA 2 and Figure 5).

There are several reasons for the lack of appropriate fit. While it was hypothesized that social desirability and teacher characteristics would influence CRTSE, the only variable associated with CRTSE was social desirability ( $\beta = 0.429, p < .01$ ; See Table 8, LVPA 2). All other teacher characteristics were not associated with CRTSE. For example, being a general educator was not associated with CRTSE ( $\beta = -0.126, p > .05$ ), having four or more years' experience in role was not associated with CRTSE ( $\beta = 0.072, p > .05$ ); having four or more years' experience in current school was not associated with CRTSE ( $\beta = -.055, p > .05$ ); being female was not associated with CRTSE ( $\beta = -.011, p > .05$ ); and being White was not associated with CRTSE ( $\beta = -.047, p > .05$ ). Similar to the first LVPA, a sample size less than 200 cases may have contributed to lack of model fit (Kline, 2011).

**Research Question 1d: To what extent is teachers' use of culturally responsive strategies associated with culturally responsive teaching self-efficacy, after accounting for social desirability and teacher characteristics?** It was hypothesized that observations of teachers' use of culturally responsive strategies would be associated with culturally responsive teaching self-efficacy after accounting for social desirability and teacher characteristics. Latent

variable path analysis with the WLSMV estimator was again used to test this hypothesis. Results found no relationship between teachers' use of culturally responsive strategies and culturally responsive teaching, even after controlling for social desirability and teacher characteristics ( $\beta = 0.124, p > .05$ ). This hypothesis was not supported. Moreover, the data did not adequately fit the model ( $\chi^2 = 101.033, p < .01$ ; RMSEA = 0.038, CFI = 0.805, TLI = 0.785, WRMR = 1.267; See Table 7, LVPA 3 and Figure 6).

One possible reason for the lack of adequate fit of the model is because only two associations were significant. First, social desirability was significantly associated with CRTSE ( $\beta = .429, p = .001$ ; See Table 8, LVPA 3). However, no other teacher characteristics were associated with CRTSE. For instance, being a general educator was not associated with CRTSE ( $\beta = -0.126, p > .05$ ), having four or more years' experience in role was not associated with CRTSE ( $\beta = 0.072, p > .05$ ); having four or more years' experience in current school was not associated with CRTSE ( $\beta = -.054, p > .05$ ); being female was not associated with CRTSE ( $\beta = -.011, p > .05$ ); and being White was not associated with CRTSE ( $\beta = -.047, p > .05$ ).

Second, being a general educator was significantly associated with TCRS ( $\beta = .253, p < .001$ ; See Table 8, LVPA 3). All other associations were non-significant with the TCRS. For instance, social desirability was not significantly related to TCRS ( $\beta = .054, p > .05$ ). Additionally, other teacher characteristics were not associated with TCRS. For example, four or more years in role was not associated with TCRS ( $\beta = -.174, p > .05$ ); four or more years in current school was not associated with TCRS ( $\beta = .118, p > .05$ ); being female was not associated with TCRS ( $\beta = .127, p > .05$ ); and being White was not associated with TCRS ( $\beta = .040, p > .05$ ).

**Research Question 2a: To what extent is teachers' use of culturally responsive strategies associated with teachers' ability to manage student behavior, after accounting for**



**social desirability and teacher characteristics?** It was hypothesized that teachers' use of culturally responsive strategies would be associated with teachers' ability to manage student behavior after accounting for social desirability and teacher characteristics. Latent variable path analysis using the WLSMV estimator was again used to examine this hypothesis. Chi-square was not significant ( $\chi^2 = 7.940, p > .05$ ) and other fit indices indicated that the data adequately fit the model (RMSEA= 0.035, CFI= 0.989, TLI= 0.988, WRMR = 1.169; See Table 7, LVPA 4 and Figure 7). It was hypothesized that, while accounting for social desirability and teacher characteristics, teachers' use of culturally responsive strategies would be positively associated with teachers' ability to manage student behavior. This hypothesis was supported ( $\beta = 0.763, p < .001$ ; See Table 8, LVPA 4).

**Research Question 2b: To what extent is culturally responsive teaching self-efficacy associated with teachers' ability to manage student behavior, after accounting for social desirability and teacher characteristics?** It was hypothesized that culturally responsive teaching self-efficacy would be positively and significantly associated with teachers' ability to manage student behavior, after accounting for social desirability and teacher characteristics. Latent variable path analysis with the WLSMV estimator was used to examine this hypothesis. While chi-square was significant ( $\chi^2 = 76.912, p < .01$ ), other fit indices indicated that the data adequately fit the model (RMSEA= 0.037, CFI= 0.976, TLI= 0.975, WRMR = 1.336; See Table 7, LVPA 5 and Figure 8). Although it was hypothesized that, while accounting for social desirability and teacher characteristics, culturally responsive teaching self-efficacy would be positively associated with teachers' ability to manage student behavior, this hypothesis was not supported ( $\beta = -.028, p > .05$ ; See Table 8, LVPA 5).

## **Summary of Results**

This chapter reported the results from the research questions examining the relationship between teachers' use of culturally responsive strategies, culturally responsive teaching self-efficacy, and teachers' ability to manage student behavior. First, it was hypothesized that culturally responsive teaching self-efficacy would be associated with teachers' observations of their use of culturally responsive strategies. This hypothesis was not supported since there was no statistically significant association between the two measures. Second, it was hypothesized that social desirability and teacher characteristics would influence teachers' use of culturally responsive strategies. This hypothesis was only partially supported in that being a general educator was the only variable significantly associated with teachers' use of culturally responsive strategies. All other variables, including social desirability, were not associated with observations of teachers' use of culturally responsive practices. Third, it was hypothesized that social desirability and teacher characteristics would influence culturally responsive teaching self-efficacy. This hypothesis was also only partially supported in that social desirability was the only variable associated with culturally responsive teaching self-efficacy. Fourth, it was hypothesized that after accounting for social desirability and teacher characteristics, there would be an association between teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy. This hypothesis was not supported since no relationship between these constructs was found.

After accounting for social desirability and teacher characteristics, it was hypothesized that teachers' use of culturally responsive strategies would be associated with teachers' ability to manage student behavior. This hypothesis was supported in that there was an association between teachers' use of culturally responsive strategies and teachers' ability to manage student behavior. Last, after accounting for social desirability and teacher characteristics, it was

hypothesized that culturally responsive teaching self-efficacy would be associated with teachers' ability to manage student behavior. This hypothesis was not supported since there was no significant relationship between culturally responsive teaching self-efficacy and teachers' ability to manage student behavior.

## CHAPTER V

### Discussion

This chapter is comprised of five sections. The first section summarizes major findings from the study. The second section discusses conclusions and interpretations of the findings. Section three presents implications of the findings in terms of research and practice. The fourth section identifies limitations of the study. The chapter concludes with a summary and final statement about the impact of this research on student outcomes.

### **Major Findings**

The purpose of this study was to examine the extent to which teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy were associated with general and special educators' ability to manage student behavior, taking into account the influence of social desirability and teacher characteristics (e.g., role, race, gender, and experience). The major findings for each research question are described below.

#### **Research Question One**

The first research question focused on the associations among teachers' use of culturally responsive strategies, culturally responsive teaching self-efficacy, social desirability, and teacher characteristics. First, the results indicated that teachers' use of culturally responsive strategies was not associated with culturally responsive teaching self-efficacy. Second, teacher characteristics were associated with observations of teachers' use of culturally responsive strategies, but social desirability was not. Specifically, being a general educator was strongly associated with teachers' use of culturally responsive strategies. Third, social desirability was associated with culturally responsive teaching self-efficacy, but teacher characteristics were not. Fourth, after accounting for social desirability and teacher characteristics, observations of

teachers' use of culturally responsive strategies was not associated with culturally responsive teaching self-efficacy. Taken together, results indicate that there was an association between teachers' use of culturally responsive strategies and teacher characteristics, and between culturally responsive teaching self-efficacy and social desirability, but that teachers' use of culturally responsive strategies was not associated with culturally responsive teaching self-efficacy even when accounting for social desirability and teacher characteristics.

### **Research Question Two**

The second research question focused on the association among teachers' use of culturally responsive strategies, culturally responsive teaching self-efficacy, and teachers' ability to manage student behavior, after accounting for social desirability and teacher characteristics. The results indicated that after accounting for social desirability and teacher characteristics, observations of teachers' use of culturally responsive strategies were strongly associated with teachers' ability to manage student behavior, but that culturally responsive teaching self-efficacy was not associated with observations of teachers' ability to manage student behavior.

### **Conclusions and Interpretations**

The conclusion and interpretations of the study are discussed in the following section and are organized by three major themes: (a) discrepancy between teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy (b) the influence of social desirability on self-report measures, and (c) the influence of teacher characteristics on teachers' use of culturally responsive strategies. These themes will be discussed in more detail in the sections that follow.

### **Discrepancy between Teachers' Use of Culturally Responsive Strategies and Culturally Responsive Teaching Self-Efficacy**

Previous studies suggest that culturally responsive teaching self-efficacy would predict the frequency of teachers' use of culturally responsive practices (Siwatu, 2009) and that there may be an association between culturally responsive teaching self-efficacy and teachers' ability to manage student behavior (Siwatu & Starker, 2010). Findings from this study, however, suggest a discrepancy between teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy. Moreover, findings also suggest that culturally responsive teaching self-efficacy is not associated with teachers' ability to manage student behavior, whereas teachers' use of culturally responsive practices was associated with teachers' ability to manage student behavior.

The absence of association between teachers' use of culturally responsive practices and culturally responsive teaching self-efficacy are particularly surprising in light of the considerable literature base about the power of self-efficacy on teacher practice and student outcomes (Allinder, 1995; Bray-Clark & Bates, 2003; Brown, Anfara, & Roney, 2004; Campbell, 1996; Dembo & Gibson, 1985; Putman, 2012; Shachar & Shmuelewitz, 1997). These findings suggest that self-efficacy may not be as important as previous research has found it to be or that there may be something about measuring "culturally responsive teaching" self-efficacy that may lead to inconsistencies between teacher practice and self-report measures.

Bandura (1977) hypothesized that individuals would not attempt to master a skill if they believed that mastering a particular skill would not change the outcome of a situation. As such, one possible explanation in the discrepancy between teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy is that teachers may not use culturally responsive strategies, even though they believe they can implement these skills, if they believe their efforts will not make a difference in the outcomes of their students, particularly the

outcomes of students with disabilities and students from ethnic/ racial minority backgrounds. Prior research found, however, that teachers do believe that implementing culturally responsive practices would have positive outcomes on student outcomes (Chu, 2013; Siwatu, 2007). As such, this explanation does little to explain the discrepancy between teachers' use of culturally responsive strategies and culturally responsive teaching self-efficacy.

Considering that Siwatu (2009) used two self-reports to determine the association between culturally responsive teaching self-efficacy and teachers' use of culturally responsive teaching strategies, as well as a homogenous group of pre-service teachers, it is likely that teachers' responses to statements regarding the frequency with which they use culturally responsive practices were influenced by social desirability and teacher characteristics. As such, an examination of the extent to which culturally responsive teaching self-efficacy and teachers' use of culturally responsive strategies are influenced by social desirability and teacher characteristics was warranted.

Perhaps, however, this finding may also be related to the study's measures. The results suggest that the mean of the 10 items on the self-report of Culturally Responsive Teaching Self-Efficacy (CRTSE) were not associated with the mean of the 4 items on the observational measure of Teachers' Use of Culturally Responsive Strategies (TCRS). The four items on the TCRS were: (a) connecting lessons to real world examples, (b) engaging in personal storytelling, (c) using positive humor, and (d) integrating cultural artifacts. The results of this study suggest that the TCRS was not related to items regarded by scholars to be components of culturally responsive teaching self-efficacy (e.g., obtaining information about students' cultural backgrounds, examining curricula to determine whether it reinforces stereotypes, obtaining

information about students' home life, or designing a classroom environment using displays that reflect a variety of cultures; see CRTSE subscale items in Appendix A).

The first question to consider is whether the questions on the Culturally Responsive Teaching Self-Efficacy (Siwatu, 2007) and the items on the Teachers' Use of Culturally Responsive Strategies scale measure do, in fact, measure culturally responsive teaching practices proposed in the literature (Gay, 2002; Ladson-Billings, 1995a; Ladson-Billings, 1995b; Ladson-Billings, 2001; Villegas & Lucas, 2002). Scholars would agree that culturally responsive teaching requires knowing one's students and having a critical consciousness (Ladson-Billings, 1995a; Gay, 2002, Villegas & Lucas, 2002). Since several of the questions on Siwatu's (2007) scale ask teachers about whether they obtain information about the students, their home life, the way in which they like to learn, and whether teachers examine the curriculum for evidence of stereotypes, it is assumed that this scale does, tap into the tenants of culturally responsive teaching.

Next, it is necessary to consider the items on the Teachers' Use of Culturally Responsive Strategies (TCRS) scale. The first item on the TCRS scale states that teacher connects lessons to "real world" examples. While scholars surmise that teachers need to connect lessons to students' culture, (Gay, 2002; Ladson-Billings, 1995a; 1995b), the term "real world" may be subjective. For instance, it is possible for a teacher to connect a lesson on the Russian Revolution to the "real world" example of the fighting currently taking place in Ukraine. While this is a real (and current) world example, this is not real or relevant to the *students'* real world and is, in fact, far removed from students' lives. On the contrary, if a revolution is an extreme change, then talking to students about ways to create change in their school, their homes, or in their communities may help better connect students to the concept of revolution. Similarly, a teacher may engage in



personal story telling, but students may find that the story shared by the teacher has no relation to their lives, particularly if there is a cultural disconnection in identities such as interests, age, race, socio-economic status, or gender. Along the same lines, the teacher may integrate a *cultural artifact* into the lesson, but that cultural artifact may have nothing to do with the culture or interests of the students. The survey item regarding teachers' use of *positive humor* to defuse conflicts is to be considered with caution since seemingly humorous jokes and statements might not be humorous to every student in the classroom. Taken together, these subjective nuances may make it difficult for observers to accurately measure teachers' use of culturally responsive strategies in the classroom. As such, the lack of association between the TCRS and the CRTSE may be consequences of observer and measurement bias, rather than explaining the absence of association between these two constructs.

Alternatively, perhaps these measures are accurate reflections of culturally responsive teaching self-efficacy (CRTSE) and teachers' use of culturally responsive strategies (TCRS). If this is the case, then teachers may tend to report high levels of culturally responsive teaching self-efficacy and self-report that they use culturally responsive strategies, but when observers measure teachers' use of culturally responsive practices, they may find that teachers do not use culturally responsive strategies in their classrooms. This implication suggests a disconnection between self-report measures of cultural competence and observational measures of culturally responsive teaching. This discrepancy between self-efficacy and actual use may be due to the influence of social desirability. In summary, additional work is needed to improve on observational assessments of culturally responsive instruction.

### **Influence of Social Desirability on Self-Report Measures**

Results suggested that social desirability was strongly and positively associated with culturally responsive teaching self-efficacy. While these results were not surprising considering that literature on social desirability supported this theoretical connection (Marlowe & Crowne, 1961), they are concerning considering the number of studies that use self-reports to measure aspects of culturally responsive teaching (Chu, 2013; Chu & Garcia, 2014; Siwatu, 2007; Siwatu, 2009; Siwatu & Starker, 2010). This finding suggests that teachers may think they are more efficacious than they really are in terms of culturally responsive teaching. The finding also suggests that, even when accounting for social desirability, culturally responsive teaching self-efficacy was still not associated with teachers' ability to manage student behavior.

There may be several reasons why a relationship did not exist between culturally responsive teaching self-efficacy and teachers' ability to manage student behavior after accounting for social desirability. First, not only did the measure of social desirability have low factor loadings, but it also had a low internal reliability ( $\alpha = .59$ ). This less than adequate reliability statistic may call into question the measure's ability to accurately measure social desirability. Similarly, if the measure is not able to measure social desirability, then it is not able to account for social desirability either.

Alternatively, there may be something about race and culture that causes teachers to over-report their efficacy using culturally responsive strategies. Culture, but race in particular, is a feared topic of conversation among educators (Hollins, 2013). In such conversations, it seems that many people attempt to prove that they do not judge people based on skin color by taking a "color-blind" attitude, insisting that they do not notice skin color and treat everyone equally (Hollins, 2013). Research suggests, however, that humans have both implicit attitudes and explicit attitudes about race (Baron & Banaji, 2006). Implicit attitudes are unconscious and

explicit attitudes are the beliefs people profess to have. Implicit and explicit attitudes about race become more egalitarian over time, suggesting a societal demand to be unbiased in race-based evaluation (Baron & Banaji, 2006). Taken together, social desirability may only be able to account for some of teachers' explicit attitudes about race on self-reports. This may be particularly true considering that the social desirability scale did not include items about culture. Using a multicultural social desirability scale may be useful in future studies. One example of a multicultural social desirability scale is the Multicultural Social Desirability Index (MCSD; Sadowsky, 1996). This scale measures an individual's inclination to make a favorable impression on others by self-reporting that one always interacts well with minorities and that one is always receptive to minority issues. Similar to the statements on the social desirability scale by Strahan and Gerbasi (1972), the statements are probable, but it is highly unlikely that people *always* act in accordance with these statements. Using a measure that contains items related to culture may be able to account for more socially desirable responding.

### **Influence of Teacher Characteristics on Use of Culturally Responsive Strategies**

Being a general educator was significantly associated with teachers' use of culturally responsive strategies. On one hand, this finding was surprising considering the research that suggests that special educators are more likely to use of culturally responsive practices (Daunic et al., 2004; Imler, 2009). On the other hand, this finding is not surprising considering the limitations of the studies that concluded differences between general and special educators. For instance, as summarized earlier, Daunic et al., (2004) used the Praxis III to measure culturally responsive practices, but these items on the observation report were proxies for culturally responsive teaching. Moreover, Imler (2009) asked 283 pre-service teachers to interview 283 in-service teachers and found that only special educators were able to articulate how they

multiculturalized their instruction. Taken together, neither of these studies reported using measures that were reliable to measure teachers' use of culturally responsive strategies and may therefore have led to erroneous conclusions.

The shortage of special education teachers and the subsequent proliferation of alternative routes to certification (Rosenberg & Sindelar, 2005) may also explain the finding that being a general educator was significantly associated with teachers' use of culturally responsive strategies. Special education, particularly in the area of behavior disabilities, is more likely than any other area to have shortages (McLeskey, Tyler, & Flippin, 2004). By definition, alternative routes to certification are shorter in length than traditional certification programs, but it is unclear the extent to which preparation program length impacts the general competence of teachers (Connelly, Rosenberg, & Larson, 2014), let alone the extent to which the length of a program might impact teachers' use of culturally responsive strategies. It is plausible that teacher quality alternative programs that have been restricted in terms of length may not be able to provide adequate training in using culturally responsive strategies. Taken together, more research is needed to assess the impact of alternative preparation programs on teachers' use of culturally responsive strategies and also the extent to which alternative programs may contribute to differences between general and special educators' use of culturally responsive practices. More broadly, an examination of differences between traditional preparation programs on teachers' use of culturally responsive practices is warranted.

These results may also be explained by the difference in roles and responsibilities of general and special education teachers (Scruggs, Mastropieri, & McDuffie, 2007; Wasburn-Moses, 2005; Weiss & Lloyd, 2002). Some have found that special educators have too many roles and responsibilities, making them "jacks of all trades...masters of none" (Wasburn-Moses,

2005, p. 157). Specifically, special educators may be focused on modifying curricula, consulting with students on their caseload, managing behavior, and filling out paperwork (Wasburn-Moses, 2005), leaving little time for them to connect lessons to real world examples, engage in personal storytelling/ sharing, use positive humor, and integrate cultural artifacts reflective of students' interests into learning activities.

The changing roles of special educators may also help to explain the finding that being a general education teacher was strongly associated with observations of teachers' use of culturally responsive strategies. Specifically, as more students with disabilities are educated in general education classrooms, more special education teachers have become co-teachers (Weiss & Lloyd, 2002). Research has found that the dominant approach to co-teaching is "one-teach, one assist" (Scruggs et al., 2007). This research suggests that special education teachers may have been observed assisting general educators and working quietly with individuals or small groups of students while the general education teacher taught to the larger group. If special educators take on a secondary and more supportive role to general educators (Scruggs et al., 2007) it may be challenging for special educators to use or be observed using culturally responsive strategies. As such, it is recommended that general educators ensure an equal partnership with special educators so students receive the benefits of two teachers using culturally responsive practices they have the equal opportunities to use culturally responsive strategies with their students.

### **Implications for Research**

The results from the current study indicate several implications for research. First, there is a need for further investigation into the influence of self-efficacy on teacher practice. Specifically, research suggests that culturally responsive teaching self-efficacy predicts implementation of culturally responsive teaching practices (Siwatu, 2009) supporting the notion

that self-efficacy can serve as a proxy for predicting actual practice. Results from this study, however, indicated no association between culturally responsive teaching self-efficacy and observations of teachers' use of culturally responsive strategies, suggesting that culturally responsive teaching self-efficacy does not necessarily predict teachers' use of culturally responsive strategies. These findings suggest that teachers may be likely to over-report their use of culturally responsive teaching strategies on self-report measures. Consequently, researchers may want to use both observation (Daunic et al., 2004) and self-report measures (Imler, 2009; Chu, 2013; Chu & Garcia, 2014; Siwatu, 2007; Siwatu, 2009; Siwatu & Starker, 2010) when assessing associations among constructs related to culturally responsive teaching and other outcome variables. Additional research is needed to more compressively and reliably assess observations of teachers' use of culturally responsive practices.

Second, findings from the current study suggest a need to investigate the role of social desirability on self-reports of cultural competence. Previous research, particularly in counseling, suggests that social desirability is associated with cultural competence (Constantine, 2001; Constantine & Ladany, 2000; Granello & Wheaton, 1998; Katz & Hoyt, 2014; Liu et al., 2004; Ohm & Rosen, 2011; Sadowsky et al., 1998; Worthington et al., 2000). Findings from this study confirmed the association between cultural competence and culturally responsive teaching self-efficacy, suggesting that teachers may have had an inflated sense of self-efficacy regarding their use of culturally responsive practices. This finding is important to researchers interested in measuring teachers' culturally responsive teaching self-efficacy. Specifically, social desirability measures may not be able to account for all socially desirable responding, thereby undermining researchers' pre-assessment activities. If a teachers' confidence in their ability to use culturally responsive strategies is inflated, then teacher educators may decide, based on this information, to

forego components of training (e.g., cultural sensitivity activities). As such, researchers may want to consider using both a self-efficacy measure of culturally responsive teaching and an observational tool before delivering professional development to teachers to assess which teachers have the largest gaps between using culturally responsive strategies and culturally responsive teaching self-efficacy. Moreover, a similar study using a multicultural scale of social desirability is also warranted.

Third, there is a need to investigate the development and evaluations of interventions that increase culturally responsive practices. Previous research on culturally responsive interventions that were associated with improvements in student behavior failed to make an explicit link between teachers' use of culturally responsive strategies and improvements in student behavior (Ahram et al., 2011; Moore & Ratchford, 2007; Reglin et al., 2009; Utley et al., 2000). The current research suggests an association between teachers' use of culturally responsive practices and teachers' ability to manage student behavior. As such, researchers will likely want to develop and evaluate interventions that train teachers to use culturally responsive practices and assess whether they increase teachers' use of culturally responsive strategies and whether using these strategies improves student behavior. Moreover, researchers may also want to examine whether these interventions differentially impact culturally responsive teaching self-efficacy and use of culturally responsive strategies. For instance, interventions that target teachers' beliefs and attitudes may increase culturally responsive teaching self-efficacy, but may not impact teachers' use of culturally responsive strategies. Since teachers' use of culturally responsive strategies was significantly associated with student behavior, it is important that interventions target improving teacher skills. It is likely that interventions that seek to increase teachers' use of culturally responsive strategies are likely to increase both culturally responsive teaching self-efficacy and

actual use of culturally responsive strategies. Taken together, researchers may want to develop curricula and deliver professional development that focuses more on providing teachers with culturally responsive strategies and practices, thereby allowing culturally responsive teaching self-efficacy and use of culturally responsive strategies to improve concurrently.

Fourth, there is the need to investigate differences between general and special education teacher preparation programs. The majority of studies, particularly those that examined culturally responsive teaching self-efficacy, examined only pre-service general educators (Siwatu, 2007) or in-service special educators (Chu, 2013; Chu & Garcia, 2014). Few studies have examined the differences between general and special educators' in terms of culturally responsive teaching (Daunic et al., 2004; Imler, 2009). Of the studies that examined the differences between these two groups, both found that special educators tended to be more culturally responsive than general educators. However, the findings from this study suggest that general educators demonstrated significantly higher levels of culturally responsive teaching than special educators. It is important to note that the sample of special educators in the current study was relatively small, and thus caution should be taken in interpreting this finding. Further research is needed to investigate the differences between general and special educators in terms of using culturally responsive teaching strategies. If these differences exist, researchers may be prompted to examine variations in preparation programs in terms of the trainings general and special educators receive with regards to culturally responsive teaching. Moreover, since teaching role was significantly associated with teachers' use of culturally responsive teaching strategies, future research should also consider accounting for teacher role when conducting statistical analyses.

### **Implications for Practice**



The results of the current study indicated two major implications for practice. These implications include (a) culturally responsive practices and student engagement and (b) embedding culturally responsive practices in teacher preparation programs.

### **Culturally Responsive Practices and Student Engagement**

Findings from this study suggest that connecting lessons to real world examples, engaging in personal storytelling/ sharing, using positive humor to engage students and defuse problems, and integrating cultural artifacts reflective of students' interests into learning activities are associated with student compliance, focus, engagement, interest, enthusiasm, involvement, cooperation, and respect towards others. Two interventions that attempt to promote student engagement and encompass the culturally responsive components found to be associated with student compliance in this study are *Double Check* and *Proactive Circles*.

Double Check focuses on improving teachers' ability to deliver and implement culturally responsive practices through the five components: (a) connection students to the curriculum (b) building authentic relationships with students and parents, (c) reflective thinking about the role of culture in student behavior, (d) using effective communication and understanding the communication styles of students, and (e) being sensitive to students' culture (Bottiani et al., 2012; Hershfeldt et al., 2009). Proactive circles are discussion groups that can be used for a variety of purposes (Amstutz & Mullet, 2005; Costello, Wachtel & Wachtel, 2010). Together, these two interventions may increase teachers' use of the culturally responsive practices described above and improve student engagement.

**Connecting lessons to real world examples and integrating cultural artifacts reflective of students' interests into learning activities.** Proactive circles can be used to preview, teach, or review curricular concepts (Costello, Wachtel & Wachtel, 2010), which

supports Double Check's efforts to *Connect Students to the Curriculum*. For instance, in a geography class, a question used in a proactive circle might be "Where is the farthest place you've traveled or one of your favorite places?" (Costello et al., 2010). Circles can also be used at any point during a lesson. For instance, teachers can use circles to brainstorm creative writing ideas or to debrief a lesson and ask students what they learned at the end of the day or class (Amstutz & Mullet, 2005). Using circles is one way to ensure that all students' voices are heard (Costello, Wachtel & Wachtel, 2010; Amstutz & Mullet, 2005). Specifically, instead of asking questions in the traditional call and response manner, teachers can use circles to facilitate these conversations so that there are higher levels of engagement.

Integrating cultural artifacts into the lesson can also be supported using proactive circles and can support Double Check's efforts to *Connect Students to the Curriculum*. For instance, a teacher could pass around an object that pertains to the lesson and ask students to share what comes to mind when they see that particular object. Teachers could then draw from student responses throughout the lesson to keep students engaged.

**Engaging in personal storytelling/ sharing.** This component of culturally responsive teaching is related to *Building Authentic Relationships* in the Double Check framework. Double Check asks teachers how they build relationships with students and also provides teachers with alternative suggestions (e.g., taking an interest in student interests outside of school). Restorative circles could be added to the Double Check curriculum to further develop authentic relationships between teachers and their students and help strengthen relationships among students by asking students to engage in personal storytelling or sharing. For instance, one question students could be asked in proactive circles would be, "What is something you like to do in your free time?" (Costello et al., 2010, p. 1). Not only would the teachers be able to tailor curriculum to fit the

interests of the students, but students may develop friendships with other students based on interests or information revealed in the circle.

**Using positive humor to engage students and defuse problems.** This component of culturally responsive teaching had the weakest factor loading ( $\beta = .30$ ) onto the Teachers' Use of Culturally Responsive Strategies (TCRS) scale which is not surprising considering that humor can often lead to misunderstandings. In order to know how to use positive humor to engage students and defuse problems, it is important that teachers understand the tenants of *Effective Communication*, the third component of the Double Check framework. Communication is culturally bound and so is humor. Therefore, what one person finds funny may not be humorous to another. When misunderstandings of this type occur, it may be important for teachers and students to engage in *Reflective Thinking*, the fourth component of Double Check. For instance, teachers can ask questions related situations that happened that need to be addressed (e.g., too much talking during a lesson, someone cursing at a teacher, racial slurs, tardiness; Costello et al., 2010). Rather than using proactive circles, teachers can use restorative circles that allow every participant to express their feelings regarding conflicts. Restorative circles are generally conducted by asking five questions: (a) what happened?; (b) what were you thinking at the time?; (c) what have you thought about since?; (d) who has been affected by what you've done? In what way?; (e) What can you do to make things right? Using restorative circles allows the person who was hurt to express their feelings and the person who may have caused harm can take responsibility for his/ her actions (Costello et al., 2010).

### **Embedding Culturally Responsive Practices in Teacher Education Programs**

The other implication for practice is embedding culturally responsive practices into teacher education programs. This recommendation is specific to research suggesting that pre-

service teachers most likely receive theoretical information about culturally responsive teaching, and not practical suggestions or procedural steps needed to demonstrate culturally responsive teaching (Siwatu, 2011). Research has concluded that pre-service teachers need to experience evidence-based practices repeatedly and in a manner that profoundly affects their own learning experiences (Bain, Lancaster, Zudans, & Parkes, 2009). Although there is much opportunity for professors in higher education to embed evidence-based practices into teacher training, research suggests that this is not common practice (Bain, Lancaster, Zudans, & Parkes, 2009).

Compounding this issue, faculty may also be apprehensive to incorporating multicultural content into their programs (Trent, Kea, & Oh, 2008). Taken together, these findings suggest that faculty in teacher preparation programs may need to receive additional training on how to embed evidence-based, culturally responsive practices into their courses. In order for faculty to receive training, however, it is necessary for additional investigations regarding the features of evidence-based culturally responsive practices. Using real world examples in lessons, personal storytelling/ sharing, positive humor, and cultural artifacts in lessons may be a few examples of culturally responsive practices, however, more research is needed. Once the research is clearer about the features of evidence-based culturally responsive practices, then trainings in those practices can be given to faculty at colleges and universities. These trainings may ease faculty apprehension, not only in incorporating multicultural content into their programs, but also in how to embed culturally responsive practices into their courses.

### **Limitations**

Two primary limitations were identified as affecting the results of the current study. The first section will address threats to internal validity, including potential weaknesses of the self-

report and observational measures. The second section will discuss threats to external validity, including generalizability of the study's findings outside the sample's parameters.

**Threats to Internal Validity.** The battery of self-report assessments included a number of slightly modified scales of culturally responsive teaching self-efficacy, social desirability, and teachers' ability to manage challenging behaviors. These modifications were made in large part to reduce participant burden and to cover a wide range of constructs. Nevertheless, the full battery contained approximately 107 items, may have contributed to survey fatigue and may consequently explain some of the missing data. Specifically, the first missing value on the self-report is item for social desirability is SD\_16 ( $n = 2$ ; 1%). The numbers increase until the end of the survey where the highest number of missing values was for items CR\_93 ( $n = 9$ ; 5%).

Moreover, the observations using the ASSIST only occurred once and for 15 minutes for each teacher observed. Multiple observations of each teacher may result in a more reliable estimate of the teachers' behaviors; however, this was not feasible given the project resources. Additionally, sole reliance on the student compliance scale to measure teachers' efficacy to manage behaviors may have limited this construct. Future research should consider expanding the construct to include teachers' use of pro-social behavior management or measures of student disruptive behaviors. Moreover, observers witnessed transitions in only 30% of classrooms, so the inclusion of the variable SC\_49 ("Students handle transitions well") may have influenced the results since a large proportion of data was missing for this question.

Additionally, factor loadings for several items on each scale were low, thereby limiting the reliability and validity of the constructs. Lastly, the study used cross-sectional data for analyses; therefore it is not possible to make assumptions about the directionality of associations between variables.

**Threats to External Validity.** While this study attempted to control for demographic characteristics shared by the participants that could influence the relationship between culturally responsive teaching self-efficacy, teachers' use of culturally responsive strategies, and teachers' ability to manage student behavior (e.g., role, race, gender, years of experience in education, and years of experience in school), other characteristics not measured may influence this relationship to a greater extent (e.g., degrees or multicultural training). Similarly, the data were only reflective of teachers who volunteered to participate in an intervention to improve cultural competence and classroom management practices. Specifically, there were 411 eligible teachers; 221 volunteered to participate (54%). As such, teachers who did not participate may have provided more variability in the constructs of interest. Moreover, the results may not generalize to other counties or states since this data was collected from teachers in only one county within Maryland. Lastly, this study's findings cannot generalize to high school teachers or teachers of other subjects beyond special and general education (e.g., music, art, gym, etc.) since only core subject elementary and middle school teachers participated.

### **Summary**

This chapter presented major findings, conclusions, implications, and limitations of the current study. The results of the research questions in this study found that observations of teachers' use of culturally responsive teaching and culturally responsive teaching self-efficacy were not associated, and that teachers' use of culturally responsive strategies was associated with teachers' ability to manage student behavior. Three conclusions were generated as a result of the study. First, there is a discrepancy between teachers' observed use of culturally responsive strategies and self-reported culturally responsive teaching self-efficacy. Second, social desirability is one contributing factor to why a discrepancy exists between teachers' use of

culturally responsive practices and culturally responsive teaching self-efficacy. Third, more research is needed regarding differences between special and general educators' observed use of culturally responsive practices.

Despite the limitations of this study, including potential threats to internal and external validity, the results of the study have clear implications for researchers and practitioners. With regard to research, more investigations are needed to more reliably assess observed and self-reports of teachers' culturally responsive practices. Second, more research is also warranted in evaluating pre- and in-service efforts to improve culturally responsive teaching at both pre-and in-service levels and in both special and general education. With regard to practice, more training in using culturally responsive practices may be needed for both in-service teachers and faculty in colleges and universities. Findings from this study suggest that this training may include embedding culturally responsive practices (e.g., using real world examples in lessons, personal storytelling/ sharing, positive humor, and cultural artifacts in lessons) into training activities.

Taken together, research and training in culturally responsive practices may improve teachers' ability to manage student behavior and subsequently reduce the overrepresentation of students with disabilities and students from ethnic/ racial minority backgrounds in exclusionary discipline. Disparities in exclusionary discipline actions between students with disabilities and typically developing students and between African American students and White students is a national crisis that deserves particular attention. It follows logically that when students are not in class or in school, they are less likely to succeed. Using culturally responsive practices may offer a potential solution to end the exclusionary discipline crisis and increase student achievement.

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Table 1  
*Staff Role of Participants Enrolled in Double Check Project*

Staff Role	% ( <i>n</i> ) <i>n</i> = 221
General Educator	70 (154)
Special Educator	12 (26)
Specials Course Teachers (e.g., music, gym, art)	7 (16)
Other	3 (6)
Education/ Teacher Assistant	2 (4)
Student Services/ Mental Health Professionals/ Mental Health Professionals (e.g., school psychologist, social worker, counselor)	2 (4)
ESOL/ Resource	1 (3)
Paraprofessional	.5 (1)
Missing	3 (7)

Table 2  
*Demographics of Participants in Current Study*

Characteristic	% (n) n= 180
Age	
20-30	34 (61)
31-40	25 (45)
41- 50	21 (37)
51-60	18 (33)
61+	2 (4)
Gender	
Female	85 (153)
Male	15 (27)
School Level	
Pre-K/ Kindergarten	9 (16)
Elementary	22 (40)
Middle	54 (97)
Multiple Grades	15 (27)
Race/ Ethnicity	
Caucasian/ White	78 (140)
African American/ Black	13 (24)
Hispanic/Latino	3 (5)
Asian/ Pacific Islander	1 (2)
Other	4 (8)
Native American/ American	.6 (1)
Teacher Role	
General Educator	85 (154)
Special Educator	14 (26)
Years at School	
0-3	51 (92)
4-8	26 (46)
9+	23(42)
Years of Teaching	
0-3	30 (53)
4-8	26 (47)
9+	44 (80)

Table 3  
*Psychometric Properties of the Study Subscale Measures*

Measure	Number of Items	$\alpha$
Survey		
Culturally Responsive Teaching Self Efficacy	10	.79
Marlowe-Crowne Social Desirability Scale	10	.59
ASSIST (Rusby et al., 2001)		
Teachers' Use of Culturally Responsive Strategies	4	.65
Student Compliance	7	.93

*Note.* ASSIST= Assessing School Settings: Interactions of Students and Teachers

Table 4  
*Normality Statistics for Study Subscales*

Subscale Items	Mean	SD	Skewness	Kurtosis
CRTSE				
CR_28RPR	4.50	.878	-.405	.497
CR_32RPR	3.95	1.076	-.242	-.733
CR_44RPR	4.51	.936	-.802	1.923
CR_48RPR	4.69	.769	-.709	1.479
CR_65RPR	3.89	.874	-.607	.571
CR_72RPR	4.31	.860	-.311	.249
CR_73RPR	4.01	1.200	-.303	-.405
CR_81RPR	4.23	.981	-.412	-.173
CR_87RPR	3.91	.958	-.422	.168
CR_93RPR	3.94	1.291	-.371	-.803
TCRS				
CRT_18	2.80	1.462	-.881	-.664
CRT_43	.82	1.515	1.478	.396
CRT_44	.73	1.315	1.609	1.181
CRT_47	.93	1.531	1.282	-.072
SC				
SC_48	3.41	.679	-.823	-.002
SC_49	2.71	1.012	-.488	-.320
SC_50	3.43	.707	-1.029	.491
SC_51	3.50	.624	-1.016	.692
SC_53	3.15	.941	-.678	-.753
SC_54	3.24	.816	-.854	.085
SC_62	3.45	.748	-1.541	2.936
SD				
SD_16RPR	3.60	1.563	.030	-1.276
SD_30PR	4.12	1.232	-.246	-.831
SD_45RPR	5.26	.691	-.499	-.399
SD_50RPR	4.97	1.058	-1.367	2.619
SD_55PR	3.95	1.669	-.226	-1.376
SD_63PR	3.77	1.425	-.133	-1.030
SD_66RPR	4.86	.769	-.132	-.539
SD_69RPR	5.54	.683	-2.156	7.474
SD_78PR	4.13	1.091	-.145	-.877
SD_85PR	4.36	1.407	-.549	-.818

*Note.* CRTSE= culturally responsive teaching self-efficacy; TCRS= teachers' use of culturally responsive strategies; SC= student compliance; SD= social desirability.

Table 5  
*Descriptive Analyses of Study Subscales*

Measure Items	Mean	SD	Factor Loading Estimate	SE
<b>CRTSE</b>				
CR_28RPR	4.50	.878	0.627***	0.034
CR_32RPR	3.95	1.076	0.593***	0.068
CR_44RPR	4.51	.936	0.602***	0.061
CR_48RPR	4.69	.769	0.543***	0.05
CR_65RPR	3.89	.874	0.65***	0.048
CR_72RPR	4.31	.860	0.708***	0.037
CR_73RPR	4.01	1.200	0.535***	0.037
CR_81RPR	4.23	.981	0.485***	0.053
CR_87RPR	3.91	.958	0.638***	0.037
CR_93RPR	3.94	1.291	0.28***	0.075
<b>TCRS</b>				
CRT_18	2.80	1.462	0.811***	0.075
CRT_43	.82	1.515	0.914***	0.063
CRT_44	.73	1.315	0.299*	0.123
CRT_47	.93	1.531	0.683***	0.057
<b>SD</b>				
SD_16RPR	3.41	.679	0.312**	0.098
SD_30PR	2.71	1.012	0.491***	0.075
SD_45RPR	3.43	.707	0.486***	0.068
SD_50RPR	3.50	.624	0.652***	0.043
SD_55PR	3.15	.941	0.29***	0.083
SD_63PR	3.24	.816	0.285***	0.057
SD_66RPR	3.45	.748	0.379***	0.089
SD_69RPR	3.60	1.563	0.412***	0.065
SD_78PR	4.12	1.232	0.541***	0.089
SD_85PR	5.26	.691	0.407***	0.085
<b>SC</b>				
SC_48	4.97	1.058	0.962***	0.012
SC_49	3.95	1.669	0.615***	0.093
SC_50	3.77	1.425	0.969***	0.007
SC_51	4.86	.769	0.986***	0.008
SC_53	5.54	.683	0.938***	0.015
SC_54	4.13	1.091	0.958***	0.014
SC_62	4.36	1.407	0.915***	0.015

*Note.* CRTSE= culturally responsive teaching self-efficacy; TCRS= teachers' use of culturally responsive strategies; SC= student compliance; SD= social desirability. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Table 6  
*Covariance and Correlation Coefficients for Confirmatory Factor Analysis*

Independent Variable	Dependent Variable					
	Unstandardized			Standardized		
	CRTSE	T CRS	SC	CRTSE	T CRS	SC
<i>Measurement Model</i>						
CRTSE	--	0.042	-0.008	0.083	--	-0.013
T CRS	--	--	0.551***	--	--	0.707***
SD	0.074**	0.030	0.029	0.380***	0.120*	0.098*

*Note.* CRTSE= culturally responsive teaching self-efficacy; T CRS= teachers' use of culturally responsive strategies; SD= social desirability; SC= student compliance. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Table 7  
*Model Fit Indices of Latent Variable Path Analyses*

Model	$\chi^2$	df	RMSEA	CFI	TLI	WRMR
LVPA 1: TCRS on SD and TC	15.770**	5	0.044	0.720	0.681	1.188
LVPA 2: CRTSE on SD and TC	77.232***	5	0.046	0.801	0.781	1.327
LVPA 3: TCRS and CRTSE on SD and TC	101.033***	10	0.038	0.805	0.785	1.267
LVPA 4: SC on TCRS SD and TC	7.940	5	0.035	0.989	0.988	1.169
LVPA 5: SC on CRTSE SD and TC	76.493***	5	0.037	0.976	0.975	1.336

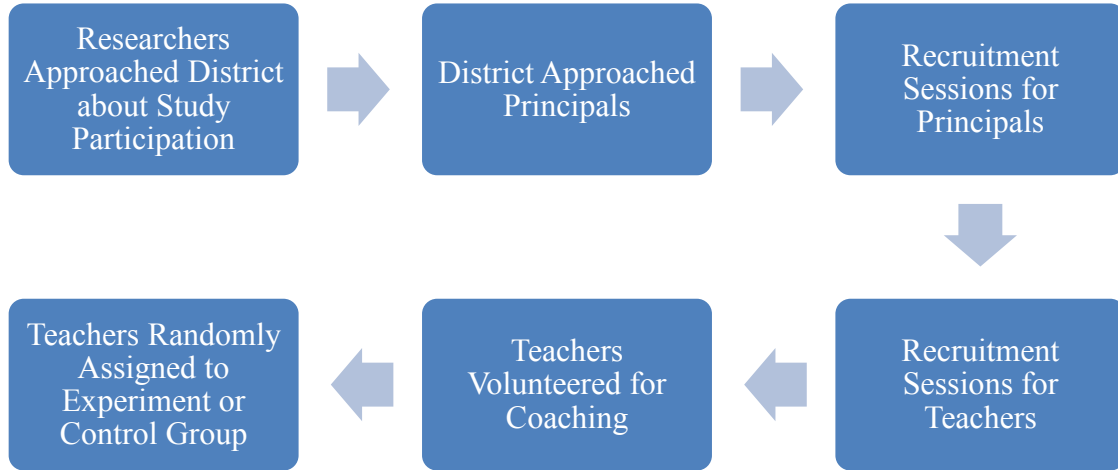
*Note.* The chi-square ( $\chi^2$ ) value for WLSMV was calculated using the DIFFTEST option in Mplus. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; TCRS= teachers' use of culturally responsive strategies; CRTSE= culturally responsive teaching self-efficacy; SD= social desirability; TC= teachers' characteristics. Teachers' characteristics included Teacher role = special vs. general educator; gender = male vs. female; years in role = 0-3 vs. 4+; and years in school= 0-3 vs. 4+. LVPA= Latent Variable Path Analysis.



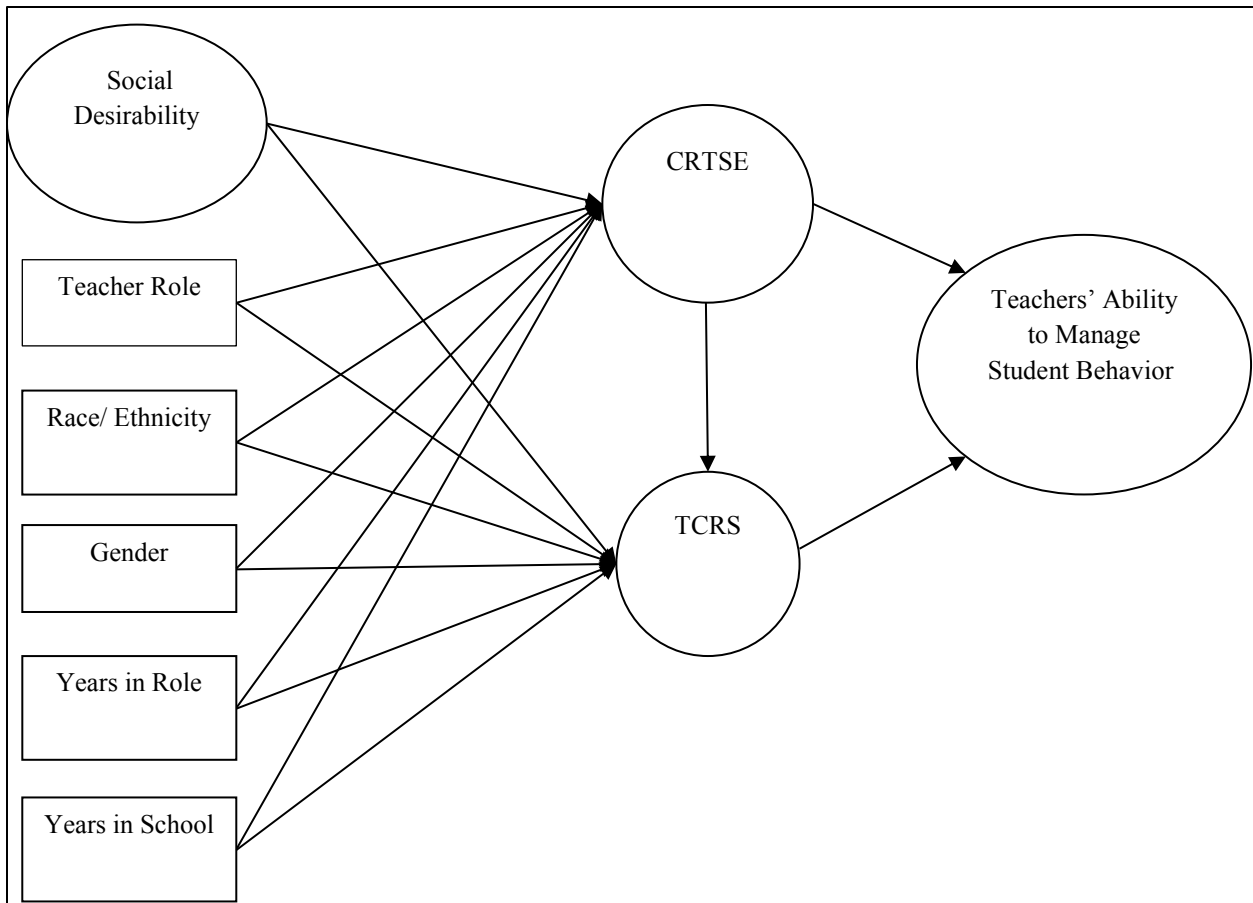
Table 8  
*Parameter Estimates for Latent Variable Path Analyses*

Independent Variable	Dependent Variable					
	Unstandardized			Standardized		
	CRTSE	TCRS	SC	CRTSE	TCRS	SC
LVPA 1						
SD		0.292			0.105	
Experience in Role		-0.230			-0.157	
Experience in School		0.141			0.106	
Female		0.234			0.125	
General Educator		0.473***			0.249***	
White		0.049			0.031	
LVPA 2						
SD	0.836**			0.429**		
Experience in Role	0.089			0.072		
Experience in School	-0.063			-0.055		
Female	-0.017			-0.011		
General Educator	-0.203			-0.126		
White	-0.064			-0.047		
LVPA 3						
SD	0.874**	0.112		0.428**	0.054	
Experience in Role	0.089	-0.220		0.072	-0.174	
Experience in School	-0.062	0.136		-0.054	0.118	
Female	-0.017	0.204		-0.011	0.127	
General Educator	-0.203	0.414***		-0.126	0.253***	
White	-0.064	0.056		-0.047	0.040	
LVPA 4						
SD		.221			.072	
Experience in Role		-.431*			-.242*	
Experience in School		0.437			.268	
Female		0.091			.040	
General Educator		0.243			.105	
White		-0.051			-.026	
TCRS			.924***			.763***
LVPA 5						
SD	0.847**			.429**		
Experience in Role	0.098			.079		
Experience in School	-0.071			-.062		
Female	-0.017			-.011		
General Educator	-0.203			-.126		
White	-0.061			-.045		
CRTSE			-0.048			-.028

*Note.* CRTSE= culturally responsive teaching self-efficacy; TCRS= teachers' use of culturally responsive strategies; SD= social desirability; SC= student compliance; Teacher role = special vs. general educator; gender = male vs. female; years in role = 0-3 vs. 4+; and years in school= 0-3 vs. 4+. LVPA= Latent Variable Path Analysis. Model displays unstandardized and standardized regression coefficients loadings. \* $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p = .001$ .



*Figure 1.* Sampling Plan for the Double Check Project



*Figure 2.* Hypothesized structural model of teachers' use of culturally responsive strategies, culturally responsive teaching self- efficacy, social desirability, teacher characteristics, and teachers' ability to manage student behavior. CRTSE= culturally responsive teaching self-efficacy; TCRS= teachers' use of culturally responsive strategies. Teacher role = special vs. general educator; gender = male vs. female; years in role = 0-3 vs. 4+; and years in school= 0-3 vs. 4+. Social desirability, CRTSE, TCRS, and teachers' ability to manage student behavior are latent variables and are indicated as circles. Teacher role, race/ethnicity, gender, years in role, and years in school are measured variable and are indicated by rectangles. The hypothesized model stated that CRTSE and TCRS would be associated after accounting for teacher characteristics (e.g., teacher role, race/ethnicity, gender, years in role, and years in school) and by social desirability. Moreover, the model states that there would be a relationship between the culturally responsive teaching variables and teachers' ability to manage student behavior after accounting teacher characteristics (e.g., teacher role, race/ethnicity, gender, years in role, and years in school) and by social desirability.

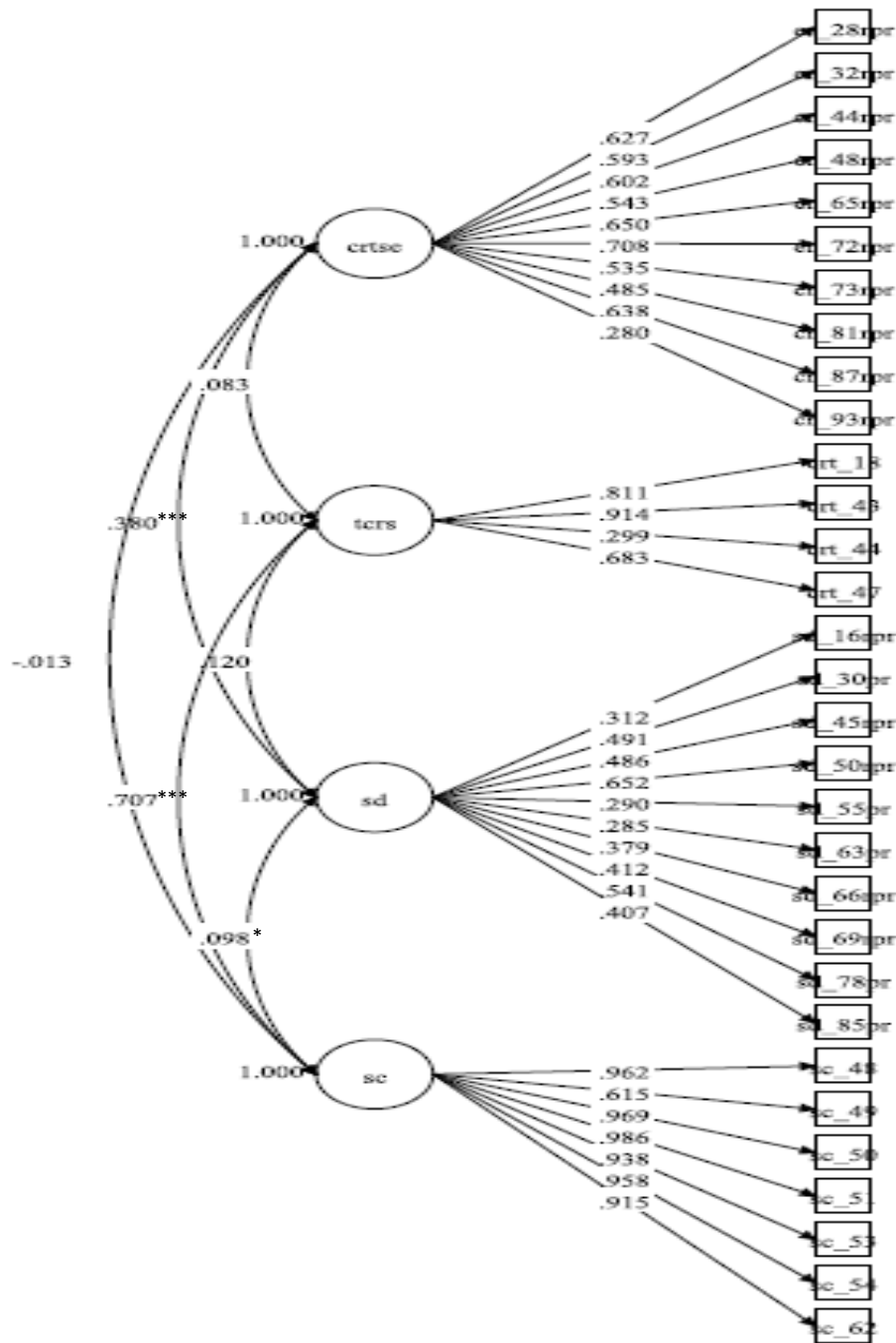


Figure 3. Confirmatory factor analysis of teachers' use of culturally responsive strategies, culturally responsive teaching self- efficacy, social desirability, teacher characteristics, and student compliance. Abbreviations for variables: crtse= culturally responsive teaching self-efficacy; tcrs= teachers' use of culturally responsive strategies; sd= social desirability; sc= student compliance. Model displays standardized factor loadings and correlation coefficients. \* $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

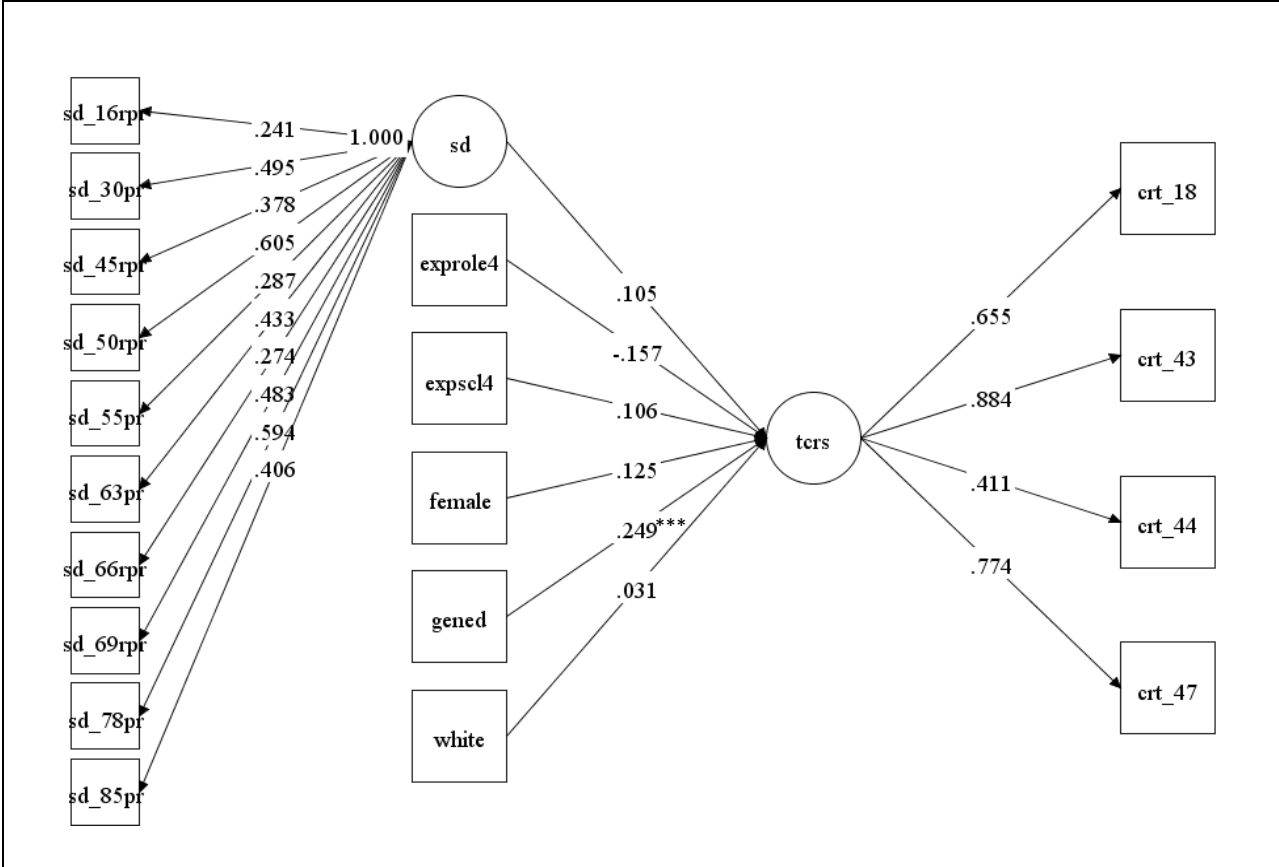


Figure 4. Latent variable path analysis of the association between social desirability and teacher characteristics on teachers' use of culturally responsive strategies. Abbreviations for variables: exprole4= 4+years of experience; expscl4= 4+ years of experience working in current school; female= teacher is a female; gened= teacher is a general education teacher; white= teacher is Caucasian or White. crtse= culturally responsive teaching self-efficacy; tcrs= teachers' use of culturally responsive strategies; sd= social desirability. Model displays standardized factor loadings and regression coefficients. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

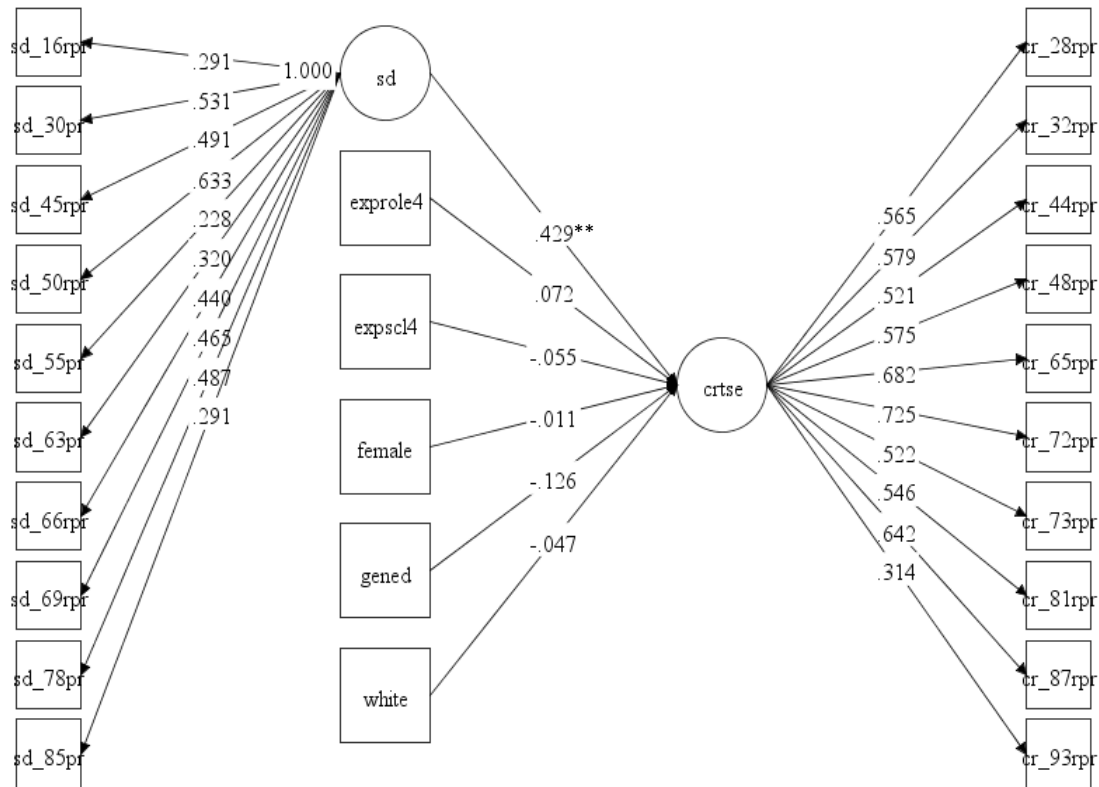


Figure 5. Latent variable path analysis of the association between social desirability and teacher characteristics on culturally responsive teaching self-efficacy. Abbreviations for variables: exprole4= 4+years of experience; expscl4= 4+ years of experience working in current school; female= teacher is a female; gened= teacher is a general education teacher; white= teacher is Caucasian or White. crtse= culturally responsive teaching self-efficacy; trcs= teachers' use of culturally responsive strategies; sd= social desirability. Model displays standardized factor loadings and regression coefficients. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

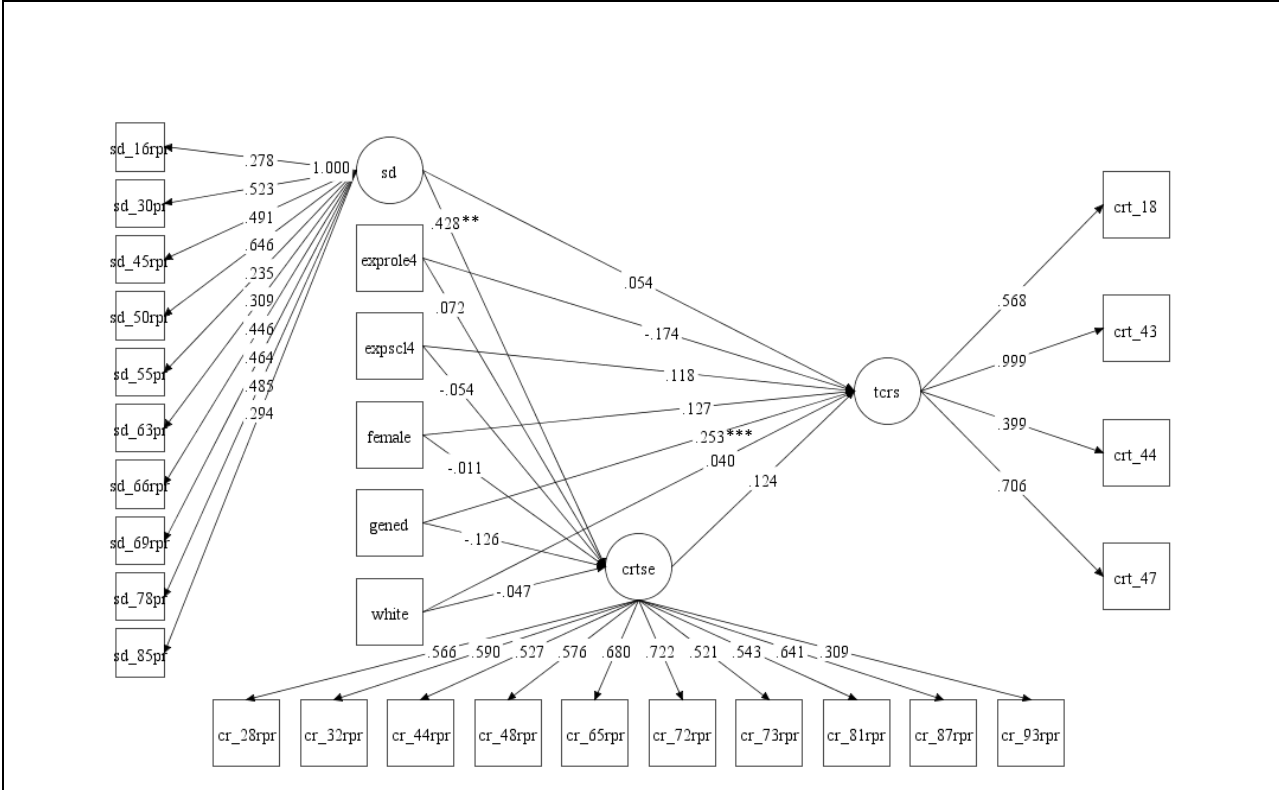


Figure 6. Latent variable path analysis of the association between culturally responsive teaching self-efficacy and teachers' use of culturally responsive strategies when accounting for teacher characteristics and social desirability. Abbreviations for variables: exprole4= 4+years of experience; exp scl4= 4+ years of experience working in current school; female= teacher is a female; gen ed= teacher is a general education teacher; white= teacher is Caucasian or White. crtse= culturally responsive teaching self-efficacy; tcrs= teachers' use of culturally responsive strategies; sd= social desirability. Model displays standardized factor loadings and regression coefficients. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

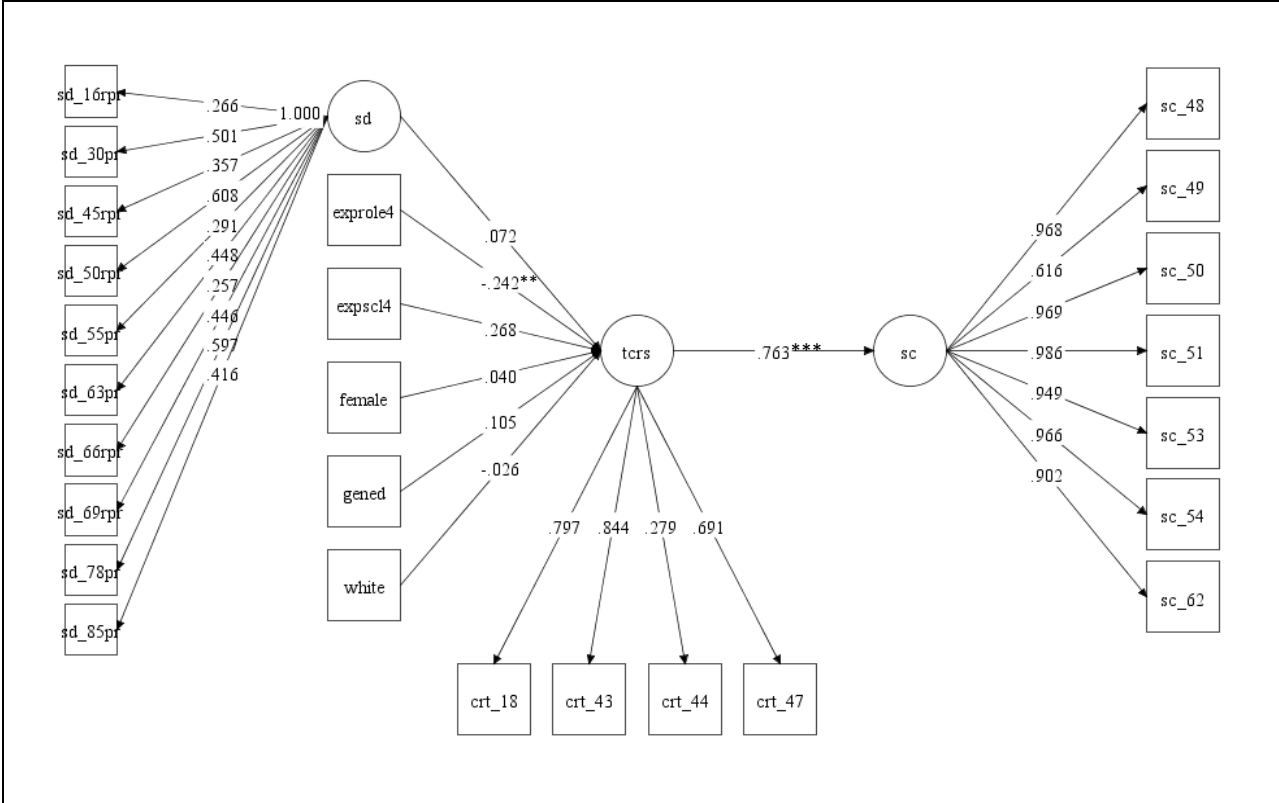


Figure 7. Latent variable path analysis of social desirability, teacher characteristics, and teachers' use of culturally responsive practices on student compliance. Abbreviations for variables: exprol4= 4+years of experience; exp scl4= 4+ years of experience working in current school; female= teacher is a female; gened= teacher is a general education teacher; white= teacher is Caucasian or White. crtse= culturally responsive teaching self-efficacy; tcrs= teachers' use of culturally responsive strategies; sd= social desirability; sc= student compliance. Model displays standardized factor loadings and regression coefficients. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .



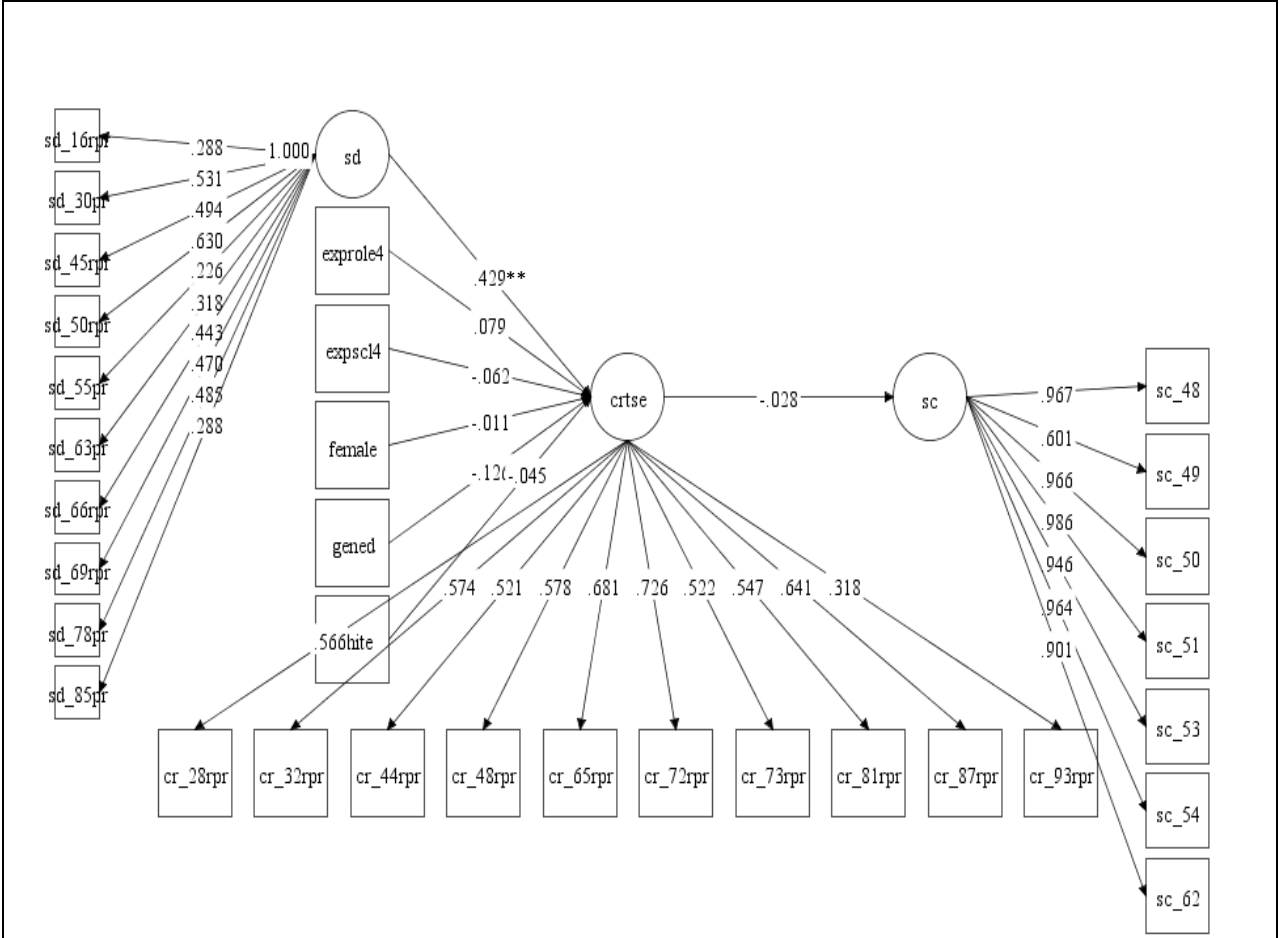


Figure 8. Latent variable path analysis of teacher characteristics, social desirability, and culturally responsive teaching self- efficacy on student compliance. Abbreviations for variables: exprole4= 4+years of experience; expscl4= 4+ years of experience working in current school; female= teacher is a female; gened= teacher is a general education teacher; white= teacher is Caucasian or White. crtse= culturally responsive teaching self-efficacy; trcs= teachers’ use of culturally responsive strategies; sd= social desirability; sc= student compliance. Model displays standardized factor loadings and regression coefficients. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

## APPENDIX A

### SURVEY ITEMS

*Note for All Scale Items:* Lower agreement is associated with higher values (1 ‘strongly agree’ to 6 ‘strongly disagree’). Reverse-coded items (indicated with an R) are reversed so lower agreement is consistent with lower values (1 ‘strongly disagree’ to 6 ‘strongly agree’).

Social Desirability Bias (Crowne & Marlowe, 1960; Strahan & Gerbasi, 1972)	Variable
# of items = 10	
I never hesitate to go out of my way to help someone in trouble.	SD_50Rpr
I have never intensely disliked anyone.	SD_16Rpr
I sometimes feel resentful when I don’t get my way.	SD_30pr
There have been times when I felt like rebelling against people in authority even though I knew they were right.	SD_85pr
I can remember “playing sick” to get out of something.	SD_55pr
When I don’t know something I don’t at all mind admitting it.	SD_45Rpr
I am always courteous, even to people who are disagreeable.	SD_66Rpr
I would never think of letting someone else be punished for my wrong-doings.	SD_69Rpr
There have times when I was quite jealous of the good fortune of others.	SD_63pr
I am sometimes irritated by people who ask favors of me.	SD_78pr

Culturally Responsive Teaching Self-Efficacy (Siwatu, 2007)	Variable
# of items = 10	
I obtain information about my students' cultural backgrounds.	CR_28Rpr
I critically examine curricula and instructional materials to determine whether they reinforce negative cultural stereotypes.	CR_32Rpr
I obtain information about my students' home life.	CR_44Rpr
I identify ways that the school culture (e.g., values, norms, and practices) are different from my students' home culture.	CR_48Rpr
I implement strategies to minimize the effects of mismatches between my students' home culture and the school culture.	CR_65Rpr
I use my students' cultural background to create a meaningful learning experience.	CR_72Rpr
I design a classroom environment using displays that reflect a variety of cultures.	CR_73Rpr
I assess whether my students feel comfortable competing with other students.	CR_81Rpr
I revise instructional material to include a better representation of diverse cultural groups.	CR_87Rpr
I use a learning preference inventory to gather data about how my students like to learn.	CR_93Rpr

## APPENDIX B

### ASSIST ITEMS (Rusby et al, 2001)

*Note for All Scale Items:* Lower agreement is associated with lower values (0 ‘never’ to 4 ‘almost continuously’).

Student Compliance (SC)	Variable
# of items = 7	
Students comply.	SC_48
Students handle transitions well	SC_49
Students consistently follow rules appropriate to settings	SC_50
Students cooperate	SC_51
Students are interested, enthusiastic, and involved	SC_53
Students are focused and engaged	SC_54
Students treat their peers with respect	SC_62

Teachers’ Use of Culturally Responsive Strategies	Variable
# of items = 4	
Teacher connects lesson to real-world examples	CRT_18
Teacher engages in storytelling or sharing	CRT_43
Teacher uses positive humor to engage students or defuse problems.	CRT_44
Teacher integrates cultural artifacts reflective of students’ interests.	CRT_47

## CURRICULUM VITAE

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### Education

Ed.D	Johns Hopkins University, May 2015	Special Education
M.A.	Johns Hopkins University, May 2005	Secondary Social Studies
B.A.	Loyola College, May 2003	Psychology

Certification: Advanced Professional Certificate, Special Education, Maryland State  
Department of Education (August 2012)

Advanced Professional Certificate, Secondary Social Studies, Maryland State  
Department of Education (August 2004)

### Professional Experience

Johns Hopkins University	2011-Present	Doctoral Fellow Adjunct Professor of Special Education University Supervisor Research Associate
Baltimore City Public Schools	Summer 2013	Program Evaluator, Office of Teacher Support and Development
Baltimore City Public Schools	Summer 2012	Intern, Office of Teacher Support and Development
Pikesville Middle School, Baltimore, MD	2004-2011	Social Studies Instructor, students age 11-14 Staff Development Presenter Mentor Teacher School Improvement Team Member Gifted and Talented Committee Member Student Council Advisor Girls' Basketball Coach

Pikesville High School, Baltimore, MD	2004	Girls' Volleyball Coach
Western High School, Baltimore, MD	2004	Social Studies Intern, students age 14-18
Dunbar High School Baltimore, MD	2003-2004	Social Studies Intern, students age 14-18 Tutor, Future Leader's Academy

### **Memberships in Professional Organizations**

American Educational Research Association  
 Council for Exceptional Children  
 Council for Children with Behavior Disorders  
 Division for Culturally and Linguistically Diverse Exceptional Learners  
 Teacher Education Division, Council for Exceptional Children

### **Grant Participation**

- 2011-Present Institute of Education Sciences (IES), *Double Check: A Student Engagement and Cultural Proficiency Model*. Johns Hopkins University, Sheppard Pratt, and Maryland State Department of Education.
- 2013- Present Center for Disease Control and Prevention, *Johns Hopkins Center for the Prevention of Youth Violence*. Johns Hopkins University.
- 2013- Present Spencer Foundation, *Teacher to Teacher Coaching Model*. Johns Hopkins Bloomberg School of Public Health.
- 2014- Present Wendy Klag Center for Autism and Developmental Disabilities, *Reducing Behavior Problems among Students with an ASD through Coaching Teachers in a Mixed-Reality Setting*. Johns Hopkins Bloomberg School of Public Health.

### **Publications**

Connelly, V.J., Rosenberg, M.S., & Larson, K.E. (2014). Alternative routes to special education teacher preparation: Context, outcomes, and implications. In P. Sindelar, E. McCray, & M. Brownell (Eds.), *Handbook of Research on Special Education Teacher Preparation* (pp. 215-230). London, U.K: Routledge.

### **Invited National Presentations**

- Nagro, S. & Larson, K. (2014, October). *Engaging Families of Students with Disabilities*. Presentation at the National Network of Partnership Schools, Baltimore, MD.
- Nagro, S. & Larson, K. (2013, October). *Engaging Families of Students with Disabilities*.

- Presentation at the National Network of Partnership Schools, Baltimore, MD.
- Hershfeldt, P., Ford, M., & Larson, K. (2013, October). *An Examination of Cultural Considerations and the Impact on High School Classroom Management*. Presentation at the National PBIS Leadership Forum, Chicago, IL.
- Bradshaw, C.P. & Larson, K.E. (2013, October). *Double Check: A Cultural Proficiency and Student Engagement Model*. Presentation at the National PBIS Leadership Forum, Chicago, IL.

## **National Presentations**

- Christensen, J.E., Delport, J.L., Larson, K.E. (2015, April). *Strategies for working with youth within the intersectionality of disability and sexual orientation*. Peer reviewed paper presented at the Council for Exceptional Children Convention and Expo, San Diego, CA.
- Larson, K.E., & Eakle, A.J. (2014, November). *Using blogs to examine culturally responsive classroom management practices*. Peer-reviewed poster presented at the Teacher Education Division of the Council for Exceptional Children Conference, Indianapolis, IN.
- Larson, K.E., Bottiani, J.H., Debnam, K.J. & Bradshaw, C.P. (2014, April). *The relationship between cultural proficiency, teacher characteristics, and social desirability*. Peer-reviewed poster presented at the Council for Exceptional Children Convention and Expo, Philadelphia, PA.
- Jezovnik, J., Nagro, S., Hooks, S., Larson, K.E., Fraser, D. (2014, April). *Does instructor-pair collaboration improve special education teacher preparation?* Peer-reviewed poster presented at the Council for Exceptional Children Convention and Expo, Philadelphia, PA.
- Larson, K.E., & Rosenberg, M.S. (2013, November). *Improving culturally responsive practices among general and special educators: The double check professional development model*. Presentation at the Teacher Education Division of the Council for Exceptional Children Conference, Fort Lauderdale, FL.
- Larson, K.E., Bottiani, J.H., Debnam, K.J. & Bradshaw, C.P. (2013, November). *The relationship between teacher characteristics and cultural proficiency*. Peer Reviewed poster presented at the Teacher Education Division of the Council for Exceptional Children Conference, Fort Lauderdale, FL. \*Received Award of Excellence
- Larson, K.E., Bottiani, J.H., Debnam, K.J. & Bradshaw, C.P. (2013, April). *The relationship between school context, cultural proficiency, and social desirability*. Peer-reviewed poster presented at the Council for Exceptional Children Convention and Expo, San Antonio, TX.
- Bottiani, J.H., Larson, K.E., Debnam, K.J. & Bradshaw, C.P. (2012, December). *Enhancing teacher cultural proficiency to bridge the discipline gap: Measurement challenges in the evaluation of the intervention effectiveness*. Poster presented at the Science of Eliminating Health Disparities Summit, Washington, D.C.

## **Invited Local Presentations**

- Larson, K.E. (2014, October). *The influence of social desirability on measures of cultural proficiency*. Presentation to the Double Check Advisory Board. Baltimore, MD.
- Larson, K.E. & O'Brennan, L. (2014, January). *Using data to facilitate comprehensive behavior management*. Staff Development Presentation for Pimlico Elementary/ Middle School. Baltimore, MD.
- Larson, K.E., Bottiani, J.H., Debnam, K.J. & Bradshaw, C.P. (2013, May). *The relationship between school context, cultural proficiency, and social desirability*. Invited to present poster at "An Exploration of Educational Excellence," Johns Hopkins University, Baltimore, MD.
- Larson, K.E. (2012, July). *Double Check: A Cultural Proficiency and Student Engagement Model*. Guest Lecturer for *Educational Alternatives for Students with Disabilities* course, Johns Hopkins University.
- Larson, K.E. (2012, May). *Double Check: A cultural proficiency and student engagement model*. Staff Development Presentation for Pikesville Middle School. Baltimore, MD.
- Larson, K.E. (2012, April). *Double Check: A cultural proficiency and student engagement model*. Staff Development Presentation for Pikesville Middle School. Baltimore, MD.
- Hammel, A., & Larson, K.E. (2010). *Watership down and arts integration*. A model lesson for the principal to demonstrate how to integrate arts into a Language Arts classroom. Pikesville Middle School. Baltimore, MD.
- Doran, A., & Larson, K.E. (2010). *Critical thinking and the arts*. Staff Development Presentation for Pikesville Middle School. Baltimore, MD.
- Hegmann, R., & Larson, K.E., Givens, J., Sherman, J., Yaddush, C. (2009). *Introduction to the elements of arts-integration*. Pikesville Middle School Staff Development. Baltimore, MD.
- Hegmann, R., & Larson, K.E. (2009). *Expanding on the elements of arts integration: Elements of theatre*. Workshop held for Pikesville Middle School Teachers. Baltimore, MD.
- Hammel, A., & Larson, K.E., Tawney, S. (2008). *Brain research and the dynamic of learning*. Pikesville Middle School Parent Teacher Association (PTA). Baltimore, MD.
- Larson, K.E., & Strayer, S. (2008, August). *China: A cultural experience*. Baltimore County Public Schools Professional Study Day. Baltimore, MD.
- Hammel, A., & Larson, K.E., Tawney, S. (2007). *Using learning modalities to create effective lessons*. Staff Development Presentation for Pikesville Middle School. Baltimore, MD.

## **Professional Service**

- 2013-Present Member, Committee of Diversity and Civility  
Johns Hopkins University
- 2014- Present PBIS Liaison and Coach, Arlington Elementary Middle School  
Baltimore City Public Schools
- 2014- Present PBIS Liaison and Coach, Pimlico Elementary Middle School  
Baltimore City Public Schools
- 2013- Present PBIS Liaison and Coach, Edgecombe Elementary Middle School  
Baltimore City Public Schools
- 2013- Present PBIS Liaison, Martin Luther King Circle Elementary Middle School  
Baltimore City Public Schools

2013- Present Student Reviewer, *Journal of Teacher Education Special Education (TESE)*  
Johns Hopkins University

2009-2011 Mentor for Stevenson University Student Intern/Teacher, Pikesville Middle School, Baltimore County Public Schools

2007-2011 Member, School Improvement Team, Pikesville Middle School, Baltimore County Public Schools

2005-2011 Member, Gifted and Talented Committee, Pikesville Middle School, Baltimore County Public Schools

2009-2010 Girls Basketball Coach, Pikesville Middle School, Baltimore County Public Schools

2005-2008 Student Council Advisor, Pikesville Middle School, Baltimore County Public Schools

2004 Girls Volleyball Coach, Pikesville High School, Baltimore County Public Schools

### University Courses Taught

SUM 2014 ED.877.810 *Mild to Moderate Disabilities Internship: Induction—Secondary/Adult*  
Johns Hopkins University

SPR 2014 ED.874.861 *Mild to Moderate Disabilities Internship: Culmination—Secondary/Adult*  
Johns Hopkins University

FAL 2013 ED.874.526 *Classroom Management: Methods for Students with Mild/Moderate Disabilities*  
Johns Hopkins University

SUM 2013 ED.871.502 *Educational Alternatives for Students with Special Needs*  
Johns Hopkins University

### Honors

2013 Award of Excellence for *The relationship between teacher characteristics and cultural proficiency* (November, 2013). Poster Presentation at the Teacher Education Division, Council for Exceptional Children, Fort Lauderdale, FL.

2011 Received Doctoral Fellowship at Johns Hopkins University. Fellowship funded by Office of Special Education Programs (OSEP) grant #H325D100067 entitled, *Leadership in Special Education Teacher Preparation: Application and Research*.

2008 Fulbright-Hays Study Abroad Program, China

2002 B.A. Honours in Combined Studies Programme  
University of Newcastle Upon Tyne, England

2002 Dean's List, Loyola College

2001 Dean's List, Loyola College