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Intergroup Relations in Inclusive Classrooms: The Development and Validation of the Intergroup Relations Classroom Environment Scale (IRCES)

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by

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DEDICATION

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Without her selfless day-to-day guidance, this study,

my experience in research, and my career aspirations would not exist.

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ABSTRACT

Intergroup Relations in Inclusive Classrooms: The Development and Validation of the Intergroup Relations Classroom Environment Scale (IRCES)

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Before the Education for All Handicapped Children Act (1975), most efforts to educate students with disabilities happened in isolation. Within the last 40 years, a growing number of districts and individual schools have experimented with inclusive models in hopes of successfully educating students with and without disabilities in the same classrooms; however, general education students still hold negative attitudes toward students with disabilities. The contact hypothesis of intergroup contact theory postulates that prejudicial attitudes toward out-groups can be alleviated if the following conditions are present in and around contact situations: equal status, cooperation, common goals, and institutional support. The purpose of this dissertation was to create and validate the Intergroup Relations Classroom Environment Scale (IRCES), a teacher self-report survey instrument that, within K-12 classrooms, measures the four aforementioned conditions along with two additional conditions that theorists have added to the original list. Data collected from an extensive review of the literature, focus groups with experienced K-12 teachers and administrators, and interviews with social and cognitive

psychologists were used to generate scale items; exploratory factor analyses were conducted to test the hypothesized six-factor model and reduce the number of items; and, the IRCES subscales were correlated with other classroom and school environment scales to assess convergent and discriminant validity. Analyses resulted in a 43-item, multidimensional scale that theoretically and practically matches the six optimal contact conditions. The IRCES provides researchers, administrators, and teachers with further knowledge of how to create and maintain a safe learning environment for all students.

CHAPTER ONE

BACKGROUND OF THE STUDY

Introduction

The following is an overview of the contents and elements of this dissertation. Key theoretical terms are defined, then a brief history of special education and inclusion in the United States (U.S.) segues into how segregated special education practices have led to the ongoing stigmatization of students with disabilities (SWD) which may hinder the appropriate social development of all students, both SWD and general education students (GES) alike. On a smaller scale, but much like the historical *Brown v. Board of Education* (1954) and the nation's push to thwart school segregation based on race, the answer to the social injustice of school and classroom segregation based on disability was to integrate SWD into general education classrooms. Perceptions of, and attitudes toward, inclusion among researchers, school administrators, and teachers are mixed (Kaufman, Agard, & Semmel, 1985; Meisel, 1986; Ross-Hill, 2009; Sailor & Roger, 2005); some believe inclusion is too difficult to implement properly (Kauffman, 2002; Kauffman & Hallahan, 1995) while others posit its academic and social benefits for all students (Dessemontet & Bless, 2013; Dessemontet, Bless, & Morin, 2012; Lew, Mesch, Johnson, & Johnson, 1986). Many parents have mixed feelings about inclusion (Bennett, De Luca, & Bruns, 1997; Davern, 1999; Fox & Ysseldyke, 1997; Freeman, Alkins, & Kassari, 1999; Gallagher et al., 2000; Leyser & Kirk, 2011; Palmer, Borthwick-Duffy, & Widaman, 1998; Palmer, Fuller, Arora, & Nelson, 2001); a common perception among parents with children without disabilities is that SWD hinder the academic progress of the GES in inclusive

classrooms (Peck, Carlson, & Helmstetter, 1992). This dichotomy of opinion and uncertainty may be due to a lack of valid evaluation.

A brief introduction of intergroup contact theory—a social psychological theory that offers an explanation of the complexities of inclusion and why there have been mixed opinions about it—is followed by a declaration of the overall purpose and research question of the study. Methodology is explained in relationship to the research question and followed by a consideration of the study's potential significance and contributions to K-12 education. The chapter concludes with the study's relationship to social justice.

Definition of Terms

Inclusion. Generally, the term inclusion represents the practice of integrating SWD into general education schools and classrooms. Farrell (2000) offered a broad definition of inclusion as SWD "taking a full and active part in school-life" while being "valued" and "integral" members of the school community (p. 154). However, there are varying degrees of inclusion. For example, full inclusion is the practice of educating all SWD—even students with severe disabilities such as cognitive impairments or emotional and behavioral disorders—in general education classrooms for the entire school day (Stainback & Stainback, 1984). In a fully inclusive school, all students, "regardless of the severity of their disability" (Menzies & Falvey, 2008, p. 79), receive special education services in general education classes.

Then there is mainstreaming, which is the term "used to describe the placement of students with disabilities in the regular school program for any part of their day" (Menzies & Falvey, 2008, p. 76). There are two types of mainstreaming. The least restrictive of the two types involves removing SWD from their primary placement—the general education

classroom—and sending them to a resource room where they work either one-on-one or in a small group with a special education teacher for a small portion of the day; usually one to two hours per day (Menzies & Falvey, 2008). The more restrictive form of mainstreaming involves placing SWD "in a self-contained special education classroom" for the majority of the school day, only allowing them to partake in "activities or other events, such as art, music, or physical education, in the general education setting" (Menzies & Falvey, 2008, p. 76).

Continually specifying and referencing the various degrees of inclusion would have added unnecessary discontinuity to this report; therefore, for this dissertation, the terms inclusion and inclusive education encompassed the complete spectrum of aforementioned definitions of inclusion and mainstreaming.

Intergroup contact. Intergroup contact is an interaction between two or more opposing groups (Brewer & Crano, 1994).

In-group. An in-group is a group of people with which an individual identifies herself based on a personal characteristic(s) that she shares with all other group members (Allport, 1954).

Out-group. An out-group consists of all people who are not members of the in-group. Members of an out-group do not share the same personal characteristic that an individual uses to create, categorize, and place herself into the in-group (Allport, 1954).

History of Special Education and Inclusion

The U.S. has a history of stigmatizing and even expelling people of all ages who are deemed different from the norm (Nielsen, 2012). These differences are based on anything from race, ethnicity, physical appearance, physical and mental disabilities, perceived intelligence,

language, social behavior, gender, sexual orientation, and/or political and religious beliefs (Nielsen, 2012). This history of fear and animosity toward innate human difference has led to numerous laws and policies that perpetuate various types of segregation within U.S. communities (Anyon, 2005; Frankenberg, 2013; Scotch, 2001). Unfortunately, schools have borne the brunt of these effects.

Throughout most of the 19th century in the US, children who were considered a burden on their families, schools, and society as a whole—children with (often unprofessionally and subjectively diagnosed) physical, mental, emotional, and/or behavioral disabilities—were institutionalized in residential treatment centers or asylums, where they spent 24 hours a day away from their families (Gartner & Lipsky, 1987; Osgood, 2005, 2008). In order to persuade parents to place their children in such institutions, doctors would promise that their children would be taken care of, educated to their fullest potential, and this choice would rid the family of the supposed heartache and financial burden that accompanied raising a child with severe disabilities. In many cases, these promises went unfulfilled. Children were often neglected, mistreated, and sometimes abused by under-qualified, untrained staff, and in place of the promised educational opportunities, children were instead used for custodial jobs and labor (Osgood, 2005, 2008).

Toward the end of the 19th century and well into the first third of the 20th century, public schools—then referred to as common schools—began to make their mark on U.S. society with an influx of students from various backgrounds (Osgood, 2005, 2008). Many families who had children with specific disabilities began to see public schools as viable options, especially after the widespread, negative attention residential institutions were receiving around the country. As

families began choosing public schools over residential institutions, and schools were seeing an influx of SWD, school administrators and classroom teachers felt it best to isolate SWD in segregated classrooms—at times in their own schools—because of their perceived difficulties with keeping up academically and socially with the rest of the "normal" students. SWD were often accused of delaying the academic development of the rest of the GES. It was widely believed that in these segregated classrooms and schools, SWD could get proper instruction and attention from trained special education teachers. Yet, despite the praise and popularity of segregated special education classes and schools within the public school system throughout the first half of the twentieth century in the U.S., there was a growing number of scholars, administrators, teachers, parents, and even students who started to voice their dissatisfaction with separate educational experiences for GES and SWD. Their primary arguments were that segregated special education did not provide students with environments conducive to proper social development, they led to SWD being stigmatized by GES, and the special education classes and curriculum were academically subpar. Thus began the campaign to integrate SWD into general education schools and classrooms (Osgood, 2005, 2008).

Between 1940 and 1975, most efforts to educate SWD continued to take place outside mainstream classrooms (Menzies & Falvey, 2008). However, due to the landmark ruling in *Brown v. Board of Education* (1954), public schools could no longer discriminate based on race, sex, national origin, and disability and, as a result, advocacy for inclusion rapidly gained momentum and a growing number of schools and districts began experimenting with inclusive classrooms that resulted in varying degrees of success (Osgood, 2005, 2008).

In 1975, the Education for All Handicapped Children Act (1975), or Public Law (P.L.) 94-142—which, after several reauthorizations, was eventually renamed the Individuals with Disabilities Education Improvement Act (IDEIA, 2004)—was passed and advocates finally had a degree of legislative support sufficient for continuing the push for nationwide, inclusive public education (Coutinho & Repp, 1999). IDEIA (2004) states that SWD are entitled to a free and appropriate public education in the least restrictive environment, which means SWD are to be educated in general education classrooms and should only be pulled out and placed in segregated special education settings if the child's needs are not being met (McCarthy, Cambron-McCabe, & Eckes, 2014).

One year after the signing and initial implementation of P.L. 94-142, during the 1976-77 school year, 3.7 million students in the U.S. were afforded some degree of special education services via the new law (National Center for Education Statistics, 2013a). Over the next thirty-five years, that number dramatically increased to 6.4 million as of the 2011-12 school year (National Center for Education Statistics, 2013a). Of these 6.4 million students, 94.8% were educated in public schools with GES; the remaining five percent were split between schools specifically for SWD (4%) and private schools with GES (1%) (National Center for Education Statistics, 2013c). These data show that separate schools for SWD have become a rarity and the overwhelming majority of SWD are educated in the same schools as GES, which highlights the progress inclusion has made over the last half century. However, degrees of segregated special education still persist. For example, of the 6.4 million students served under IDEIA (2004), over half, or 2.3 million, spend approximately half of their school day in isolated environments away from general education classrooms (National Center for Education Statistics, 2013c). Though

current approaches to inclusion are vast improvements to those used in the past, they still hold the potential to leave SWD and their families feeling ostracized (Menzies & Falvey, 2008). As a result, many parents of SWD have stated that their exclusionary special education classes and programs are not only subpar academically, but also do not provide the necessary environment for proper social development (Osgood, 2008).

Statement of the Problem

Segregated special education programs began in the late 19th century when the then fairly new public school system was experiencing an alarming and overwhelming increase in enrollment—especially in recent immigrants—and policy makers believed it best to organize and run schools in the most efficient ways possible (Osgood, 2005). More than a century later and even with the legal support of *Brown v. Board of Education* (1954), legislative support of IDEIA (2004), and growing number of successfully inclusive schools and classrooms in K-12 education (Dessemontet & Bless, 2013; Dessemontet, Bless, & Morin, 2012), SWD are still being excluded from mainstream classrooms for at least parts of the school day (Menzies & Falvey, 2008; National Center for Education Statistics, 2013c). One could argue that the continuing exclusionary special education practices are a result of more recent legislation that has dramatically impacted both general and special education alike.

Proponents of the No Child Left Behind Act (NCLB) (2001) have misused standardized curricula and transformed assessment practices into punitive accountability measures (Konold & Kauffman, 2009; Ravitch, 2010). Schools and districts have been, and continue to be, approached and managed as if they were efficiency-driven businesses with academic achievement as their sole product, often creating overly competitive environments that thrive on

meritocracy at the expense of equality, which ultimately leads to student segregation based on perceived academic ability (Ravitch, 2010). What has been lost in a sea of misguided efforts to "leave no child behind" is students' social development, which, according to Elias (2009), often precedes higher academic achievement. As a result, in many instances, disability has become a socially constructed phenomenon that is created by students' standardized, punitive, segregated educational environments (Varenne & McDermott, 1999).

Among other inherent social and psychological issues, yet specifically related to this dissertation, is the potential for GES to develop negative attitudes and intolerance toward SWD and other out-groups if students continue to be educated in isolation. The seemingly obvious remedy would be to include SWD in general education classrooms so that GES and SWD can learn to appreciate and celebrate human difference. According to intergroup contact theory—a social psychological theory that serves as the theoretical framework for this dissertation—similar to the struggles that accompanied the racial integration of schools in the U.S., this problem is not automatically solved by suddenly placing these two groups of students into the same classrooms without giving due attention to the history of stigma attached to disability (Baynton, 2001; Nielsen, 2012; Nowicki & Sandieson, 2002) and the problems of existing educational environments and how they can be better structured to eliminate prejudice and derision while fostering equality (Allport, 1954; Aronson, Blaney, Stephan, Sikes, & Snapp, 1978; Aronson, Wilson, & Akert, 2013; Pettigrew & Tropp, 2011).

According to the contact hypothesis of intergroup contact theory, in order to reduce majority group (in-group) prejudice toward a minority group (out-group)—in this case the majority group would be GES and the minority group would be SWD—contact between the two

groups (i.e., fully inclusive schools and classrooms) must occur fairly frequently, preferably early on in life, and the contact situation must contain conditions that are conducive to positive social interactions (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947)—these conditions will be defined and discussed in detail in Chapter Two of this dissertation. Without the proper situational conditions, intergroup contact can have inverse effects, but with no intergroup contact at all, especially during childhood and adolescence, majority groups can learn and develop prejudicial attitudes toward minority groups that are difficult to alleviate, let alone dispel (Allport, 1954).

Segregated special education schools and classrooms make intergroup contact between SWD and GES very difficult within a school setting; thus, all students' proper social development related to intergroup relations suffers. However, if SWD are included in general education classrooms without the presence of appropriate conditions, inclusion can lead to further stigmatization of SWD (Allport, 1954). The only solution seems to be the inclusion of SWD in general education classrooms accompanied with assurance that every school administrator and teacher is creating optimal situational conditions within their school and classrooms. Unfortunately, no valid measure of these conditions in inclusive educational environments exists.

Purpose of the Study

Past research has demonstrated that GES can benefit from intergroup contact with SWD (Armstrong, Johnson, & Balow, 1981; Ballard, Corman, Gottlieb, & Kaufman, 1977; Gasser, Malti, & Buholzer, 2013; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981; Maras & Brown, 1996, 2000; Ronning & Nabuzoka, 1993;

Wong, 2008). Most of these studies were experimental or quasi-experimental interventions where the researchers carefully manipulated the environments in limited accordance with the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947). Research on contact between GES and SWD in natural inclusive educational settings that were not manipulated by researchers produced slightly different results. Nowicki and Sandieson (2002) found that GES typically favored other GES over SWD; yet, GES educated in inclusive educational environments were more likely to have positive attitudes toward SWD than GES who were educated in segregated classrooms. Overall, GES attitudes toward SWD were far from ideal (Nowicki & Sandieson, 2002).

Based of the results of the aforementioned research, one could infer that teachers' level of control over the situational conditions of intergroup contact play a key role in the type of effects that are achieved through intergroup contact in inclusive classrooms. The purpose of this exploratory sequential mixed methods study (Creswell, 2014) was to create and validate the Intergroup Relations Classroom Environment Scale (IRCES), a teacher self-report survey that measures classroom practices and administrative support as they pertain to the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947).

The research question that was investigated in this study is: What is the reliability and validity of the IRCES? The following methods were used in an attempt to answer the study's research question.

Method

There were two phases to this exploratory sequential mixed method study (Creswell, 2014). Phase One—the qualitative portion, which is discussed in Chapter Three of this dissertation—used focus groups with experienced K-12 teachers and administrators, one-on-one interviews with cognitive and social psychologists, and an extensive review of literature to create and revise the items within the IRCES and assess their content validity. Phase Two—the quantitative portion, which is discussed in Chapter Four of this dissertation—used data collected from working K-12 teachers and applied exploratory factor analysis (EFA) to evaluate the factor structure of the IRCES and inter-survey subscale correlational analyses to assess its convergent and discriminant validity (Crano, Brewer, & Lac, 2015). The two measurement scales used to assess the convergent and discriminant validity of the IRCES were the Patterns of Adaptive Learning Scale (PALS) (Midgley et al., 2000) and the My Class Inventory—Short Form for Teachers (TMCI-SF) (Sink & Spencer, 2007). Because of the self-report nature of the IRCES, PALS, and TMCI-SF, their subscale composites were correlated with the Marlowe-Crowne Social Desirability Scale (M-C SDS) (Crowne & Marlowe, 1960) in order to evaluate whether social desirability bias played a role in participants' responses.

Significance of the Study

According to research, intergroup contact is a delicate phenomenon (Pettigrew & Tropp, 2006, 2011). If approached and structured properly, all types of intergroup contact could help alleviate out-group prejudice; however, if the contact is completely devoid of the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947), then the contact could perpetuate such prejudices. The inclusion of SWD in

general education classrooms—at times, a successfully tested form of positive intergroup contact—is rapidly becoming more prominent in U.S. schools and classrooms (National Center for Education Statistics, 2013a, 2013b, 2013c); therefore, the need has arisen for ways to properly measure inclusive educational environments. Using a teacher self-report survey based on these conditions is an effective and valid approach to analyzing inclusive school and classroom practices and how they affect students. The IRCES provides schools and districts with an all-encompassing instrument for measuring various facets of inclusive educational environments; and, if applied to future investigations, its use could first lead to an explanation as to why certain efforts to fully include SWD in general education settings have fallen short and then assist in constructing effective remedies. The need for such an instrument is evident in the research surrounding intergroup contact theory in general (Pettigrew & Tropp, 2006, 2011), and intergroup contact specifically within inclusive educational settings (Armstrong et al., 1981; Ballard et al., 1977; Gasser et al., 2013; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981; Maras & Brown, 1996, 2000; Nowicki & Sandieson, 2002; Ronning & Nabuzoka, 1993; Wong, 2008).

Link to Social Justice

Social justice is a multidimensional construct that embodies two very dialectical concepts: equality and difference. From a macro perspective, a just society should consist of equal opportunities and resources for all citizens regardless of race, ethnicity, gender, sexual orientation, and/or ability. In contrast, a just society, while attempting to create and foster equality, must simultaneously harbor the type of environment where people are safe and able to recognize difference by celebrating their own cultures, beliefs, and ways of life.

This dialectical phenomenon of social justice can also be applied, on a micro level, to education. In line with the societal definition and reference to social justice, socially just school systems should work to ensure that all students and their families have equal access to safe and well-equipped campuses, quality resources and social services, accomplished and passionate teachers and administrators, innovative curricula, a variety of extracurricular activities, and welcoming, inclusive classrooms. Yet, while attempting to provide all students with equitable educational opportunities, school systems must recognize that an equitable education is achieved only when each and every student realizes the relevance of their daily learning experiences and how they relate to their funds of knowledge (Martin, 1996).

This dialectical relationship between equality and difference in social justice is described in North's (2008) discussion of redistribution and recognition in society and education. North (2008) believed that in order to slow and eventually close the fast-growing achievement gap between the privileged and neglected, there must be a fair redistribution of social goods and services to level the playing field. And more often than not, a fair redistribution of social goods, North (2008) argued, must be an unequal redistribution: "More specifically, given the deep-rooted history of social inequality in the United States, some individuals and groups require more resources than others to become productive, participating citizens in our democratic society" (p. 1187).

This ideal and practice of redistribution so that everyone is treated equally, in society and in education, can directly contradict the philosophy of recognition (North, 2008). Fraser (1997) described recognition as the respect for, and appreciation and celebration of, personal and group

differences (Fraser, 1997; Fraser & Honneth, 2003). Lynch and Baker (2005) explained recognition in terms of its potential contradiction with redistribution:

> Equal respect and recognition is not just about the liberal idea that every individual is entitled to equal rights and the privileges of citizenship in the country in which they live, and indeed that we are all, in a real sense, citizens of the world. It is also about appreciating or accepting differences rather than merely tolerating them. (pp. 132-133)

In addition, recognition as an educational practice is often promoted during discussions of relevant curricula and pedagogy, and the utilization of every student's individual funds of knowledge (Martin, 1996).

Similar to the complex relationship between redistribution and recognition, the aforementioned dichotomous definition of social justice with its inclusion of the opposing forces of equality and difference, from both the societal and educational perspectives, has the potential to leave practitioners, policy makers, and researchers still pondering and chasing the answer to the question: To achieve equality must difference be sacrificed? North (2008) answered with "in short, neither recognition nor redistribution alone can make education more socially just. Students require both respect and adequate social goods to develop, pursue, and achieve their academic and life goals" (p. 1187).

The social development of students in inclusive classrooms and its connection with school conditions is directly related to this dialectic phenomenon of equality and difference. Few people would argue against two common, well-known assumptions: students have different strengths and weaknesses, likes and dislikes, learning styles and pacing comfort zones, and all students have an equal right to the best education that society can provide. If there is a link

between effective inclusion and classroom conditions, educational leaders will be able to further their understanding of how to structure their learning environments so all students have equal opportunities at a quality, well-rounded education that celebrates their individual and group differences. The end result could be a more empathic citizenry that embraces difference in the name of equality.

Chapter Two is a review of the research literature pertaining to this dissertation, specifically intergroup contact theory (Allport, 1954) and the inclusion of SWD in general education settings.

CHAPTER TWO

REVIEW OF THE LITERATURE

The purpose of this study is to create and validate a multidimensional scale that measures classroom and school conditions based on teachers' pedagogy and administrative support. A detailed discussion of the benefits of focusing on students' social development in schools, attitudes toward people and students with disabilities, the theoretical framework for this research study, the process and effects of educating students with and without disabilities together in the same classroom setting, the application of the framework to research and education, and, finally, the rationale for creating the IRCES is to follow.

Social Development in Schools

One could argue that education has two broad purposes—the academic and social development of students. Academic development, which is commonly considered the more important of the two (Cohen, 2006), includes students' cognitive and intellectual growth along with vocational training, depending on their interests and life goals; whereas, the social aspect of education encompasses the development of students' perceptions of themselves and others, which eventually shapes their ideologies and behaviors. Unfortunately in today's competitive and meritocratic educational climate, policy makers, district officials, school site administrators, and teachers often ignore explicit instructional practices pertaining to students' proper social development in order to focus solely on academic achievement, leaving the former responsibility to already overburdened families and the students themselves.

It is difficult to find arguments against the importance of students' cognitive and academic growth throughout childhood and adolescence. Many believe that academic

achievement should be the sole responsibility and objective of a child's school, and that any portion of a child's education related to social-emotional and moral development should be left to the family. On the other hand, a myriad of research supports the argument that there is more to education than academic growth and merit, such as students' social-emotional and moral development. The Collaborative for Academic, Social, and Emotional Learning (CASEL) recognized 15 different skills as fundamental tools for citizens in a free and democratic society that should be explicitly taught and imbedded in school curricula (Elias, 2009). The following five of the 15 skills/tools are directly related to social and moral development, perspective taking, and empathy: (a) recognizing strengths in self and others (b) showing ethical and social responsibility (c) greeting, approaching, and conversing with diverse others (d) taking others' perspectives and (e) perceiving others' feelings accurately (Elias, 2009).

In some instances, social development has been posited as a prerequisite for academic achievement. Elias (2009) argued that a child's social-emotional and character development (SECD) is not only as important as academic growth, but often the latter is not achieved without the former: "The very nature of school-based learning is relational, and SECD is essential for building and sustaining learning relationships of the kind needed for academic success; citizenship; a civilized, engaging, stimulating, and nonviolent classroom; and effective inclusive education" (p. 843). Gehlbach (2004) made a similar argument regarding the importance of students developing social perspective taking (SPT), insofar as SPT is connected to the development of empathy, altruism, cooperative learning skills, moral reasoning, historical understanding, and conflict resolution skills. SPT may also reduce prejudicial attitudes and beliefs. Moreover, despite the importance of SPT, there is very little research available on how

to teach SPT to K-12 students and how it can be imbedded into school curricula (Gehlbach, 2004).

The environments students grow up in, such as neighborhoods, households, schools, teams, and clubs, have lasting influences on their perceptions of others (Allport, 1954). For instance, if schools choose to label and segregate students based on perceived abilities then students may develop negative attitudes and biases toward anyone not in their group or class (Shifrer, 2013). Since this country's founding, its approach to educating people with disabilities has been one of isolation and negligence, which, as discussed below, has led to the lasting stigma of disability.

Attitudes Toward People and Students with Disabilities

Attitudes toward people with disabilities tend to vary based on the personal characteristics and experiences of the beholder. De Laat, Freriksen, and Vervloed (2013) studied high school and college students' attitudes toward people with one of four different types of disabilities—deaf, blind, paralysis, and intellectual disability (ID). Using a multidimensional definition of attitude consisting of two factors—behavior-positive affect and cognition-negative affect—found in an exploratory factor analysis of the Chedoke-McMaster Attitudes Toward Children with Handicaps (CATCH) scale, de Laat et al. (2013) investigated possible differences in attitudes toward the four types of disability and whether personal factors such as age, religion, self-esteem, gender, and "familiarity with someone with a disability are significant predictors of the respondents' attitudes toward the above mentioned four distinct groups of children with disabilities" (p. 857).

Results showed that respondents had more negative attitudes on the behavior and positive affect scale toward people with ID than those who were deaf, blind, or paralyzed (de Laat et al., 2013). On the cognitive and negative affect scale respondents had more negative attitudes toward people with ID or paralysis than those who were deaf or blind. Regarding the predictor variables, there were significant effects in all factors except religion. Participants' attitudes—both behavior-positive affect and cognitive-negative affect—toward people with disabilities improved with age; "self-esteem was a clear significant predictor for attitudes toward" only deaf and blind persons, not people with ID or paralysis (de Laat et al., 2013, p. 861); girls have more positive attitudes toward all four disabilities on the behavior-positive affect scale than boys; and frequency of contact with a person with a disability significantly predicts attitudes toward all four disabilities on both scales. Religion was the only respondent variable with no significant effects (de Laat et al., 2013). As such, personal characteristics and disability type, to a certain degree, explained a significant amount of variance in attitudes toward people with disabilities.

Attitudes toward people with disabilities can vary across cultures as well. Using a different scale to measure college-age students' attitudes toward people with ID—the Community Living Attitudes Scale for intellectual disabilities (CLAS-ID)—Sheridan and Scior (2013) investigated cultural differences in attitudes toward people with ID between British South Asians and White British. The comparison revealed British South Asians having more negative attitudes toward people with ID than White British. A portion of the findings were similar to those in de Laat et al. (2013); females were significantly more accepting of people with ID than males and prior contact with people with disabilities in general was a significant predictor of respondents attitudes (Sheridan & Scior, 2013). Yet, in contrast to de Laat et al. (2013),

Sheridan and Scior (2013) found religion to have a significant effect on attitudes toward ID. Specifically, Muslims "demonstrated less pro-inclusion attitudes" (Sheridan & Scior, 2013, p. 1245) compared to Christians, Atheists, and Hindus. These findings show that, along with personal characteristics, socialization may have an effect on attitudes toward people with disabilities.

Even though gender continues to materialize as a significant predictor of attitudes toward people with disabilities, differences in evidence have surfaced regarding prior contact as a predictor variable. Bossaert, Colpin, Pijl, and Petry (2011)—using the CATCH scale in a study of Belgian adolescents—also found females to have more positive attitudes toward peers with either physical disabilities or Autism Spectrum Disorder (ASD). The compelling evidence from this study was its stark contrast with de Laat et al. (2013) and Sheridan and Scior (2013) regarding prior contact with people with disabilities. Bossaert et al. (2011) found prior contact as not having a significant effect on attitudes; however, adolescents who were shown a video depicting students with disabilities in a positive light had more positive attitudes toward peers with disabilities than those who did not view the video. Bossaert et al. (2011) concluded that students' perceptions of their peers with disabilities may improve considerably if they are properly prepared.

It is important to note that even though there seems to be significant variance in people's attitudes toward people with disabilities and certain personal characteristics and experiences may explain portions of this variance, in the aggregate, the general public—including children—view people with disabilities "as highly undesirable partners for social interactions" (Scior, 2011, p. 2178). For decades, the field of social psychology has addressed how individual and group

differences influence social interactions, from which theoretical solutions for reducing such prejudice and discrimination have been suggested. For example, intergroup contact theory (Allport, 1954) offers an explanation as to why the stigma of disability still exists and how it can be alleviated. Next is a detailed description of intergroup contact theory (Allport, 1954) followed by a discussion of its application to inclusive educational settings.

Theoretical Framework

Intergroup contact theory emerged from the discipline of social psychology during the late 1940s, early to mid-1950s. Around that time, Gordon Allport (1954)—widely considered the father of intergroup contact theory—suggested that people place themselves and others into groups based on various similarities and differences related to personal characteristics. He believed that group formation was an individual cognitive process that involved sensory processing of individual and group behaviors, characteristics, and traits. Sometimes this categorization of people into groups was heavily influenced by "ignorance and unfamiliarity" (Brewer & Crano, 1994, p. 508) with specific groups of people and/or prejudgments caused by negative prejudice. Other times, the actual categorization itself would eventually lead to the development of prejudice. During categorization, which would happen at any moment in time, a person could place herself into an in-group while simultaneously labeling all others who were not members of the in-group as members of an out-group: "It is difficult to define an in-group precisely. Perhaps the best that can be done is to say that members of an in-group all use the term *we* with the same essential significance" (Allport, 1954, p. 31).

Examples of various in-groups are families, schools, race, ethnicity, national origin, job or trade, gender, clubs based on interests, language, sports teams, and groups of friends (Allport,

1954). Simple logic would confirm the existence of an out-group the moment a person categorized and associated herself with an in-group. However, even though prejudice toward an out-group can occur as a result of categorization and often strengthens the bond between members of an in-group (Sherif, Harvey, White, Hood, & Sherif, 1961), Allport (1954) clearly stated that the formation of an in-group by itself does not automatically create prejudice toward an out-group: "The familiar is preferred. What is alien is regarded as somehow inferior, less 'good,' but there is not necessarily hostility against it" (p. 42). Allport argued that people are not born prejudiced; it is adopted, learned, or developed as a result of various sociocultural norms that perpetuate prejudice such as childhood discipline practices, family atmosphere, overgeneralized linguistic tags, and spending significant amounts of time in segregated environments (Allport, 1954).

The Contact Hypothesis

What happens when groups meet and interact? The contact hypothesis assumes that, "If ignorance and unfamiliarity promote hostility, then opportunities for personal contact between members of opposing groups should reduce hostility by increasing mutual knowledge and acquaintance" (Brewer & Crano, 1994, p. 508). But, Allport (1954) determined that for the contact hypothesis to hold true, certain stipulations, or conditions, related to the environment in which intergroup contact takes place must be met. According to Allport (1954), for intergroup contact to result in positive effects for all groups, the following situational conditions must be present: (a) all groups must hold equal status, (b) groups must cooperate with one another, (c) groups must work toward common goals, and (d) there must be institutional support for the intergroup contact. If these conditions do not exist within and around the contact situation then

the development and/or perpetuation of out-group prejudice and hostility may result (Sherif et al., 1961). In addition, the conditions apply to any type of environment in which contact occurs, such as living quarters, the work environment (Koschate & van Dick, 2011), and schools and classrooms (Aronson et al., 1978).

Potential Effects of Intergroup Contact

While confirming the overall benefits of intergroup contact, the generalizability and transferability of its effects has been supported (Pettigrew & Tropp, 2011). Positive effects of intergroup contact could be generalized in three ways: (a) favorable attitudes toward the immediate out-group members in the contact situation may be extended to the entire out-group, also known as the primary transfer effect, (b) positive effects of intergroup contact generalize across different contact situations, and (c) the positive effects of intergroup contact help to reduce prejudice against out-groups that are not directly involved with the immediate contact situation (transferability), also known as the secondary transfer effect (Pettigrew & Tropp, 2011).

The secondary transfer effect. According to the secondary transfer effect, if a person obtains positive results from an intergroup contact situation then the positive attitudes toward the out-group directly involved in the contact situation should transfer to different out-groups during an altogether different, subsequent contact situation (Pettigrew & Tropp, 2011). In describing the significance of intergroup contact, the secondary transfer effect, and multifaceted anti-prejudice attitudes, Pettigrew and Tropp (2011) stated:

> To the extent that this process occurs, it should lead us to become less provincial in how we relate to other groups more generally. As such, it refers to the possibility that intergroup contact broadens our experience; we learn that there are other cultural

> standards and ways in which groups cope with the world besides those of our in-group with which we are familiar. (p. 34)

People who are prejudiced against one particular out-group are likely to be prejudiced against various other out-groups (Allport, 1954); therefore, one could posit the same effect for reducing prejudice. If prejudice against one out-group is reduced through intergroup contact, the positive effects may spill over to other out-groups (Allport, 1954; Pettigrew & Tropp, 2011). However, despite its tested and supported validity, the secondary transfer effect is accompanied by two main complications or counterarguments. First, "The secondary transfer effect appears to be stronger for groups that are similar to or overlapping with those with whom the respondents have had contact and weaker for out-groups who are dissimilar from the contacted out-groups" (Pettigrew & Tropp, 2011, p. 39). Second, instead of attributing positive effects to transferability, it is often argued that tolerant people simply spend more time around numerous out-groups, and prejudiced people tend to avoid intergroup contact (Pettigrew & Tropp, 2011).

The Application of Contact Theory

Not long after the initial emergence of intergroup contact theory and the contact hypothesis (Allport, 1954; Williams, 1947), a groundbreaking experiment testing the effects of contact situational conditions on intra and intergroup relations quickly gained noteworthy attention and acclaim (Sherif et al., 1961). The following is a discussion of this experiment.

The Robbers Cave Experiment. The Robbers Cave Experiment was conducted on a Boy Scouts of America campsite surrounded by the Robbers Cave State Park in southeastern Oklahoma (Sherif et al., 1961). Twenty-two Caucasian, middle-class, emotionally well-adjusted, fifth-grade, 11-year-old boys of average to above average academic standing were carefully

chosen to participate in what they believed to be a month-long camp of fun-filled activities and games. Once the 22 boys were selected and agreed to participate, they were strategically divided into two equal groups—each consisting of 11 boys—and transported to the campsite. Each group was picked up by its own buses in separate locations, driven to the site on different days, and kept completely isolated from the other group during the first phase of the experiment for reasons that will be discussed later. At no time were any of the participants aware of the ongoing experiment that included in-depth participant observation by the researchers who were disguised as camp counselors. The experiment was conducted in three phases: (a) the intragroup formation phase, (b) the intergroup competition phase, and finally, (c) the intergroup cooperation phase (Sherif et al., 1961).

During the intragroup formation phase (P1) both groups were completely unaware of the presence of the other group (Sherif et al., 1961). P1 consisted of team-building activities that were conducive to positive intragroup relations and ultimately group-member cohesion. The researchers successfully hypothesized that during P1 a natural authoritative hierarchy would develop within both groups with no assistance from camp staff, and group members would grow fond of one another resulting in positive intragroup dynamics. The two groups, self-titled the Rattlers and the Eagles, were finally made aware of each other's presence at the end of P1 as a transition to the intergroup competition phase (P2). P2 consisted of various intergroup competitions that resulted in fierce animosity between groups. Toward the end of P2, even during times of rest and relaxation, members of the Rattlers and the Eagles would argue and fight with one another demonstrating increased out-group prejudice and in-group pride and cohesion. During the last phase of the experiment—the intergroup cooperation phase (P3)—camp staff

members (i.e., the research team) strategically placed both teams together in seemingly troublesome situations that required full cooperation between groups in order to safely manipulate their way out of the dilemma. Due to the sudden transition to having common goals, practicing cooperation, and believing in equal status among members of both groups, despite the built-up animosity between the Rattlers and the Eagles, P3 resulted in a significant improvement in intergroup attitudes (Sherif et al., 1961).

The Robbers Cave Experiment explained three main concepts that are relevant to the current study (Sherif et al., 1961). First, if two different social groups with no prior history of contact are placed in an environment where the situational conditions are constructed to promote competition—in stark contrast with cooperation—then the intergroup contact will likely result in animosity between the groups. Second, if two social groups with pre-existing hostile attitudes toward one another are placed in an environment where the situational conditions are constructed to promote common goals among both groups, cooperation between the groups, equal status among all group members, and institutional support for the contact, then the intergroup contact will likely result in alleviation of the pre-existing hostile attitudes. And third, the success of the contact relies profoundly on the precision with which the authority figures—i.e., the researchers/counselors—manipulate the malleable situational conditions in favor of positive intergroup contact (Sherif et al., 1961).

Contact theory and the contact hypothesis quickly became a popular method of attempting to reduce prejudicial attitudes. A myriad of empirical studies of many different types of contact—people of different races, religions, sexual orientations, ages, and disabilities (Johnson, Johnson, & Maruyama, 1983; Johnson, Johnson, & Rynders, 1981)—emerged over the

course of six decades (Pettigrew & Tropp, 2006, 2011). The following is a review of a particular line of research within the contact literature that pertains to the current study—intergroup contact between GES and SWD in educational settings.

Including SWD in General Education Settings

Not long after the passing of the Education for All Handicapped Children Act (1975), which caused schools and districts to include greater numbers of SWD in general education classrooms (National Center for Education Statistics, 2013a, 2013b, 2013c), researchers aspired to apply contact theory to investigate the social and academic effects of inclusion with increased vigor. In an experiment measuring GES' acceptance and rejection of SWD, teachers of 37 third, fourth, and fifth grade classrooms—each containing one SWD (in this experiment the SWD were labeled as "educable mentally retarded")—separated their students' into groups of four to six children and assigned each group a multi-media project to be completed in class over the course of eight weeks (Ballard et al., 1977, p. 605). Before, during, and after the projects, GES' levels of acceptance and rejection of the SWD were measured. The results determined that GES who worked with SWD showed significant increases in acceptance and decreases in rejection, whereas the GES in the control groups—those who did not work with SWD—actually showed significant decreases in acceptance and increases in rejection of the SWD (Ballard et al., 1977).

In a slightly different setting, Johnson, Rynders, Johnson, Schmidt, and Haider (1979) sought to explore the effects of three different goal structures (independent variable)—cooperative, individualistic, and laissez faire—within inclusive learning environments on students' attitudes toward their peers. Thirty junior high school students (ages 13 to 16) in a bowling class that met for one hour per week over the course of six weeks were randomly

assigned to one of three conditions, stratifying for sex and disability. Twelve of the 30 participants "were classified as mentally retarded" (Johnson et al., 1979, p. 162). The students in the cooperative condition (n = 10) were told their individual efforts will be pooled together toward one overall group score; the students in the individualistic condition (n = 10) were told to bowl for themselves and try to earn the highest individual score; and, the students in the laissez-faire condition (n = 10) were provided no instructions except to start bowling. In order to assess the effects of the six-week treatment, Johnson et al. (1979) measured "interpersonal interaction and attraction" (p. 161) between students with and without disabilities via observation. Findings showed more positive intergroup interactions in the form of "support, praise, encouragement, concern, and acceptance" (Johnson et al., 1979, p. 165) in the cooperative condition than in the individualistic and laissez-faire conditions.

A line of research in the early to mid 1980s consisting of six separate studies, investigated student attitudes and achievement in cooperative versus individualistic learning environments that included GES and SWD (Armstrong et al., 1981; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981). All six studies used the same experimental design with slight variations in sample size, age of participants, type of disability, length of treatment, and dependent variables. The sample sizes ranged from 30 to 51 students (M = 40) and the various grade levels used across the six studies were third through sixth and high school juniors. The number of SWD in each sample ranged from six to 12 (M = 9.6) and the mean percentage of SWD within each overall sample was 24%, making each GES to SWD ratio approximately three to one. If a sample was not pulled from one school then it was pulled from two to three schools within the same district. The SWD in these studies were

diagnosed with moderate to severe learning disabilities, behavioral disorders, emotional disorders, or a severe hearing impairment (Armstrong et al., 1981; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981). Three of the six SWD in Johnson and Johnson (1982) were classified as "educable mentally retarded" (p. 260).

All six studies randomly assigned students to either a cooperative learning condition where students worked together in small groups—each containing at least one SWD—or the individualistic learning condition where students with and without disabilities worked independently (Armstrong et al., 1981; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981). Stratified sampling was used to ensure that each condition had equal numbers of SWD, males and females, and low, medium, and high-performing GES. Johnson and Johnson (1984a) added stratification for social class. To control for teacher quality, both teachers in each study switched conditions halfway through the treatment (Armstrong et al., 1981; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981).

The academic tasks required of the students were identical between conditions within each study but varied across the six studies (Armstrong et al., 1981; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981). The list of academic tasks included reading comprehension and vocabulary, social studies assignments within units on Native Americans and "the Boundary Waters Canoe Area of Minnesota", and mathematics assignments. The range of treatment duration varied from 15 to 20 consecutive school days (M = 16.3) and 25 to 90 minutes per day (M = 55.8). The dependent variables measured among the six studies were student social status, instructional and free-time intergroup interaction, off-task

behavior, social schema and distance-density measures of interpersonal attraction, participation and active involvement in learning, attitudes toward learning and the classroom environment (Talmage & Waxman, 1980), intergroup helping, cohesion (Anderson, 1973), perceptions of higher thought processes (Stelle, House, Lapen, & Kermis, 1970), perceptions of intergroup academic support and encouragement for learning, intergroup perspective-taking, intergroup liking, perceptions of task difficulty, and academic achievement (Armstrong et al., 1981; Johnson, D. W., & Johnson, R. T, 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981).

Across the board, results from the six studies show that, when SWD and GES were educated in the same classroom, both groups of students benefited from a cooperative, rather than an individualistic, learning environment (Armstrong et al., 1981; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981). When the findings are disaggregated according to dependent variable, results show that in the cooperative learning condition, as compared to the individualistic condition, there were significantly more positive intergroup attitudes, intergroup friendships, and intergroup interactions that included academic help, support, and encouragement for learning. In addition, students demonstrated higher rates of accurate intergroup perspective taking and self-efficacious attitudes, SWD participated more often and were more actively involved in learning, and students perceived greater levels of higher-order thinking in the cooperative condition as opposed the more competitive individualistic condition (Armstrong et al., 1981; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981).

In all but one study, students with and without disabilities in the cooperative condition showed higher levels of academic achievement compared to both groups of students in the individualistic condition (Armstrong et al., 1981; Johnson & Johnson, 1982, 1984a). Johnson and Johnson (1984b) found no differences in academic achievement between the two conditions when students with and without hearing impairments were together in the same classroom. This can be interpreted one of two ways; either the independent variable (i.e., cooperative versus individualistic learning) had no effect on student learning or cooperative learning actually nullified the typically frustrating and cumbersome communication struggle between students with and without hearing impairments (Johnson & Johnson, 1984b).

Another discrepancy within these six studies is the finding related to off-task behavior. Johnson, D. W., and Johnson, R. T., (1981) found more off-task behavior in the individualistic condition compared to the cooperative condition while Johnson, R. T., and Johnson, D. W., (1981) found no difference between the two conditions. However, these contrasting findings could be interpreted as support for cooperative learning environments. More off-task behavior in the individualistic condition could be interpreted as a negative effect caused by boredom and disengagement; whereas, no difference between the two conditions could be interpreted in a positive way, such that including SWD (i.e., behavioral disabilities) does not distract the GES in the group. Lastly, the findings of these six studies need to be interpreted with caution. All six studies had small sample sizes and, despite the overall positive effects cooperative learning had on inclusion, SWD were "perceived to be less pleasant, less likeable, less valuable, and less smart" (Armstrong et al., 1981, p. 106) when compared to GES; and, SWD were "stigmatized and perceived negatively by their peers" (p. 107).

The early studies of integrating SWD into general education settings were continually replicated with slight variations in methodology. Ronning and Nabuzoka (1993) followed with a similar research study that produced moderately different, yet positive results. GES and SWD were integrated and then placed into one of two settings: either the experimental setting or the natural school setting. Both settings consisted of periods of free play as well as structured activities that were either led by the classroom teachers or the GES present in the group. Prior to the onset of the study, GES were trained on how to conduct these activities properly. Ronning and Nabuzoka (1993) found that the interactions between the GES and SWD were generally positive, with a few instances in the natural settings where the SWD demonstrated slight anti-social behaviors toward the GES. The pro-social behaviors were very pronounced when initiated by the GES and the teachers were structuring the activities (Ronning & Nabuzoka, 1993). Similar to the previously reviewed research (Armstrong et al., 1981; Ballard et al., 1977; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson et al., 1979; Johnson, R. T., & Johnson, D. W., 1981), this study demonstrated that structured and properly manipulated classroom conditions enhance the positive effects of educating students with and without disabilities together in the same setting (Ronning & Nabuzoka, 1993).

As findings about the positive effects of inclusion were disseminated, schools began creating their own programs that integrated SWD into general education settings, and these programs became ideal sites for additional research. Maras and Brown (1996) conducted a study of such a program. Once a week for three months, a group of 50 primary school students, ages eight to ten—slightly less than half were SWD, both physical and cognitive—were integrated into a general education classroom environment. The program was structured and supervised by

both general and special educators so the children could both play and learn together in a structured environment. Measures of perceptions of physical and psychological attributes, affect and liking, and desire to play with classmates were administered three separate times over the course of the three-month study. Results showed that the GES who interacted with the SWD (experimental group) demonstrated significant increases on all measures; whereas, the GES who did not interact with the SWD (control group) demonstrated no significant changes on the three measures (Maras & Brown, 1996). In other words, desire to play with, liking for, and perceptions of attributes of SWD all increased positively when GES interacted with SWD in the classroom setting.

Thus far, the research on educating students with and without disabilities in inclusive educational settings—specifically the studies that measured GES' attitudes toward and perceptions of SWD—yielded fairly positive results. However, later studies with mixed findings manifested the importance of the situational conditions surrounding the classroom setting and their affect on GES' attitudes toward SWD. These situational conditions include equal status among different groups, cooperation between groups, common goals among groups, and institutional support for these three conditions. Maras and Brown (2000) investigated GES attitudes toward SWD within two different school models with opposing philosophies toward inclusion. The approach to inclusion in the first school model was described as categorized (Hewstone & Brown, 1986). The categorized contact philosophy posited that highlighting differences between groups and clearly defining boundaries would promote and celebrate individuality and ultimately create positive intergroup attitudes (Hewstone & Brown, 1986). The second inclusion model, described as a decategorized approach, attempted to dissolve the lines

that define differences between groups (Brewer & Miller, 1984). The results of the study suggested that even though GES in the decategorized model of inclusion demonstrated better attitudes toward SWD than the GES in the categorized model, all GES' from both models had far from ideal attitudes toward SWD (Maras & Brown, 2000). Maras and Brown (2000) explained this intergroup disharmony as schools' lack of attention given to school and classroom conditions, particularly those related to intergroup relations such as equal status, cooperation, common goals, and institutional support (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947).

After decades of increased inclusionary practices in K-12 schools and classrooms across the U.S. (National Center for Education Statistics, 2013a, 2013c) and research on educating students with and without disabilities together in the same settings, a dipstick assessment was conducted in order to evaluate progress—or lack thereof—related to children's attitudes toward their peers with disabilities. Meta-analytic data that purposefully excluded intervention studies because "attitudes measured after an intervention are expected to be more positive than those held by children who have not been exposed to these specific programs" and are often not "indicative" of those in typical, everyday classrooms (Nowicki & Sandieson, 2002, p. 245), showed that school-age children still had more favorable attitudes toward children without disabilities and GES' attitudes toward SWD were negatively biased. Yet, the same data determined that GES who were educated in inclusive classrooms demonstrated more favorable attitudes toward SWD compared to GES educated in non-inclusive environments (Nowicki & Sandieson, 2002). These mixed findings show that despite efforts to include SWD in general education settings and improve upon teachers' and administrators' inclusive practices by

implementing up-to-date, research-based pedagogy, around the beginning of the 21st century, the stigma of disability, by and large, still existed in K-12 schools and classrooms. Nevertheless, efforts to answer looming questions, uncover explanations, and create new approaches continued.

In an intervention study that used structured pedagogical strategies (treatment) to promote equal status, cooperation, and common goals among students, Wong (2008) concluded that educating GES and SWD together in the same setting led to an increase in GES' positive attitudes toward SWD only if the classroom conditions were manipulated by the teacher and contained equal status, cooperation, and common goals among both groups of students.

Three types of classrooms in Hong Kong were utilized in this study: (a) fully inclusive classrooms that did not receive the treatment, (b) non-inclusive classrooms that did not receive the treatment, and (c) fully inclusive classrooms that received the treatment (Wong, 2008). The treatment consisted of ongoing structured activities run by the classroom teacher that promoted equal status, cooperation, and common goals among the GES and SWD (Wong, 2008). All GES from the three types of classrooms were administered a scale that measured their attitudes toward people with disabilities (Pearson, Wong, & Hui, 2003).

The results of the first comparison concluded that GES in inclusive classrooms without the treatment did not differ from GES in non-inclusive classrooms in their overall attitudes toward people with disabilities. Wong (2008) attributes these findings to the competitive atmosphere in Hong Kong schools:

> Although Hong Kong students might share the common goal of attaining academic achievement, they have to compete with each other and achieve in a highly individualistic

> manner. Educational cultures that have a strong achievement orientation foster a strong sense of rivalry and elitism in the classroom. (p. 77)

The findings in this first comparison suggest that a classroom environment containing two very distinct social groups such as GES and SWD—especially when one of the groups has a history of being stigmatized—that is structured on the promotion of competition, individualism, and meritocracy, as opposed to cooperation, collectivism, common goals, and equal status, will ultimately perpetuate any existing prejudicial attitudes or stigma (Wong, 2008).

The findings in the second comparison are different from those in the first (Wong, 2008). In the second comparison, the treatment group was compared to both the non-inclusive classroom and the inclusive classroom without the treatment. Results indicate that GES who received the treatment had significantly higher positive attitudes toward SWD than the GES in both the non-inclusive group and the inclusive group that did not receive the treatment (Wong, 2008). These findings strongly support the importance of teachers controlling the classroom conditions within inclusive educational environments in order to promote equal status, cooperation, and common goals among students; otherwise, as shown in research conducted in natural classroom settings, teachers' lack of explicit attention to these conditions could potentially perpetuate prejudicial attitudes and stigma toward SWD.

In contrast with the findings discussed above, there have been instances when contact with SWD in a naturalistic, unfettered school or classroom setting improved GES intergroup attitudes. For example, Kalyva and Agaliotis (2009) investigated the social inclusion of students with physical disabilities (PD) in Greece, a country with a nationwide policy that promotes full inclusion in its schools. Thirty sixth-grade students from a school containing one student who

was paralyzed from the waist down and in a wheelchair acted as the treatment group and a different set of 30 sixth graders from a school with no students with PD acted as the control group. All 60 participants were asked to complete two questionnaires that measured their understanding of PD and attitudes toward students with PD. Results show that students educated in the same school as the student in the wheelchair had higher levels of understanding of PD and more positive attitudes toward students with PD. Limitations of this study included the possibility of social desirability bias playing a role in GES' responses on self-report questionnaires, the inclusion of only one type of disability, predetermined groups and no random assignment, and the treatment group contained only one student with a PD, which limited the amount of intergroup contact (Kalyva & Agaliotis, 2009). Even though, in this case, the GES benefited from contact with a student with a PD, the overwhelming majority of research highlights the importance of manipulating and having control over the situational conditions in and around inclusive educational settings.

The Role of the Teacher

Similar to the aforementioned research that highlighted the importance of teachers and their role in creating and maintaining a classroom environment conducive to positive intergroup contact between students with and without disabilities, findings from two famous social psychological experiments in the 1960s also offered rather compelling evidence of the significant impact teachers and stigma have on students. In an attempt to empirically study self-fulfilling prophecies and expectations in educational settings, Rosenthal and Jacobson (1966) randomly assigned elementary students to one of two groups. Students in the first group (treatment group) were labeled as bloomers, meaning they had tremendous academic potential, whereas students in

the second group (control group) were labeled as non-bloomers, meaning they had very limited academic potential. The teachers were made aware of these labels/expectations, not the students; but, in reality, the labels were arbitrary and there was no difference in intellectual capacity between the two groups of students. Over the course of the school year, despite the fact that these two groups of students did not actually differ in academic potential from one another, students labeled as bloomers showed significantly larger gains in intelligence quotient (IQ) scores than the non-bloomers. The results of this experiment demonstrate that teachers subconsciously transfer their expectations and pre-conceived notions, both positive and negative, to their students and these expectations can have a significant effect on students (Rosenthal & Jacobson, 1966).

The second experiment was not as much an empirical research study as it was an instance of one practitioner applying the scientific method in order to investigate a phenomenon of interest. In the spring of 1968, in response to the assassination of Dr. Martin Luther King, Jr., a third grade teacher by the name of Jane Elliott conducted an experiment with her students. The goal of the experiment was to have her students experience the torment of discrimination (Peters, 1987). She told her students that melanin, the chemical that determines eye color in humans, also determines intelligence. Mrs. Elliott deceived her students by telling them that brown-eyed people had more melanin than blue-eyed people and were therefore more intelligent. As time passed, she observed students' rapid changes in behavior; brown-eyed students teamed up together and overtly discriminated against their blue-eyed classmates, calling them names and making fun of them. According to Mrs. Elliott, many blue-eyed students who were usually confident and high achieving, acted passively toward their classmates and began to struggle with

classwork (Peters, 1987).

After the changes in attitudes were overwhelmingly apparent, she switched the roles and convinced the class that the opposite was true, that blue-eyed students were superior to brown-eyed students (Peters, 1987). The interesting finding from round two was that blue-eyed students were not as cruel to their classmates as the brown-eyed students had been, partly due to the fact that blue-eyed students experienced discrimination and probably felt a certain level of empathy for the newly labeled subordinates (Peters, 1987). These two experiments demonstrate that, both consciously and subconsciously, teachers can affect the classroom environment and ultimately students' attitudes toward academics and each other. Student-to-student out-group prejudice can also harm students' social and academic development.

Over 20 years after the inception of contact theory, a group of researchers from the University of Texas, Austin, created and tested a pedagogical practice that applied the tenets of the contact hypothesis during Austin's efforts to desegregate their public schools in the late 1970s (Aronson et al., 1978). The following is a description of this influential research study and its relationship to the teacher's vital role in facilitating intergroup contact in classroom settings.

The Jigsaw Method. Seeing the relevance of intergroup contact theory to educational settings coupled with the growing amount of diversity within U.S. schools and classrooms, Aronson, Blaney, Stephan, Sikes, and Snapp (1978) saw an opportunity and created a classroom methodology titled the Jigsaw Method, which was based on the tenets of the theory and focused on harnessing the optimal contact conditions within classrooms. In the Jigsaw Method, a teacher first strategically creates small heterogeneous groups of three to seven children—the ideal

number is four to six—within her classroom; if constructed properly, each group contains students of varying skills, learning modalities, interests, genders, and races. Diversity within groups is a necessity for the Jigsaw Method to be effective (Aronson et al., 1978; Aronson & Patnoe, 2011).

Once groups are constructed and students have time to acclimate—often times the students know each other already—the teacher assigns a project (the puzzle as a whole) to her entire class (Aronson et al., 1978; Aronson & Patnoe, 2011). The project can be related to any subject; for example, it can be a report on Harriet Tubman, a science experiment, or a problem set in math. All heterogeneous groups within the class are assigned the same project with the same objective; therefore, in its entirety, the project represents the common goals condition of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947). The overlying project is multidimensional so that different individual parts, or tasks (pieces of the puzzle), are parceled out to students; and, if structured properly, the project is completed only when these individual parts are fused into one final product—hence the Jigsaw Method (Aronson et al., 1978; Aronson & Patnoe, 2011).

Each individual task within the project has its own unique characteristics, content, and objective that directly align to the project's common goal and is assigned to exactly one group member, preferably based on her strengths, skills, and interests (Aronson et al., 1978; Aronson & Patnoe, 2011). Once students have their individual tasks, the heterogeneous groups temporarily adjourn and students form new homogeneous groups consisting of students with the same individual task. In these new groups, students work together to learn, complete, and master their individual tasks and any related content. When students finish their individual tasks with the

help of their homogeneous group members, students return to their heterogeneous groups and they are responsible for teaching the rest of the group the material from their individual tasks. Aronson et al. (1978) highlighted the importance of creating tasks that align to the project's common goal yet contain separate material so that every student is provided the chance to act as teacher/tutor and share her newly acquired expertise with the rest of the group. In addition, this portion of the Jigsaw Method is crucial because every group member is tested on all project material covered in the various individual tasks; very little material overlaps between the different individual tasks and, in relationship to the final, overarching project assessment for which every student in the class is responsible, no individual task is more or less important than the others. By assigning separate tasks of equal importance and granting each student the responsibility of teaching their topics to the rest of the group, the Jigsaw Method adheres to the equal status, cooperation, and common goals conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947).

After creating the Jigsaw Method, the next step for Aronson et al. (1978) was to implement it in actual classrooms and test its effectiveness. Being that alleviation of out-group prejudice was the focus of the contact hypothesis, Aronson et al. (1978) found it necessary to measure both students' attitudes toward fellow group members and their attitudes toward students in other project groups within the class. Student attitudes were measured before and after implementation of the Jigsaw Method, and results showed that students' attitudes toward fellow classmates improved significantly over the course of the implementation, especially toward the students in their project group. In the same pretest-intervention-posttest fashion, Aronson et al. (1978) also measured students' attitudes toward school in general and their

academic progress. Findings showed that after experiencing the Jigsaw Method in the classroom, students had a more positive outlook toward school and education, and their rate of academic progress increased (Aronson et al., 1978).

The findings of the empirical research discussed earlier in this chapter (Armstrong et al., 1981; Ballard et al., 1977; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson et al., 1979; Johnson, R. T., & Johnson, D. W., 1981; Maras & Brown, 1996, 2000; Ronning & Nabuzoka, 1993; Wong, 2008), along with those of the famous Robbers Cave Experiment and Jigsaw Method, provide several key pieces of evidence that pertain to intergroup contact between students with and without disabilities in educational settings and the current research study. First, "Simply placing" SWD "into the regular classroom does not seem to be enough to build positive relationships between them and their" peers without disabilities (Johnson, D. W., & Johnson, R. T., 1981, p. 344). This finding segues directly into the second, which is the importance of teachers and administrators creating and sustaining the optimal situational conditions of the contact hypothesis in educational settings, especially inclusive schools and classrooms. Lastly, due to the complex evolution of the list of conditions and the theoretical overlap in their operational definitions, challenges related to measuring these conditions within schools and classrooms plagued the research literature. The following is a discussion of the evolution of, past researchers' operational definitions of, and attempts at empirically measuring, the optimal situational conditions of the contact hypothesis.

Iterations of the Optimal Contact Conditions

Contact theory was originally postulated with four conditions—(a) equal status, (b) cooperation, (c) common goals, and (d) institutional support (Allport, 1954)—right around the

period of *Brown v. Board of Education* (1954). Since the seminal research involving the four conditions, the framework has been tested in many studies, prompting the theoretical debate about the number of conceptually distinct conditions for optimal contact. For example, Cook (1985) later postulated five contact conditions: (a) equal status among groups, (b) behaviors must disconfirm stereotypes that the groups hold of each other, (c) cooperative interdependence, (d) high acquaintance potential promoting intimate contact, and (e) social norms favoring intergroup acceptance. The latest iteration from Aronson et al. (2013) proposes six contact conditions: (a) equal status, (b) mutual interdependence, (c) common goals, (d) a friendly and informal setting, (e) typical of their out-group and multiple members, and (f) social norms promote and support equality. Because of the lingering debate about the conceptual distinction among these constructs, and which are different and which are the same conditions across these three iterations, a theoretical and practical description of each condition, its evolution over time, and how it has been measured in the literature to date is warranted.

Equal Status

The three versions, or interpretations, of the contact conditions share one commonality—the equal status condition (Allport, 1954; Cook, 1985; Aronson et al., 2013). Unfortunately, social inequality has been, and remains, a mainstay throughout U.S. history; as a result, intergroup contact often begins with imbalance where one group of people holds higher, artificially constructed status over the other. This unequal group status only perpetuates out-group stigma and prejudice; therefore, structuring contact situations according to the equal status condition involves "giving members of each group equal opportunities to participate in activities, offer opinions, make decisions, and receive access to available resources" (Pettigrew & Tropp,

2011, p. 62). For equal status to be created and maintained, each group must "have the opportunity, ability, and power to shape the rules of the interaction" (Pettigrew & Tropp, 2011, p. 62).

Several studies of differing contact situations (i.e., interracial dynamics) attempted to measure equal status. For example, the following are two items (out of 9) that assessed equal status in a study of interracial relations within middle schools: (a) "All students at this school are treated equally", and (b) "Teachers at this school are fair to both black and white students" (Green, Adams, & Turner, 1988). Molina and Wittig (2006) referred to this condition as "equal treatment" and defined it as "the extent to which the (ethnic or cultural) groups in a particular setting are perceived to receive equal treatment" (p. 494). They adapted the school-wide scale developed in Green, Adams, and Turner (1988) to make it classroom specific. The equal treatment subscale used in Molina and Wittig (2006) included the following three items: (a) "In this class, the teacher is fair to students of all races", (b) "All students in this class are treated equally", and (c) "In this class, the teacher pays attention to students of all races" (p. 494). In a study of intergroup relations within the work place, Koschate and van Dick (2011) measured equal status by asking participants to rate—using a scale of zero to four—both their in-group and another out-group within the company on their reputations at the organization. A smaller difference between the two ratings acted as the measure of equal status (Koschate & van Dick, 2011).

Applying the concept of equal status to the classroom setting, we might take the common pedagogical practice within classrooms, peer tutoring, as an example. While this technique encourages contact among students, it actually places students into a contact scenario of unequal

status in that the student with more content ability is asked to teach the other student without that ability. In their flagship study, the Jigsaw Method—a study of interracial relations—Aronson and colleagues (1978) did not measure the conditions but carefully manipulated classroom projects and practices to align to the conditions. They carefully manipulated the classroom environment so that all students had equal opportunities to act as content experts, thus demonstrating how equal status might be obtained in a classroom (Aronson et al, 1978). Yet, measuring the existence of equal status within the classroom has still not occurred from the perspective of teachers who control the potentially malleable conditions of contact.

Cooperation

The essence of cooperation lies in the ability of members of different groups to work well together, rather than compete. In this way, people of different groups depend on one another to reach the desired outcome. When members of different groups have the same common goal and are working together to achieve it, they are engaging in cooperation. Furthermore, "a cooperative social situation is one in which the goals of the separate individuals are so linked that there is a positive correlation among their goal attainments" (Johnson et al., 1983, p. 7). The cooperation condition of the contact hypothesis has also been described in contrast with competition between groups (Sherif et al., 1961). When groups are mutually interdependent on one another, the common goal cannot be achieved if one group does not work in concert with the other. Each group must complete its allotted task, and if one group does not, the common goal of both groups is not obtained (Koschate & van Dick, 2011). Therefore, each group is invested in the success of the other group and everyone is more willing to help and support members of the out-group (Sherif et al., 1961).

Most researchers carefully manipulated the cooperation condition (Johnson et al., 1979) while a few others attempted measurement (Islam & Hewstone, 1993). An example of a researcher/teacher controlled cooperative learning environment would be Ballard and colleagues' (1977) aforementioned classroom experiment using students with and without disabilities as the intergroup contact. As explained earlier, the experimental groups consisted of students with and without disabilities while the control groups contained no SWD. Each small group was assigned an eight-week multimedia project that required all group members' help and cooperation. Results showed that after the project, the attitudes of students without disabilities toward the SWD were more positive and less biased in the experimental groups compared to the control groups (Ballard et al., 1977).

Some studies have attempted to measure cooperation. In their School Interracial Climate Scale (SICS), Green et al. (1988) measured interdependence—another term used in the literature for cooperation—with a 15-item subscale. The following are a few sample items from the subscale: (a) "Black and white students in this school need each other", (b) "Students at this school think it's good to get to know other students of different races", and (c) "Blacks and whites have important things to offer each other" (Green et al., 1988, p. 250). Molina and Wittig (2006) used an adaptation of the SICS interdependence subscale in place of cooperation, defining interdependence as "people of various groups working together and toward a common goal" (p. 494). Their interdependence subscale contained the following three items: (a) "Students of different races in this class are all working together for the same things", (b) "Students of different races in this class work well together during student activities", and (c) "In this class, students like to have friends of different races" (Molina & Wittig, 2006, pp. 494-495).

In an altogether different context, in order to measure cooperation between groups of adults within the work place, Koschate and van Dick (2011) adapted a scale that was originally developed to assess project team cross-functional cooperation (Pinto & Pinto, 1990). This work place scale included sample items from the 13-item subscale: (a) "If disagreements arise, the other work group and my work group are usually able to resolve them", (b) "A friendly attitude exists among the other work group and my work group", (c) "When problems arise, the other work group and my work group search for solutions that are agreeable to each work group" (p. 778). Common across these items, however, is that they are limited by not testing for distinct conditions. Rather, researchers measured the condition of cooperation as interdependence and friendliness, without testing for a conceptual distinction; these items were also from the view of the groups in the contact situation rather than the authority figure. It is important to note that Allport (1954) and Aronson et al. (2013) had common goals and cooperation—Aronson et al. (2013) simply substituted the term cooperation with mutual interdependence—as two separate constructs whereas Cook (1985), along with other contact theorists (Johnson et al., 1983), combined them into cooperative interdependence, which he saw as a "mutually interdependent relationship" with "cooperation in the achievement of a joint goal" (Cook, 1985, p. 453).

Common Goals

Two or more social groups working toward a common goal tend to lead to positive intergroup relations (Aronson et al., 2013; Brewer & Crano, 1994; Pettigrew & Tropp, 2006); however, Koschate and van Dick (2011) wisely distinguished two types of common goal conditions—positive and negative goal interdependence. A positively interdependent goal is reached when all groups achieve the objective, "a win-win situation"; negatively interdependent

goals may be common across the different social groups, but only one group is entitled to the end prize while creating a competitive, "win-lose" situation (Koschate & van Dick, 2011, p. 771).

Regardless of the absence of empirical measurement and reliance on researcher manipulation, the famous Robbers Cave Experiment and the Jigsaw Method are perfect examples of intergroup contact consisting of common goals (Aronson et al., 1978; Sherif et al., 1961). When researchers in Robbers Cave secretly sabotaged the camp bus in order to stage a mechanical breakdown, the two groups of 11-year-old boys who had been furiously feuding for weeks were forced to team together to fix and push the bus back to headquarters so that the two groups were not stranded overnight—a common goal that benefited every camper no matter the group affiliation (Sherif et al., 1961). In addition, the Jigsaw Method projects were designed so that each group had one common objective and that objective was divided into individual portions of equal value where each group member had an independent responsibility; this way the common goal was not obtained unless each independent job is completed (Aronson et al., 1978).

The common goals condition was previously measured in a work place study by Koschate and van Dick (2011), assessed by the following four items: (a) "The other work group and my work group receive feedback about our collective performance", (b) "The other work group and my work group receive regular feedback about our collective functioning", (c) "The other work group and my work group receive information about what is expected from our collective performance", and (d) "The other work group and my work group are collectively held accountable for our collective performance" (p. 778). These items, however, measure the conditions from the viewpoint of those within the contact situation, rather than from the authority

figure, and Koschate and van Dick's (2011) research was applied to a work place scenario and not schools, thus leaving room for this study applied to classrooms and measuring conditions from the view of the authority figure—the teacher.

Institutional Support

For a contact situation to have institutional support, the authorities in charge—or powers that be—must wholeheartedly endorse the intergroup contact by supporting and helping to create equal status among groups, maintain a cooperative environment, and forge the pursuit of common goals. People with decision-making power and influence must be in full support of the contact for positive, prejudice and stigma-reducing results to ensue (Pettigrew & Tropp, 2011). For example, a teacher who believes all students are capable of learning may engage in activities to create the conditions of contact theory within her classroom in order to ensure a safe learning environment for all students. Or a principal who advocates for inclusive education will likely work to admit SWD into her school, place them into classrooms with GES, and require her teachers to create the optimal situational conditions of intergroup contact (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947) within their classrooms in order to ensure a safe learning environment for all students.

Many studies do not measure the condition of institutional support. It has been assumed that if the conditions are highly controlled by researchers or trained school personnel, then there is full institutional support for the contact. Koschate and van Dick (2011) claim that "authority support is often inferred rather than measured since many studies testing the authority support assumption feature structured contact programs" (p. 776). Thus, we must review the few studies

that have measured—via survey—the institutional support construct as pertinent to the contact situation.

Returning once again to the SICS, Green et al. (1988) chose to substitute the term institutional support with "supportive norms" (p. 250), claiming that the two constructs are interchangeable; their supportive norms subscale contained 10 Likert scale items. The following are example items: (a) "Teachers here like for students of different races to get along", (b) "Teachers encourage students to make friends with students of different races", and (c) "My principal and assistant principals think that all students should be friends" (Green et al., 1988, p. 250). Molina and Wittig (2006) stated that "institutional support emphasizes the importance that authorities play in establishing and maintaining norms that encourage individuals to overlook their (group) differences and interact with one another" (p. 495). They adapted the SICS supportive norms subscale and used the following three items: (a) "The teacher in this class encourages students to make friends with students of different races", (b) "This is a class in which everybody is encouraged to be friends", and (c) "The teacher in this class likes students of different races to understand each other" (Molina & Wittig, 2006, p. 495). To measure institutional support, Koschate and van Dick (2011) asked the work place managers (authority figures) in an interview "how often they support their employees in cooperating with another work group" and "how strongly they support their employees when problems arise between work groups" (p. 776).

Existing measures substitute this condition for a similar construct—social norms. However, according to Cialdini and Trost (1998), social norms are a distinct construct, specifically defined as the perception of accepted and expected behavior. In this way, both

institutional support for contact situations as well as the expected behavior of groups (norms) may contribute to positive attitudes toward members of other groups.

Additional Conditions

Initial work by Williams (1947) inspired Allport's (1954) contact hypothesis and included the notion of interpersonal closeness within a contact situation. As such, the first addition to Allport's original list of conditions was acquaintance potential (also known as intimate contact or friendly, informal setting) (Aronson et al., 2013; Cook, 1985). For a contact situation to contain acquaintance potential between groups, "it must promote association of a sort that will reveal enough detail about members of the disliked group to encourage seeing them as individuals rather than as persons with stereotyped group characteristics" (Cook, 1985, p. 453). The contact situation must provide the opportunity for people to get to know, and learn more about, individual members of other groups. This condition can be equated to an environment that allows for ongoing social interaction and conversation.

The second addition to the list was Cook's (1985) disconfirming stereotypes—Aronson et al. (2013) referred to this as typical of their out-group. Cook (1985) states "that attributes of the disliked group that become apparent during the contact must be such as to disconfirm the prevailing stereotyped beliefs about this group" (p. 453). In other words, if the disconfirming stereotypes condition is present in a contact situation, characteristics of out-group members falsely preconceived by members of the in-group—i.e., prejudice, stigma, and stereotypes—should be dispelled during the intergroup contact. Aronson et al. (2013) added that multiple out-group members must be present during contact in order for positive effects to be generalizable.

Measuring these additional conditions of intimate contact and disconfirming stereotypes has been largely neglected in the literature.

Implementation and impact of the conditions. Until recently, most researchers believed all the aforementioned situational conditions to be absolutely necessary for groups to benefit from intergroup contact. A meta-analysis conducted of all intergroup contact research from 1940 to December of 2000 determined that the presence of all optimal situational conditions does enhance the effects of intergroup contact, but is not completely necessary for groups to benefit from contact (Pettigrew & Tropp, 2006). In addition, Pettigrew and Tropp (2006) found institutional support to be of particular importance to positive intergroup contact; however, "this condition should not be conceived of or implemented in isolation" (Pettigrew & Tropp, 2006, p. 766). "Institutional support for contact under conditions of competition or unequal status can often enhance animosity between groups, thereby diminishing the potential for achieving positive outcomes from contact" (Sherif as cited in Pettigrew & Tropp, 2006, p. 766). Further research by Tropp (2006) found that in order to alleviate and eventually eradicate existing prejudice against an out-group that is considered a minority group, the members of the in-group, or majority group, must fully understand their history of prejudice against the minority out-group. This combination of optimal contact conditions and historical perspective greatly increase the likelihood of successful intergroup contact (Tropp, 2006).

Part of the purpose of this dissertation is to clarify a few of these unresolved issues related to the operational definitions and empirical measurement of these conditions within schools and classrooms. Using concepts deliberated over thus far in this review of literature, the following discussion offers a rationale for the current research study.

The Current Study

Recognizing that people naturally form in-groups and that prejudicial attitudes toward out-groups are learned or developed based on social context, Allport (1954) offered the contact hypothesis as a prediction of what happens when people belonging to different groups and backgrounds meet and interact. Although contact theory is a social psychological framework, it has been appropriately applied to classroom contexts (contact situations) to understand cooperation among students of diverse social groups—i.e., SWD in general education classrooms. Prior research tested contact theory in the field of inclusive education with varying degrees of success (Armstrong et al., 1981; Ballard et al., 1977; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson et al., 1979; Johnson, R. T., & Johnson, D. W., 1981; Maras & Brown, 1996, 2000; Ronning & Nabuzoka, 1993; Wong, 2008). However, lacking in this line of research is a multidimensional scale that measures the exhaustive set of conditions that precede and surround contact and determine its success, especially from the view of the authority figure of closest resemblance to the researcher(s) in past studies who manipulated the contact conditions and successfully applied contact theory in inclusive classrooms—the teacher.

Applying contact theory to inclusive educational settings, teachers hold similar positions of authority when students with and without disabilities are in contact with each other in classrooms. As such, teachers directly control the malleable conditions of the classroom context and may therefore contribute to positive or negative intergroup relations among students with and without disabilities. In essence, teachers hold a similar role as the camp counselors/researchers in the Robber's Cave Experiment. Therefore, it is logical to conclude that measuring the conditions from the perspective of teachers and specific to how they shape the

social conditions of their classroom environments may shed light on social and behavioral student outcomes. The conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947) speak directly to promoting the context in classrooms that may lead to positive student relations.

No scale of the optimal situational conditions of the contact hypothesis from the view of the teacher yet exists within the context of inclusive classroom settings. Some measures of school conditions and classroom climate do exist in the literature (Green et al.,1988; Trickett & Moos, 1973, 2002) but these scales either assess the perspective of the student and not the theoretically identified authority figure—the teacher—or were not created from the tenets of intergroup contact theory. A meta-analysis of intergroup contact theory (Pettigrew & Tropp, 2011) discovered that only a few studies have provided detailed conceptual information about the conditions, and the majority of studies failed to empirically distinguish among the array of conditions. Rather, most of the previous research inappropriately treated the conditions as "an interrelated bundle rather than as independent factors" (Pettigrew & Tropp, 2006, p. 751). In fact, the meta-analysis revealed that most studies "provided virtually no detailed information about the conditions under which the contact occurred" (Pettigrew & Tropp, 2011, p. 64). Many studies did not explicitly indicate the measurement operations that constituted each of the conditions.

Experimental and quasi-experimental studies did not typically measure the conditions, but assumed they were present based on the design of the intervention (i.e., Johnson & Johnson, 1982, 1984a, 1984b). A few randomized experiments manipulated the conditions to produce its absence or presence (Amsel & Fichten, 1988; Stathi, Cameron, Hartley, & Bradford, 2014). This

manipulation is also salient in the famous literature describing the application of intergroup contact theory to education, the Jigsaw Method (Aronson et al., 1978), where conditions were manipulated dichotomously in the classroom. In nonexperimental research applying this theory, the conditions are assumed to be present and usually assessed dichotomously (Archie & Sherrill, 1989; Turner, Tam, Hewstone, Kenworthy, & Cairns, 2013).

A more appropriate conceptualization and understanding of the contact conditions is as continuous dimensions; that is, the level or degree that teachers are in support of each condition in their classrooms. With the theoretical condition of cooperation, for example, we can assess the extent to which teachers believe that students should work together collaboratively instead of compete, and ensure that they do so. This dimensional approach based on a graded continuum of responses to represent each condition is superior and more sensitive in capturing teachers' practices and classroom and school climate than binary responses (Deemer, 2004).

CHAPTER THREE

PHASE ONE—SURVEY CREATION

According to the extensive research on intergroup contact theory (Pettigrew & Tropp, 2006), especially that which was done in inclusive educational environments (Ballard et al., 1977; Maras & Brown, 1996, 2000; Nowicki & Sandieson, 2002; Ronning & Nabuzoka, 1993; Wong, 2008), the optimal situational conditions have a significant effect on the outcomes of intergroup contact. In schools with inclusive classrooms where GES and SWD interact in an intimate setting, it seems necessary for teachers, administrators, and even parents to know whether classrooms are being properly structured and run so that all students can be appreciated and supported. Besides general observations that have not been properly validated, there seems to be no measure for evaluating teachers' willingness and ability to incorporate these conditions in their classrooms. The purpose of this exploratory sequential mixed methods study (Creswell, 2014) was to create and validate the IRCES; the items on the IRCES were constructed based on Allport's (1954) four optimal situational conditions of the contact hypothesis along with two additional conditions that were added to later iterations of the list (Cook, 1985; Aronson et al., 2013). The research question for this study was: What is the reliability and validity of the IRCES?

This research question was an inquiry into the construct validity of what intended to be a new measurement scale. Construct validity is the overarching goal of all scale construction and validation studies; it is "the extent of correspondence between variations in the scores on the instrument and variation among respondents (or other objects of measurement) on the underlying construct being studied" (Crano et al., 2015, p. 64). All measurements of reliability (i.e., internal

consistency and temporal stability) and validity (i.e., content, criterion, convergent, and discriminant validity) fall under the umbrella of construct validity. To answer the research question, two studies, or phases, were completed for this dissertation. Within these two phases, several measurements of reliability and validity were applied.

The first phase (the qualitative phase) consisted of three suggested methods (Crano et al., 2015) to generate and revise items and assess their content validity—the extent to which a "measure adequately represents (or samples) the complete range or breadth of the construct under consideration" (Crano et al., 2015, p. 66). The three methods were focus groups, one-on-one interviews, and a review of the literature (see Chapter Two of this dissertation). A thorough revision of items during focus groups and interviews yielded the first draft of the IRCES, which was then statistically tested using exploratory factor analysis (EFA) in the second phase—the quantitative portion—by examining data from working K-12 teachers. The following is a complete description of the methodology and results of Phase One. Phase Two is described in detail in Chapter Four of this dissertation.

Method

The IRCES was intended to be a teacher self-report multidimensional scale that measures teachers' classroom pedagogy and their school administrations' approach to intergroup relations as they pertain to the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947). Phase One included the process of item generation for the IRCES. Three common approaches were utilized to create the IRCES items and ensure their content validity (Crano et al., 2015): (a) a comprehensive review of existing peer-reviewed literature regarding how the conditions have been operationalized, (b) focus

groups involving K-12 teachers and administrators with extensive classroom experience, and (c) interviews with social and cognitive psychologists (Fowler, 2009; Sudman, Bradburn, & Schwarz, 1996). The second and third approaches involved gathering information from experts to create and revise items for each of the conditions, a widely suggested practice in the scale construction and validation literature (Crano et al., 2015).

Participants

Seven K-12 teachers and administrators, one cognitive psychologist who specializes in measurement and assessment, and three social psychologists were consulted via focus groups and interviews to generate IRCES items. Additionally, feedback on the items provided by experts increased the degree of content validity (Crano et al., 2015) of the measure. The following is a brief description of these 11 participants.

K-12 teachers and administrators. Current K-12 teachers and administrators with extensive classroom experience and pedagogical knowledge were consulted via focus groups (Fowler, 2009; Sudman et al., 1996). There were three sets of focus groups. Focus group one (FG1) consisted of two female classroom teachers from the same Catholic elementary school in Southern California. The first participant in FG1 teaches first grade and is the school's assistant principal. Besides one year of teaching in a charter school, she has been teaching in Catholic schools for over 20 years in grades K-2nd and has spent 15 years as an assistant principal. In addition, she teaches English as a second language (ESL) night classes to adults at a junior college in Southern California, and, has been doing so for 25 years. The second participant in FG1 teaches third through fifth grade language arts and taught kindergarten, first grade, and second grade at the same Catholic school for 14 years.

Focus group two (FG2) consisted of one female middle school language arts (ELA) teacher with 17 years of experience teaching junior high and high school English and a male writing teacher who currently works at a private college in Southern California but has extensive past experience (17 years) also teaching junior high and high school English. The female ELA teacher currently works at a Catholic K-8 school in Los Angeles.

Focus group three (FG3) consisted of three female participants with very different job descriptions. The first participant is on her 10th year of teaching fifth grade at a Title 1, traditional public school within a large urban school district in Southern California. Ninety-five percent of the students at her school are designated as low-income. During her 10 years as a classroom teacher, she has served as a grade-level chair for five years and led teacher professional development meetings at her school site. The second participant in FG3 has over 10 years of special education teaching and administrative experience in both traditional and charter public schools. At the time of data collection she was the Director of Special Education at a charter school organization in Southern California and is currently the Assistant Director of a teacher preparation program at a private university, also in Southern California. The third participant in FG3 is a Catholic school administrator with seven years of teaching experience in middle school math and science. She also taught philosophy and ethics at the university level for three years and was a K-12 public school substitute teacher for three years.

Cognitive and social psychologists. Four psychologists—two females and two males—were consulted during the content validation stage. A cognitive psychologist who specializes in measurement, assessment, and quantitative research methodology and is a staff member at a private university in Southern California provided insight, via cognitive testing (aka., cognitive

laboratory interview; DeMaio & Rothgeb, 1996; Forsyth & Lessler, 1992; Fowler, 1995; Lessler & Tourangeau, 1989; Presser et al., 2004; Willis, 2005; Willis, DeMaio, & Harris-Kojetin, 1999), into ways in which respondents may perceive each item on the IRCES. Two of the social psychologists—one an Assistant Professor of Educational Leadership and the other an Associate Professor of Psychology—with extensive knowledge of intergroup contact theory, minority group identity and social status, and scale development acted as content experts while providing in-depth feedback on the survey items. Both professors work at the same private university as the cognitive psychologist mentioned above. Lastly, a third social psychologist with expertise in scale validation and statistics provided consultative assistance regarding item development, the design of the Likert (1932) scale, and the analytical plan of the study. This participant is a research faculty member at a different private university in Southern California.

Measures

Interview protocols were used during both rounds of focus groups with the K-12 teachers and administrators. First round protocol questions aimed to operationally define each condition within the context of schools and classrooms. Using the equal status condition as an example, participants were asked to respond to the following prompts: (a) What comes to mind when I say "equal status"?, (b) What does "equal status" mean in your classroom?, and (c) Describe what "equal status" looks like in your classroom. Identical prompts were used for the cooperation, common goals, and institutional support conditions (See Appendix A for the complete round one interview protocol.). It is important to note that, at the time of both rounds of focus groups, the IRCES was intended to consist of only four subscales that mirrored Allport's (1954) original list of conditions. The decision to add the disconfirming stereotypes and acquaintance potential

subscales was made after both rounds of focus groups were finished. Needless to say, items in the latter two were created from data acquired in the interviews with the social psychologists and from the review of literature, not from the focus groups with K-12 teachers and administrators.

The purposes of the second round of focus groups were item revision and elimination. The protocol for the second round consisted of three guiding questions: (a) Do you think any questions should be removed, and if so, which ones, and why?, (b) Do you think any questions should be reworded, and if so, which ones, and why?, and (c) Is there any content missing, and if so, how would you word the question? (See Appendix B for the complete round two interview protocol.). During both rounds of focus groups, additional impromptu questions were asked if participants' responses warranted further probing.

Procedure

Each focus group of K-12 teachers and administrators met twice and both meetings were semi-structured (Merriam, 2009) in design to ensure that specific questions were asked while allowing for flexibility in the discussion. During the first meeting with each group, questions from the interview protocol were used to guide a discussion about how the conditions of intergroup contact are reflected in their schools and classrooms. The first round of focus groups were audio recorded.

After the first round of focus groups was completed, the audio-recordings were compared to trends found in the literature and a preliminary list of 200 items was created (See Appendix C.). That initial list was then administered during the second and final round of focus groups, which concentrated on item revision and elimination. During this second round, each focus group member was given a copy of the 200-item survey, asked to read through the list carefully,

and, while using a think-aloud approach (Dillman, 2000) and experiencing cognitive interviewing techniques (Fowler, 2009), focus group members assessed the survey's content validity (Crano & Brewer, 2002; Leary, 2012) and offered suggestions as to items in need of rewording or extraction. Also around this time, the 200-item list was presented to the cognitive psychologist for her feedback on how respondents could potentially perceive each item and, based on her interpretation, what constructs were being measured on the IRCES. Alterations and eliminations were made based on her feedback as well.

After the focus groups and the one-on-one interview with the cognitive psychologist, all three social psychologists were presented updated versions of the IRCES on two different occasions during one-on-one interviews. Revisions were made to the IRCES after each of the six individual sessions. The following is a discussion of the results of the focus groups, interviews, and review of literature and a description of the version of the IRCES that emerged from Phase One of this dissertation.

Data Analysis

Qualitative content analysis is a reflexive and cyclical approach to data collection and analysis that involves constant discovery, comparisons, calibrations, and interpretations of multiple data sources (Altheide, 1987; Chen, Kim, Moon, & Merriam, 2008). There are three main reasons why this form of data analysis is appropriate for this dissertation. First, in qualitative content analysis, "categories and 'variables' initially guide the study" but "others are allowed and expected to emerge throughout the study" (Altheide, 1987, p. 68). For this dissertation, the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947) were the categories and variables that initially guided

the review of literature, focus group protocol, interview discussions, and the creation of the IRCES items but unexpected trends did emerge during data collection and analysis. Second, the suggestion for qualitative content analysis is to use a semi-structured approach to the data collection and analysis cycle because structured protocols "hide critical questions and issues which may become apparent only later" (Altheide, 1987, p. 74). In this study, semi-structured protocols were used during focus groups and the one-on-one interviews were open discussions, both leaving room for further inquiry if warranted. And third, as mentioned above, this approach to data analysis allows for "constant discovery and constant comparison" (Altheide, 1987, p. 68) when converging multiple data sources, i.e., focus group audio recordings, interview notes, and concepts from research literature.

The multiple data sources in Phase One were the review of literature, focus group audio recordings, and one-on-one interview notes. Trends found in the focus group recordings were compared to concepts and tenets of contact theory and its application to educational settings and then IRCES items were created from any similarities found across the two data sources. The item reviews during the one-on-one interviews with the psychologists acted as the third step in the process; agreements among the four interviewees found in the field notes were applied to the existing list of items, including item additions, revisions, and eliminations. As suggested in the literature on qualitative content analysis (Altheide, 1987), this process of data analysis was repeated after the findings from the first round were calibrated and applied to the IRCES.

Results

The version of the IRCES with items generated and reviewed by participants in Phase One contained 59 items within six subscales: (a) equal status, (b) cooperation, (c) common goals,

(d) intimate contact, (e) disconfirming stereotypes, and (f) institutional support (See Table 1 for a complete list of the 59 items.). Each subscale was modeled after one of the optimal situational conditions of the contact hypothesis—a list that has evolved over the last 65 years (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947).

The decision to use a six-point Likert (1932) scale with Definitely False (1) and Definitely True (6) as the anchors and Mostly False (2), Somewhat False (3), Somewhat True (4), and Mostly True (5) in between was based on discussions with the social psychologists with expertise in scale development and validation. These true-false based scale points allowed for measurements of whether or not respondents applied particular practices and approaches, and to what extent. In addition, the use of the word "Definitely" in the anchors provided sufficient polarization and, ultimately, variability in the data (DeVellis, 2012).

Regarding the number of scale points, scales with an odd number of choices allow for "equivocation or uncertainty" while scales with an even number of choices force "the respondent to make at least a weak commitment in the direction of one or the other extreme" (DeVellis, 2012, p. 91). According to DeVellis (2012), "Neither format is necessarily superior" so it "depends on the type of question, the type of response option, and the investigator's purpose" (p. 91). Originally, the Likert (1932) scale on the IRCES contained seven points, the only difference being a middle point labeled as Neither True Nor False. However, this point was eliminated because there was concern that respondents who rarely, if ever, used group work in their classrooms would misinterpret and choose this option and obtain a numerical value of four when, in theory—based on contact research in classrooms (Aronson & Patnoe, 2011)—they should have chosen Definitely False and received the lowest value of one. Weems and Onwuegbuzie

(2001) found midpoints in Likert (1932) scales to be "ambiguous" and "often overselected" (p. 174), and therefore suggested an even number of scale points. The six-point Likert (1932) scale provided more than sufficient room for variability (DeVellis, 2012).

All 59 items on the IRCES contained general terminology regarding the type of intergroup contact; they did not specify an in-group and out-group, such as SWD and GES. The social psychologists in the interviews suggested this approach, citing contact theory and its history of applicability to numerous different types of contact (Pettigrew & Tropp, 2006, 2011)—i.e., contact between people of different races, religions, sexual orientations, ages, abilities and disabilities, etc. As stated in the interviews, according to the theory and the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook 1985, Williams, 1947), these conditions must be present to alleviate out-group prejudice, regardless of the type of groups within the contact situation. Therefore, item terminology that is not specific to one type of contact allows for the IRCES to be applied to all types of intergroup contact research in education and does not limit its use to only inclusive schools and classrooms.

In the first three conditions on the IRCES—equal status, cooperation, and common goals—each statement referenced a teacher's approach to, and use of, group work within the classroom. The decision to reference group work in the first three subscales was primarily theory driven; the Jigsaw Method suggested separating students into small groups of four to seven students (Aronson et al., 1978; Aronson & Patnoe, 2011) and the acquaintance potential condition posited by Aronson et al. (2013) and Cook (1985) suggested that students must have frequent opportunities to learn about, and become friendly with, one another. According to the theory, such interactions are more likely to occur if students are allowed to collaborate in small

Table 1

Phase One IRCES Model

Subscale and item	Variable
Equal status	
Item 1	During group work, I have equal expectations for all students
Item 2	During group work, I make sure all students are equal
Item 3	During group work, I make sure all students have an equal amount of responsibility
Item 4	During group work, I make sure all students take on a leadership role
Item 5	During group work, I make sure all students feel accomplished
Item 6	During group work, I make sure all students have equal status
Item 7	During group work, I make sure all students' individual tasks are of equal challenge levels
Item 8	During group work, I make sure all students' individual tasks are of equal importance
Item 9	During group work, I hold all students equally accountable for their individual tasks
Cooperation	
Item 10	During group work, I make sure students cooperate with one another
Item 11	During group work, I make sure students exchange ideas with one another
Item 12	During group work, I make sure students help one another
Item 13	During group work, I make sure students collaborate with one another
Item 14	During group work, I make sure students depend on one another
Item 15	During group work, I make sure students utilize one another as resources
Item 16	During group work, I make sure students check on their fellow group members' progress
Item 17	During group work, I make sure students share their ideas with one another
Item 18	During group work, I make sure students share responsibilities
Item 19	During group work, I make sure students compete against one another
Item 20	During group work, I create a competitive classroom environment
Item 21	During group work, I encourage students to outperform their classmates
Common goals	
Item 22	During group work, I make sure each group has its own common objective
Item 23	During group work, I make sure students are working toward their group's common objective
Item 24	During group work, I make sure students work together to solve problems
Item 25	During group work, I make sure students' individual tasks contribute to their group's common objective
Item 26	During group work, I emphasize a clear objective for each group
Item 27	During group work, I make sure all students are pooling their efforts to achieve their group's common objective
Item 28	During group work, I make sure group products contribute to an overall class goal
Item 29	During group work, I make sure each group is aware of its own common objective
Acquaintance potential	
Item 30	I allow students to frequently participate in personal interactions with one another
Item 31	I allow students to frequently practice their interpersonal skills with one another
Item 32	The seating arrangement in my classroom makes it easy for students to interact with one another
Item 33	I provide students frequent opportunities to learn about one another
Item 34	I make sure students talk with one another about their personal interests
Item 35	I make sure students talk with one another about their hobbies
Item 36	I make sure students talk with one another about their home lives
Item 37	I make sure students talk with one another about their family background
Disconfirming stereotypes	
Item 38	I make sure students get rid of stereotypes
Item 39	I make sure students challenge stereotypes about groups of people
Item 40	I make sure students get rid of misbeliefs about their classmates' personalities
Item 41	I make sure students get rid of misbeliefs about their classmates' abilities
Item 42	I make sure students get rid of misbeliefs about their classmates' backgrounds
Item 43	I make sure students avoid misunderstandings about one another
Item 44	I make sure students embrace their classmates' unique differences
Item 45	I make sure students get rid of preconceived notions of their classmates
Item 46	I make sure students are not quick to judge their classmates
Item 47	I make sure students are receptive to people's differences

Table 1 (continued)
Phase One IRCES Model

Subscale and item	Variable
Institutional support	
Item 48	My school's administration supports interactions between all students
Item 49	My school's administration provides equal resources for all students
Item 50	My school's administration supports equality among all students
Item 51	My school's administration supports equal status among all students
Item 52	My school's administration is welcoming of all students
Item 53	My school's administration makes sure that all students are provided necessary support
Item 54	My school's administration supports cooperative learning among all students
Item 55	My school's administration encourages teachers to use cooperative learning practices with all students
Item 56	My school's administration supports cooperation among all students
Item 57	My school's administration supports common goals among all students
Item 58	My school's administration supports frequent personal interactions among all students
Item 59	My school's administration makes sure that students get rid of stereotypes

groups as opposed to sitting in class and either working independently or listening to the teacher speak for the majority of class time (Aronson et al., 1978; Aronson et al., 2013; Cook, 1985). The following is a brief description of the items in each subscale.

Equal Status

The equal status subscale contains nine items. These items inquire about teachers' approaches to aspects of classroom pedagogy that have a tendency to vary and can directly affect students' social and academic self-efficacy, level of engagement, and attitudes toward their peers. Areas of inquiry in this condition include teachers' expectations for students, assignment of responsibility and leadership, differentiation of academic tasks, and student accountability practices. The word "all" is used in each equal status item. The purpose of this is to accentuate the concept of equality and ensure that, when reading and considering these items, teachers will respond based on how their consideration of every student in the class, regardless of students' past academic success and/or perceived social status.

Item one inquires about the teacher's expectations for her students. According to focus group data, it is vital for teachers to have high, yet reachable, expectations for every student and that these positive expectations are constantly made salient in the classroom. Items three and

four inquire about the teacher's distribution of responsibility and leadership roles. Many teachers tend to use peer tutoring as a classroom strategy and assign different roles and jobs to students during small group work; however, too often in the name of optimum efficiency, teachers only assign the high achieving students to jobs and roles of any importance, such as tutor and group leader. According to the Jigsaw Method, this privilege should be awarded to all students in turn (Aronson et al., 1978).

Item five speaks to the teacher's attention to differentiation (Tomlinson, 1999). One focus group member stated, "In a classroom, equality is not equity." This statement means that, for students to have equal status in a classroom, the teacher must provide opportunities for every student to excel; in order to accomplish this, the teacher must be aware of each student's strengths, interests, and areas of growth. For students to feel accomplished they must be provided frequent opportunities to use their talents and skills in the classroom; and, their accomplishments need to be celebrated.

Items seven, eight, and nine inquire about the individual academic tasks that are assigned to students during group work. The term "individual tasks" used in all three items is a reference to the different portions of the group assignment that students are assigned in the Jigsaw Method (Aronson et al., 1978). Aronson and colleagues (1978) and the focus group participants emphasized the importance of teachers not assigning tasks based on perceived student ability levels and that all students in the group should be given portions of the project that are of equal challenge levels and relevance and evaluated using uniform criteria. According to the focus group participants, students often become privy to teachers assigning the majority of the workload to the seemingly more competent students.

Items two and six are not specific references to the Jigsaw Method or classroom practices suggested by focus group participants. The purpose in creating these two items was to use terminology from the contact hypothesis to tap respondents' general approaches to creating and maintaining equal status among students in their classrooms.

Cooperation

The cooperation subscale contains 12 items. Items 10, 13, and 14 inquire about teachers' commitment to ensuring that students are expected, allowed, and encouraged to work together during group work and not individually or against one another; and, they did so using similar terminology. For example, other than the terms "cooperate with" (item 10), "collaborate with" (item 13), and "depend on" (item 14), these three items are identical. Similar to items two and six from the equal status subscale, the purpose of these items and their wording is mainly theory driven (Sherif et al., 1961).

Items 11 and 17 are very similar in their attempt to capture the portion of a cooperative activity when students talk with one another about their prior and newly acquired knowledge related to the content of the project and their ideas about how to creatively and efficiently approach and complete it. One focus group participant highlighted the importance of teachers allowing students to talk about academic content and debate their differences because verbalizing one's own ideas as well as listening to others' are vital steps in the learning process.

Items 12, 15, and 16 are references to the student-teacher element of the Jigsaw Method (Aronson et al., 1978). As described in Chapter Two of this dissertation, each student in a jigsaw group is assigned her own individual portion of the project; her job is to learn her portion so she can teach the other members of the group, who will need the information for the final

assessment. This is done in order to give all group members the opportunity to play the role of student-teacher and tutor others on their newly acquired areas of expertise. Items 12, 15, and 16 attempt to capture this practice by using terms with academic, tutor-like, connotations such as "help" (item 12), "utilize one another as resources" (item 15), and "check on their fellow group members' progress" (item 16).

Items 19, 20, and 21 are the only items in the IRCES that are theoretical inverses. The purpose of these items is to measure student-to-student competition in the classroom, which, according to many theorists (Aronson, & Patnoe, 2011; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson, R. T., & Johnson, D. W., 1981), is the antithesis to cooperation. Phases two and three in the Robbers Cave Experiment exemplify this contrast (Sherif et al., 1961). During phase two, the two groups of boys participated in competitive team games that resulted in fairly intense intergroup animosity. Once the hostility reached its peak, phase three commenced and the two groups were covertly manipulated into cooperative tasks that led to the alleviation of intergroup antipathy and eventually positive intergroup attitudes (Sherif et al., 1961). Needless to say, these items would be reverse coded to fit in the cooperation subscale.

Lastly, item 18 is a reference to classroom jobs that are not necessarily related to academics. When asked about cooperation in the classroom, a few of the focus group participants mentioned classroom jobs such as board monitor, light monitor, paper monitor, computer monitor, etc., and the practice of changing the assignment of these jobs on a weekly or monthly bases so that all students have the opportunity to partake in classroom management. Realizing that this practice may be more applicable to elementary grade levels, the language in

the item was left general so that secondary teachers can apply their own interpretation and version of classroom responsibilities.

Common Goals

When asked about common goals in schools and classrooms, focus group participants used the word "objective" in place of "goal". They explained that K-12 teachers and administrators are heard using "objective" far more often than "goal" because, in and around schools and professional development sessions, "objective" pertains to everyday pedagogical practices and lesson and unit plans whereas "goal" is interpreted as a very general, overlying term that could potentially reference a number of different constructs. The pattern in their terminology and definition of "objective" as being classroom and lesson-specific also aligned with the Jigsaw Method; this method is specific to classroom academic group projects that, based on the focus group participants' definitions, would contain common objectives, not goals. Therefore, the decision was made to use "objective" in place of "goal" in six of the eight common goals items.

Every item in this subscale is directly linked to the Jigsaw Method. Again, in this method, each student's individual task acts as a piece of an overall puzzle and the completed puzzle is considered the group's common objective. Item 22 inquires about the presence of these group common objectives. Items 26 and 29 take this concept a step further and ask respondents whether they make these group objectives salient to students because focus group participants emphasized the importance of posting lesson objectives in the classroom and discussing them with students before they begin their work. Items 23, 25, and 27 simply add verbiage regarding the students' individual tasks and their contribution to the group's common objective, such as

"students are working toward their group's common objective" (items 23), "individual tasks contribute to their group's common objective" (item 25), and "students are pooling their efforts to achieve their group's common objective" (item 27).

During focus groups, in addition to the discussion about lesson and assignment objectives, there was mention of class-wide goals. These were described as being slightly different from specific lesson objectives in that they were broad and overlying and only achieved over extended periods of time using multiple lessons and units. This concept was captured in item 28, the only item on the IRCES to inquire about a class goal as opposed to group common objectives. And lastly, focus group participants mentioned problem solving as a group common objective that is often used during group work in classrooms so the term "solve problems" was substituted for "group common objective" in item 24.

Acquaintance Potential

As mentioned above, the acquaintance potential condition was not included in the focus group inquiry so all items in this subscale were created from the operational definitions offered in the literature (Aronson et al., 2013; Cook, 1985; Williams, 1947) and data obtained during one-on-one interviews with the three social psychologists described in the Participants section of this chapter. The purpose of this subscale is to measure teachers' willingness and ability to construct a classroom environment that is conducive to student-to-student interactions that allow them to learn personal characteristics about one another and become friends, beyond just classmates. Items 30, 31, and 33 tap this general concept by using terms such as "participate in personal interactions" (item 30), "frequently practice their interpersonal skills" (item 31), and "learn about one another" (item 33).

Items 34 through 37 take a more particular approach; they ask respondents if they provide a forum for students to discuss specific aspects of their personal lives and culture, such as "personal interests" (item 34), "hobbies" (item 35), "home lives" (item 36), and "family background" (item 37). Again, obtaining information such as this allows people the opportunity to develop friendly, more personal relationships that, according to contact theory, can lead to the alleviation of prejudicial attitudes toward out-groups (Aronson et al., 2013; Cook, 1985; Williams, 1947). Lastly, item 32 is the only item that inquires about the physical environment within classrooms. Desk arrangements can vary considerably and have a tremendous effect on the social relations among students; therefore, a question about teachers' seating arrangements and whether they are conducive to student-to-student interactions seemed warranted.

Disconfirming Stereotypes

A large part of the process of attenuating prejudicial attitudes is dispelling stereotypes. Using inclusion as an example, SWD are often thought of as having inferior academic potential when compared to GES and that they struggle to produce quality work in a general education setting. When a teacher is in charge of bringing these two groups of students together in the classroom to learn, she must first rid the class of any misbeliefs about SWD and then make a conscious and calculating effort to provide them opportunities to disprove any stereotypes and succeed in demonstrating to their classmates that they can produce academic work of considerable merit as well as contribute positively to social interactions during class time.

The practice of dispelling stereotypes is measured in items 38, 40, 41, 42, and 45. Items 38 and 45 apply very general terms—"get rid of stereotypes" (item 38) and "get rid of preconceived notions" (item 45)—whereas items 40, 41, 42 refer to specific misbeliefs about

students' "personalities" (item 40), "abilities" (item 41), and "backgrounds" (item 42). Items 39 and 43 take a slightly different approach. These two items ask respondents if they provide opportunities for students to engage in meaningful dialogue in order to "challenge" (item 39) existing stereotypes and "avoid misunderstandings" (item 43). And lastly, in addition to challenging and quelling existing prejudicial attitudes, teachers can, to an extent, create and foster a welcoming classroom environment and work to avoid the development of stereotypes by explicitly teaching students to "embrace their classmates' unique differences" (item 44), "not" be "quick to judge their classmates" (item 46), and be "receptive to people's differences" (item 47).

Institutional Support

The institutional support subscale is significantly different from the previous five because its purpose is to measure a teacher's perception of the approaches and practices of her school's administration that pertain to the previous five constructs measured on the IRCES. This is the only scale on the IRCES that does not measure teachers' classroom practices. According to contact theory (Allport, 1954; Pettigrew & Tropp, 2011), depending on the type of institution within which contact occurs, institutional support could potentially consist of various levels, such as leadership personnel, policies, and/or laws. Therefore, seeing that this subscale needed to measure one construct and including multiple terms that reference different levels could potentially cause a split within the condition, a decision needed to be made as to which level and term to inquire about and use in the institutional support items.

First, the decision was made to focus on the leadership personnel at the local level—i.e., each school's administration—because, even though policies and laws concerning public and private education trickle down to individual schools and tangentially affect teachers' decision

making in classrooms, school-site administrators have a certain amount of autonomy and their leadership directly and frequently affects classroom practices. The second decision involved choosing a term that best describes institutional support at the school-site level. The options presented to focus group participants were "school administration", "school administrators", "school leader(s)", "school leadership", and "principal". The overwhelming majority chose "school administration" as the best term to use because it encompasses all decision-making authorities.

As mentioned above, the institutional support subscale intends to measure respondents' perceptions of their school administrations' level of support of the other five optimal contact conditions—equal status, cooperation, common goals, acquaintance potential, and disconfirming stereotypes. Item 48 begins with inquiring about the level of administrative support for intergroup contact in general. Items 49 through 53 pertain to institutional support and equal status. Items 50 and 51 utilize general terms such as support for "equality" (item 50) and "equal status" among all students. Items 49, 52, and 53 reference more specific aspects of education within schools and classrooms, such as "equal resources" (item 49), admissions (item 52), and "necessary support" (item 53). Items 54 through 56 inquire about levels of administrative support and encouragement for cooperation among students. Regarding the last three items in the institutional support subscale and on the entire IRCES, items 57 through 59 ask about administrative support for "common goals among all students" (item 57), "frequent personal interactions among all students" (item 58), and dispelling stereotypes (item 59)—the remaining three optimal contact conditions.

Conclusion

Findings from the two rounds of focus groups with K-12 teachers and administrators, the one-on-one interviews with cognitive and social psychologists, and the extensive review of literature resulted in a teacher self-report survey instrument that contains 59 items within six subscales and intends to measure teachers' willingness and ability to create and maintain the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947). The next phase of this dissertation—reported in the following chapter—involved initial processes to assess the reliability and validity of the IRCES. The hypothesis for the validation phase was that the six subscales on the IRCES would mirror the operational definitions of the optimal contact conditions of the contact hypothesis. The following is a detailed report of the methodology and results of Phase Two—the quantitative portion—of this exploratory sequential mixed methods study (Creswell, 2014).

CHAPTER FOUR

PHASE TWO—SURVEY VALIDATION

Phase Two was the quantitative portion of this exploratory sequential mixed methods study (Creswell, 2014). The purpose of this phase was to test the reliability and validity of the IRCES that emerged from Phase One. The IRCES and three additional survey instruments (Crowne & Marlowe, 1960; Midgley et al., 2000; Sink & Spencer, 2007) were administered via email to working K-12 teachers. Data collected from respondents were factor analyzed using exploratory factor analysis (EFA) and the three additional scales were used to assess convergent and discriminant validity and the role of social desirability bias (SDB) in participants' responses. The following is a detailed discussion of the methodology and results of Phase Two of this dissertation.

Method

Reliability is considered a basic criterion for scale development and validation (Crano et al., 2015). The measurement of a self-report scale's reliability can include the extent to which the items are related to one another and therefore measure the same construct, i.e. internal consistency, and "the degree to which the observations obtained in a given test administration resemble those obtained in a second testing, which, employs the same measure and the same respondent sample" (Crano et al., 2015, p. 51), i.e. temporal stability. These measures of reliability were contrived from classical test theory (Gullicksen, 1950), which focuses on the scale as one whole. Contemporary test theory, on the other hand, places emphasis on latent variables—the constructs that guide responses to items on a measurement scale (Borsboom, Mellenbergh, & van Heerden, 2003). This approach emphasizes individual items and their

function within, and relationship to, the overall scale. There are two general measurement techniques within contemporary test theory, factor analysis (Nunnally, 1978) and item response theory (DeMars, 2010). Factor analysis, which was the approach of choice in this dissertation, can also be considered a type of empirical measurement of content validity (Bryant, 2000).

The measurement of validity is also multifaceted. The various types include content validity (explained at the beginning of Chapter Three of this dissertation and applied during Phase One), criterion validity—which, can be further dichotomized into concurrent and predictive validity—and the often paired convergent and discriminant validity. Criterion validity is the extent to which a measurement scale "is related to, or explains, a target outcome or criterion" (Crano et al., 2015, p. 66). During the evaluation of criterion validity, the target outcome can either be measured at the same time as the administration of the scale (i.e. concurrent validity) or any time thereafter (i.e. predictive validity). Convergent and discriminant validity is the extent to which the focus scale, or construct, is related to other constructs that are either theoretically similar (convergent) or different (discriminant).

The internal qualities of measurement were the focus of the evaluation of the reliability of the IRCES—specifically its multidimensionality and the internal consistency of the various latent factors. Therefore, EFA and Cronbach's (1951) alpha were the analytical techniques of choice. Convergent and discriminant validity was the focus of the evaluation of the construct validity of the IRCES because all data collected in this study were teacher-level; student-level data would have been required to assess criterion validity. Also, a measurement of convergent and discriminant validity, as opposed to criterion validity, seemed more appropriate for the beginning stages of validation. An assessment of the relationship between the IRCES subscales

and student outcomes would have been premature without assurance that each subscale measures the intended construct.

Participants

In-service K-12 teachers (teachers currently working in K-12 classrooms) were recruited through the Department of Elementary and Secondary Education and the Department of Educational Leadership at a private university in Southern California. The combined list of teacher emails obtained from the two departments contained 645 in-service teachers ($N = 645$) who were either currently enrolled in educator preparation graduate courses at the time of data collection ($n = 615$) or had recently graduated ($n = 30$). Of the 645 teachers who were emailed the survey, 139 responded—a response rate of 21.55%—and 47 were eliminated due to large portions of missing data, leaving a sample size of 92 ($N = 92$).

Due to the large number of items and subscales in the IRCES—59 items and six subscales—and the fact that EFA requires a fairly large sample (Cattell, 1978; Comrey; 1973; de Winter, Dodou, & Wieringa, 2009; Gorsuch, 1974; Guilford, 1954), a decision was made to manufacture a second effort toward increasing the sample size. K-12 teacher email addresses were obtained through public school websites throughout the state of California. The compiled list contained 1,042 K-12 teacher emails; 93 teachers responded—a response rate of 9%—and 35 were eliminated because of missing data, leaving the second round total at 58 ($N = 58$). No major differences existed between the two samples and, ultimately, all participants met the minimum criterion for participating in the study, which was working as a K-12 classroom teacher at the time of data collection. After combining the second sample with the first, the final sample total was 150 K-12 teachers ($N = 150$).

EFA is generally considered a technique that requires a large sample size; however, debate exists in the literature as to the minimum number of responses necessary for quality results (de Winter et al., 2009). Absolute minimums range from 50, which is considered a poor but feasible sample under certain conditions (Comrey, 1973; de Winter et al., 2009; Gorsuch, 1974), to 200 (Guilford, 1954); the closer the *N* is to 200, the more acceptable the sample size (Cattell, 1978). De Winter et al. (2009) found specific levels of loadings and numbers of factors and variables that may allow for sample sizes less than 50; however, they are exceptions to the rule and should be interpreted with caution.

Of the 150 respondents, when reporting gender, 31.3% reported male, 67.3% female, 0.7% declined to state, and one respondent did not answer the question. The number of years of teaching experience mean was nine (*SD* = 9.29). When asked about the highest degree they held at the time of data collection, 58.7% reported having a bachelor's degree, 36% had a master's degree, and 5.3% held a doctorate; 55.3% of respondents were enrolled in some type of graduate program during data collection. Due to the variety of types of schools in which the respondents taught—discussed below—only 55.3% held state teaching credentials (See Table 2 for respondent demographics.).

Twenty-nine percent of respondents were elementary teachers (grades kindergarten through five), 32% were middle school (grades six through eight), and 38.7% taught high school (grades nine through 12). The elementary teachers taught in self-contained classrooms while the secondary teachers (junior high and high school) taught multiple grades. Ninety-seven percent of the respondents described themselves as general education teachers while the remaining 3%, special education teachers. For the elementary teachers in the sample, the average class size was

24 students (*SD* = 6.5); for the secondary teachers it was 26.97 (*SD* = 7). Respondents were asked to report the demographic breakdown of their classes (See Table 3.). The mean percentage of Latino students within each class was 56.38% (*SD* = 34.10); Asian students, 8.75% (*SD* = 12.36); Black students, 8.09% (*SD* = 13.83); White students, 23.57% (*SD* = 28.06); and Other,

Table 2
Respondent Demographics (N = 150)

Characteristic	*N*	%
Sex		
Male	47.0	31.3
Female	101.0	67.3
Decline to state	1.0	0.7
Highest degree		
Bachelors	88.0	58.7
Masters	54.0	36.0
Doctorate	8.0	5.3
Enrolled in graduate school	83.0	55.3
State teaching credential	83.0	55.3
Grade level		
Elementary	44.0	29.0
Middle school	48.0	32.0
High school	58.0	38.7
Job type		
General education	145.0	97.0
Special education	5.0	3.0
School type		
Traditional public	66.0	44.0
Charter	20.0	13.3
Private non-religious	2.0	1.3
Catholic	60.0	40.0
Other	2.0	1.3

3.28% (*SD* = 10.81). The mean percentage of SWD in each class was 11.47% (*SD* = 16.82) and on a scale of one to 10, one being not diverse and ten being very diverse, the classroom diversity rating mean was 4.94 (*SD* = 2.44).

Regarding the schools in which the respondents worked, 44% of respondents worked in traditional public schools, 13.3% in public charter schools, 1.3% in private non-religious schools, and 40% in Catholic schools; of the 40% in Catholic schools, 14 teachers worked in single sex schools—eight in all male schools and six in all female schools. Two teachers reported working in continuation schools. Respondents were also asked to report the demographic breakdown of

Table 3
Classroom Demographics

Race/Ethnicity	*M*	*SD*
Latino	56.38	34.1
Asian	8.75	12.36
Black	8.09	13.83
White	23.57	28.06
Other	3.28	10.81

Note. Numerical values represent percentage of students in teachers' classes.

their schools (See Table 4.). The mean percentage of Latino students within each school was 55.13% (*SD* = 32.24); Asian students, 11% (*SD* = 13.76); Black students, 8.67% (*SD* = 13.15); White students, 22.63% (*SD* = 24.83); and Other, 2.82% (*SD* = 6.64). The mean percentage of SWD in each school was 14.44% (*SD* = 10.39) and based on the same diversity scale described above, the average school-wide diversity rating was 5.3 (*SD* = 2.46).

Table 4
School Demographics

Race/Ethnicity	*M*	*SD*
Latino	55.13	32.24
Asian	11.00	13.76
Black	8.67	13.15
White	22.63	24.83
Other	2.82	6.64

Note. Numerical values represent percentage of students in teachers' schools.

Measures

Four measures were used in Phase Two: (a) the IRCES (explained in detail in Chapter Three of this dissertation), (b) the PALS (Midgley et al., 2000), (c) the TMCI-SF (Sink & Spencer, 2007), and (d) the M-C SDS (Crowne & Marlowe, 1960). The following is a description of the latter three scales and their psychometric properties.

The Patterns of Adaptive Learning Scale (PALS). The PALS (Midgley et al., 2000) is a multidimensional self-report scale created from goal orientation theory (Dweck & Leggett, 1988) that measures teachers' "perceptions of the goal structure in the school, their goal-related approaches to instruction, and personal teaching efficacy" (Midgley et al., 2000, p. 2). The perceptions of the goal structure in the school and goal-related approaches to instruction constructs are further dichotomized in order to assess the theoretically contrasting mastery and performance goal orientations. A mastery goal structure in education includes the promotion of intrinsic motivation toward learning as opposed to extrinsic motivation and "is expected to reduce students' concerns about their competence relative to others' and to focus them instead on understanding and completing the task at hand" (Urdan, Midgley, & Anderman, 1998, p. 104). In contrast, a performance goal structure emphasizes meritocracy, competition between students, individualism, and the importance and salience of "grades and test scores" (Urdan et al., 1998, p. 104).

The PALS was tested on elementary, middle, and high school level teachers and subjected to a confirmatory factor analysis, which confirmed the hypothesized model (Midgley et al., 2000). It contains 29 total items (See Appendix D.) and uses a five-point Likert (1932) scale with strongly disagree (1) and strongly agree (5) as the anchors and somewhat agree (3) as

the midpoint. Subscale means, standard deviations, and Cronbach's (1951) alphas from the PALS validation study are reported in Table 5 (Midgley et al., 2000).

Table 5
Means, Standard Deviations, and Reliabilities for PALS Subscales

Subscale	M	SD	Items per Scale	α
Mastery Goal Structure for Students	4.07	0.56	7	0.81
Performance Goal Structure for Students	3.02	0.67	6	0.70
Mastery Approach to Instruction	3.44	0.76	4	0.69
Performance Approach to Instruction	2.21	0.85	5	0.69
Personal Teaching Efficacy	3.36	0.66	7	0.74

Note. Adapted from "Manual for the Patterns of Adaptive Learning Scales," by C. Midgley, M. L. Maehr, L. Z. Hruda, E. Anderman, L. Anderman, K. E. Freeman, M. Gheen, A. Kaplan, R. Kumar, M. J. Middleton, J. Nelson, R. Roeser, and T. Urdan, 2000, pp. 33-38. Copyright 2000 by The University of Michigan.

The My Class Inventory—Short Form for Teachers (TMCI-SF). Created for school counselors, the TMCI-SF (Sink & Spencer, 2007) measures teachers' perceptions of the classroom climate. It contains 24 item within five separate subscales (See Appendix E.): (a) Satisfaction, (b) Competitiveness, (c) Difficulty, (d) Peer Relations, and (e) School Counseling Impact (SCI). The Satisfaction subscale measures teachers' perceptions of "the level to which students experience satisfaction (or like) in their class" (Sink & Spencer, 2007, p. 131); Competitiveness is the amount of student-to-student rivalry in the class; Difficulty represents the academic challenge level of the classwork; Peer Relations measures the levels of conflict and collaboration among students in the class; and, SCI measures the effectiveness of the school counselors from the perspective of the teacher (See Appendix E for the complete list of TMCI-SF items.).

The original validation sample consisted of 303 elementary level teachers (grades K-6) from 22 participating schools in low to middle income neighborhoods (Sink & Spencer, 2007). The TMCI-SF initially contained 30 items; however, after being subjected to exploratory and

confirmatory factor analyses, in order to improve factorial validity, six items were removed leaving a total of 24. See Table 6 for subscale means, standard deviations, and Cronbach's (1951) alphas from the TMCI-SF validation study (Sink & Spencer, 2007).

Table 6
Means, Standard Deviations, and Reliabilities for TMCI-SF Subscales

Subscale	M	SD	Items per Scale	α
Satisfaction	19.64	2.59	6	0.84
Competitiveness	15.64	2.76	3	0.66
Difficulty	10.86	2.94	5	0.75
Peer Relations[a]			5	0.80
School Counseling Impact (SCI)	17.07	3.82	5	0.87

[a]The mean and standard deviation for the Peer Relations subscale were not reported in the final validation.

The SCI subscale did not serve a purpose in the current research study so it was removed, leaving 19 items and four subscales. Such an approach is justifiable when a subscale is determined valid as its own independent construct (Sink & Spencer, 2007).

The Marlowe-Crowne Social Desirability Scale (M-C SDS). One of the main threats to validity when using self-report survey instruments such as the IRCES is social desirability bias (SDB), "which is defined as the inclination to respond in a way that will make the respondent look good" (Beretvas, Meyers, & Leite, 2002, p. 570). Due the significance of this confounding variable (Wiggins & Rumrill, 1959), many researchers have chosen to measure (Crowne & Marlowe, 1960; Edwards, 1957; Paulhus, 1984) and statistically control for SDB (Meehl & Hathaway, 1946). Such a strategy was used in the current research study.

The M-C SDS (Crowne & Marlowe, 1960) was used to measure SDB. The M-C SDS is the most commonly used social desirability scale (Ventimiglia & MacDonald, 2012); it is a unidimensional scale consisting of 33 true-false items (See Appendix F.) that measure "the need of subjects to respond in culturally sanctioned ways" (Crowne & Marlowe, 1960, p. 354). After

experts confirmed the scale's content validity in the original validation study, the M-C SDS was administered to 76 undergraduate students and subjected to an "item analysis" (p. 350); initial reliability analyses showed an internal consistency of .88 and a month-long interval test-retest correlation of .89. Correlations with the Edwards Social Desirability Scale (Edwards, 1957) and the Minnesota Multiphasic Personality Inventory (McKinley & Hathaway, 1944) confirmed the M-C SDS's convergent and discriminant validity (Crowne & Marlowe, 1960). Later validation studies subjected the 33-item scale to confirmatory factor analyses, which corroborated the model fit while suggesting, upon further investigation and confirmation, possible shorter forms (Sarbescu, Costea, & Rusu, 2012) and a two-factor structure (Ventimiglia & MacDonald, 2012).

Procedure

The 59-item IRCES, the PALS, the TMCI-SF, and the M-C SDS were compiled into one survey and uploaded to Qualtrics—an online survey creation and distribution tool. The survey was then emailed to the 645 in-service teachers recruited through the Department of Elementary and Secondary Education and the Department of Educational Leadership at the private university in Southern California. After the decision was made to conduct a second round of data collection in order to increase the number of respondents, the list of 1,042 emails of K-12 teachers in California was compiled and the survey was distributed again. The data collection period totaled four weeks.

After the data were received and prepped for analysis, the decision was made not to include the three reverse-coded items at the end of the cooperation subscale—item 19 (During group work, I make sure students compete against one another), item 20 (During group work, I create a competitive classroom environment), and item 21 (During group work, I encourage

students to outperform their classmates). This decision was based on two reasons. First, scales with reverse-coded items tend to have lower levels of internal consistency (Barnette, 2000; Weems & Onwuegbuzie, 2001). And second, even though past research on contact theory showed that competition may be close to the theoretical opposite of cooperation (Johnson et al., 1981; Sherif et al., 1961), there is not enough evidence in the literature to make a case that they should be statistically measured as opposites. It would be expected for the two constructs to be negatively correlated to a certain degree; however, if items 19 through 21 were reverse coded and included in the cooperation subscale, then the assumption was made that the two constructs are, in fact, numerical opposites.

Data Analysis

Factor analysis. Data factorability was assessed using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Kaiser, 1970,1974), which tests the adequacy of the correlation matrix, and Bartlett's (1950) test of sphericity—an assurance that multicollinearity does not exist among the variables. Dziuban, Shirkey, and Peeples (1979) claim that the KMO test "provides information regarding the psychometric adequacy of a data set under consideration for factor analytic methods" by measuring "the degree to which the variables in one's investigation comprise an adequate sample from the domain of interest" (p. 543). According to Tobias and Carlson (1969), Bartlett's (1950) test of sphericity "is a measure of the degree to which the correlation matrix to be factored differs from an identity matrix" (pp. 375-376); it "is quite powerful in detecting potentially spurious data" (p. 376); and, it should be applied and used in all factor analyses. The KMO test needs to be .70 or higher (Kaiser 1970, 1974) and Bartlett's

(1950) test needs to be significant at the $p < .05$ level for a data set to be considered factor analyzable.

Two commonly used exploratory data reduction techniques are principal components analysis (PCA) and exploratory factor analysis (EFA) (Meyers, Gamst, & Guarino, 2013). Important distinctions between the two techniques were taken into consideration when choosing which one to use for this research study. One main difference pertains to the "causal flow" (Meyers et al., 2013, p. 662) between the individual items and the factors, or components, within a scale. In PCA, the components emerge from the individual items whereas, in EFA, a model of the underlying constructs, or factors, exists going into the analysis and therefore the items emerge from the latent factors. Another difference is how each technique explains the target variance. PCA explains total variance by retaining the 1.00 values in the correlation matrix during the extraction phase and incorporating both common, or shared, variance and the variance unique to each item; whereas, EFA excludes unique variance while explaining only common variance by replacing the 1.00 values from the correlation matrix with squared multiple correlations "between the variable and the other variables in the analysis", or communalities, in order to "represent the relationship of each variable with the other variables in the analysis" (Meyers et al., 2013, p. 651). When taking these distinctions into consideration, many researchers find EFA to be the more rigorous of the two techniques. In addition, an EFA seemed more appropriate for this validation study because the items within the IRCES were created from already-existing constructs—i.e., the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947)—or latent factors, that have been operationally defined in the research literature.

Extraction method. Commonly suggested extraction methods for EFA include principal axis factoring (PAF), unweighted least squares (ULS), generalized least squares (GLS), and maximum likelihood (Meyers et al., 2013). In PAF, a variable's communality—"how much a variable has in common with the remaining variables in the analysis" (Meyers et al., 2013, p. 664)—is estimated during the extraction process whereas, in ULS and GLS, communalities are "derived from the solution" (p. 665). Unlike ULS, which "weights all variables equally" (Meyers et al., 2013, p. 665), GLS and maximum likelihood weight variables based on their communalities. Despite these differences, if applied to the same data set, these four extraction methods would likely produce very similar results. The PAF extraction method was used in this study because it accounts for measurement error resulting in a more valid solution (Gorsuch,1983), which was demonstrated in scale validation studies such a Kenney, Lac, Hummer, and LaBrie (2014).

Rotation method. The main difference between an orthogonal factor rotation method and an oblique factor rotation method lies in the way they treat the factors (Meyers et al., 2013). The factors are completely independent entities during an orthogonal rotation whereas an oblique rotation does not require complete separation. There are three types of orthogonal rotations: (a) varimax, (b) quartimax, and (c) equimax. Varimax rotation is used far more often than the other two options; varimax rotation focuses on the factors within the scale, which is usually the focus of the researcher, whereas quartimax is a variable oriented technique and equimax offers a weak compromise between the two. There are two types of oblique rotation methods, direct oblimin and promax; both are used frequently. As stated above, oblique rotation methods allow a certain degree of correlation between factors. Direct oblimin leaves the amount of correlation allowed

between factors up to the researcher and promax rotation involves a multi-step process where the initial coefficients are simplified before they are rotated. Despite their differences, they usually produce very similar solutions (Meyers et al., 2013). Due to the theoretical interrelatedness of the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947) and the potential for the IRCES subscales to have some levels of appropriate correlation while still maintaining as independent constructs, for this research study, an oblique (oblimin) rotation was used.

Internal consistency. Internal consistency is the degree to which the items in a scale are related to one another (Furr & Bacharach, 2008). A scale with strong internal consistency contains items that are highly correlated with one another and therefore measure the same underlying construct. A scale with weak internal consistency contains items that are not related to one another and therefore measure multiple constructs. There are two techniques for measuring internal consistency—split-half reliability and Cronbach's (1951) alpha. Split-half reliability is measured "by randomly dividing a scale into two sets containing an equal number of items, both administered to the same respondents, with a test of relatedness calculated between these two summed scores" (Crano et al., 2015, p. 49). If the two sets of items are highly correlated then strong internal consistency and unidimensionality can be assumed. Cronbach's (1951) alpha—the more widely-used of the two tests—applies the same logic as the split-half technique but takes the analysis a step further by computing an approximate average of all the possible split-half test combinations within a scale, providing a more accurate estimation of internal consistency (Furr & Bacharach, 2008). Cronbach's (1951) alphas were calculated for each of the six IRCES factors that emerged from the EFA.

Convergent and discriminant validity. Convergent validity is the degree to which two measurement scales are related (Furr & Bacharach, 2008). To assess convergent validity, two scales that purportedly measure theoretically similar constructs are administered to a sample and the scores are correlated; convergent validity exists if the result is a significant, positive correlation. Discriminant validity, on the other hand, is the degree to which two measurement scales are unrelated. It is measured in the same fashion as convergent validity; however, the two scales used in the assessment should be theoretically unrelated and the expected result is no significant correlation (Furr & Bacharach, 2008).

Composite variables were created for each of the six IRCES factors that emerged from the EFA and those composites were correlated with the five PALS subscales (mastery and performance goal structures, mastery and performance approaches to instruction, and personal teaching efficacy) and the three TMCI-SF subscales (satisfaction, competitiveness, and difficulty). Both mastery subscales, personal teaching efficacy, and satisfaction were, to a certain extent, considered theoretically similar and therefore expected to correlate positively with the IRCES composites. Both performance subscales and competitiveness were expected to correlate negatively with the IRCES composites while difficulty was supposed to be unrelated.

Social desirability bias. To evaluate the relationship between participants' responses on the IRCES, PALS, and TMCI-SF and social desirability bias, respondents' scores on the M-C SDS were correlated with all IRCES, PALS, and TMCI-SF composite variables. The following is a detailed discussion of the results of Phase Two of this dissertation.

Results

Factor Analysis and Internal Consistency

The evaluations of factorability for the initial EFA portrayed the data as factor analyzable. The KMO measure of sampling adequacy was .82, which is, according to Kaiser (1974), "meritorious" (p. 35) and Bartlett's (1950) test of sphericity was significant, $\chi^2(1540) = 6{,}748.59$, $p < .001$. By and large, the EFA with the 56 IRCES items provided initial support for the hypothesized model (See Table 7 for the factor loadings of the initial EFA.). Disconfirming stereotypes emerged as the first factor, explaining 25% of the variance; institutional support was the second factor, explaining 13.2%; acquaintance potential was the third factor, explaining 9%; common goals was the fourth, explaining 4.9%; cooperation was the fifth, explaining 3.8%; and equal status was the sixth and final factor, explaining 3.6%. In total, the initial six-factor model explained 59.5% of the variance in the data.

All items in the disconfirming stereotypes (factor one), institutional support (factor two), and acquaintance potential (factor three) subscales loaded onto the appropriate factors and had factor loadings greater than, or equal to, .50. The fourth factor contained nine items; the nine included all eight common goal items and item nine from the original equal status subscale ("During group work, I hold all students equally accountable for their individual tasks"). Two of the nine items in factor four—item nine and item 27 ("During group work, I make sure all students are pooling their efforts to achieve their group's common objective")—had loadings less than .50. The fifth factor contained seven of the original nine cooperation items. The two remaining cooperation items from the original subscale landed elsewhere in the model; item 18 ("During group work, I make sure students share responsibilities") loaded onto the equal status

Table 7

Initial EFA of the 56-Item IRCES Using Principal Axis Factoring With Oblique Rotation (N = 132)

Item no.	F1	F2	F3	F4	F5	F6
45-DS	.87					
41-DS	.86					
43-DS	.82					
40-DS	.79					
42-DS	.79					
44-DS	.78					
46-DS	.69					
38-DS	.68					
47-DS	.67					
39-DS	.53					
55-IS		.88				
50-IS		.88				
59-IS		.85				
53-IS		.85				
56-IS		.84				
51-IS		.83				
48-IS		.82				
49-IS		.78				
58-IS		.78				
54-IS		.77				
52-IS		.76				
57-IS		.72				
35-AP			.88			
34-AP			.87			
36-AP			.85			
37-AP			.84			
33-AP			.78			
32-AP			.52			
31-AP			.51			
30-AP			.50			
28-CG				.76		
29-CG				.76		
23-CG				.75		
22-CG				.68		
25-CG				.66		
26-CG				.65		
24-CG				.58		
27-CG				.48		
9-ES				.41		
12-Coop					.80	
11-Coop					.76	
13-Coop					.75	
17-Coop					.74	
15-Coop					.61	
10-Coop					.49	
14-Coop					.40	
16-Coop						
3-ES						.73
8-ES						.70
7-ES						.65
4-ES						.59
5-ES	.35					.54
1-ES						.52
2-ES						.45
18-Coop						.44
6-ES						.43

Note. Factor loadings < .33 are not displayed. ES = Equal Status, Coop = Cooperation, CG = Common Goals, AP = Acquaintance Potential, DS = Disconfirming Stereotypes, IS = Institutional Support.

factor (factor six) and item 16 ("During group work, I make sure students check on their fellow group members' progress") did not load onto any of the six factors. Two of the seven items in factor five had loadings less than .50—item 10 ("During group work, I make sure students cooperate with one another") and item 14 ("During group work, I make sure students depend on one another"). The sixth and final factor contained eight of the nine original equal status items and, as mentioned above, one cooperation item (item 18). Three items from the sixth factor had loadings that were less than .50—item two ("During group work, I make sure all students are equal"), item 18, and item six ("During group work, I make sure all students have equal status").

To increase model fit, items with loadings less than .50 were eliminated and additional EFAs were run until all remaining items had loadings with an absolute value greater than .50. Five items were eliminated from the original equal status subscale, four from cooperation, one from common goals, three form acquaintance potential, and none from disconfirming stereotypes and institutional support. The evaluations of factorability for the final EFA also portrayed the data as factor analyzable. The KMO measure of sampling adequacy (Kaiser, 1974) was .86 and Bartlett's (1950) test of sphericity was also significant, $\chi^2(903) = 5{,}385.18$, $p < .001$. The final EFA resulted in 43 items within six factors (See Table 8 for the final EFA factor loadings.).

The first factor, disconfirming stereotypes, accounted for 27% of the variance; the second factor, institutional support, accounted for 17%; the third, common goals, accounted for 9.5%; the fourth, acquaintance potential, accounted for 6%; the fifth, cooperation, accounted for 4%; and, the sixth and final factor, equal status, accounted for 3.3%. In total, the final six-factor model explained 66% of the variance in the data—an increase of 6% from the initial EFA. As hoped for, the six factors in the revised IRCES mirrored those of the hypothesized IRCES

Table 8

Final Exploratory Factor Analysis Using Principal Axis Factoring With Oblique Rotation (N = 137)

	Factor loading						
Item no.	F1	F2	F3	F4	F5	F6	Communality
				Equal status			
3-ES	.04	-.05	.09	.01	-.04	**.74**	.64
4-ES	.05	.00	.01	.20	.01	**.58**	.41
7-ES	.07	.04	-.03	-.08	.00	**.61**	.39
8-ES	-.05	-.01	.07	-.02	-.11	**.68**	.53
				Cooperation			
11-Coop	.05	-.01	.04	.02	**.80**	.00	.71
12-Coop	.08	-.01	-.10	.01	**.86**	.12	.80
13-Coop	.01	.01	.12	-.02	**.80**	.09	.78
15-Coop	.05	.01	.05	.21	**.57**	.01	.47
17-Coop	.04	.08	.04	-.03	**.72**	-.04	.57
				Common goals			
22-CG	-.07	.04	**.70**	.14	.15	-.01	.46
23-CG	.05	-.07	**.74**	-.04	-.09	.00	.62
24-CG	-.03	-.00	**.59**	.06	-.09	.29	.60
25-CG	.14	.02	**.65**	.04	-.11	.05	.63
26-CG	-.08	-.02	**.64**	-.06	-.31	.12	.69
28-CG	.12	.15	**.75**	-.02	-.02	-.10	.65
29-CG	.05	-.03	**.78**	-.11	-.02	.07	.67
				Acquaintance potential			
33-AP	.05	.10	-.01	**.74**	-.10	.06	.64
34-AP	.05	-.00	.07	**.90**	.01	-.01	.87
35-AP	.04	.02	.03	**.93**	-.03	-.01	.92
36-AP	-.04	-.04	-.05	**.91**	-.01	.05	.79
37-AP	-.01	-.01	.01	**.90**	.01	-.01	.81
				Disconfirming stereotypes			
38-DS	**.70**	.00	.07	.10	-.10	-.06	.63
39-DS	**.52**	-.07	.04	.19	-.04	-.19	.40
40-DS	**.84**	.05	-.06	.01	.04	.09	.71
41-DS	**.89**	.01	-.03	-.04	.01	.03	.77
42-DS	**.84**	.05	-.06	-.01	.03	.10	.72
43-DS	**.83**	.04	-.13	.01	-.08	.07	.74
44-DS	**.78**	-.04	.02	.04	-.09	.01	.71
45-DS	**.90**	-.01	.00	.05	-.00	-.04	.83
46-DS	**.68**	-.03	.25	-.03	.01	.04	.60
47-DS	**.65**	.02	.15	-.11	-.08	.06	.53
				Institutional support			
48-IS	.03	**.81**	.01	.00	-.05	-.03	.67
49-IS	.05	**.78**	-.03	-.02	.10	.03	.60
50-IS	.03	**.85**	.01	.03	.05	-.02	.73
51-IS	.00	**.81**	.02	-.06	-.10	-.02	.69
52-IS	-.03	**.76**	-.01	-.03	.15	.12	.58
53-IS	-.11	**.84**	.04	-.06	-.09	-.05	.73
54-IS	-.01	**.76**	-.02	.02	-.10	-.08	.61
55-IS	-.06	**.87**	-.01	.05	-.12	-.12	.80
56-IS	-.17	**.83**	.02	-.08	-.14	.03	.74
57-IS	.11	**.74**	.06	.14	.04	-.01	.63
58-IS	.18	**.77**	-.00	.09	.07	.12	.69
59-IS	.04	**.82**	-.00	.01	.07	.01	.67

Note. ES = Equal Status, Coop = Cooperation, CG = Common Goals, AP = Acquaintance Potential, DS = Disconfirming Stereotypes, IS = Institutional Support.

and the optimal situational conditions of the contact hypothesis. See Table 9 for the revised IRCES.

Table 9
Revised IRCES Model

Subscale and item	Variable
ES	
Item 3	During group work, I make sure all students have an equal amount of responsibility
Item 4	During group work, I make sure all students take on a leadership role
Item 7	During group work, I make sure all students' individual tasks are of equal challenge levels
Item 8	During group work, I make sure all students' individual tasks are of equal importance
Coop	
Item 11	During group work, I make sure students exchange ideas with one another
Item 12	During group work, I make sure students help one another
Item 13	During group work, I make sure students collaborate with one another
Item 15	During group work, I make sure students utilize one another as resources
Item 17	During group work, I make sure students share their ideas with one another
CG	
Item 22	During group work, I make sure each group has its own common objective
Item 23	During group work, I make sure students are working toward their group's common objective
Item 24	During group work, I make sure students work together to solve problems
Item 25	During group work, I make sure students' individual tasks contribute to their group's common objective
Item 26	During group work, I emphasize a clear objective for each group
Item 28	During group work, I make sure group products contribute to an overall class goal
Item 29	During group work, I make sure each group is aware of its own common objective
AP	
Item 33	I provide students frequent opportunities to learn about one another
Item 34	I make sure students talk with one another about their personal interests
Item 35	I make sure students talk with one another about their hobbies
Item 36	I make sure students talk with one another about their home lives
Item 37	I make sure students talk with one another about their family background
DS	
Item 38	I make sure students get rid of stereotypes
Item 39	I make sure students challenge stereotypes about groups of people
Item 40	I make sure students get rid of misbeliefs about their classmates' personalities
Item 41	I make sure students get rid of misbeliefs about their classmates' abilities
Item 42	I make sure students get rid of misbeliefs about their classmates' backgrounds
Item 43	I make sure students avoid misunderstandings about one another
Item 44	I make sure students embrace their classmates' unique differences
Item 45	I make sure students get rid of preconceived notions of their classmates
Item 46	I make sure students are not quick to judge their classmates
Item 47	I make sure students are receptive to people's differences
IS	
Item 48	My school's administration supports interactions between all students
Item 49	My school's administration provides equal resources for all students
Item 50	My school's administration supports equality among all students
Item 51	My school's administration supports equal status among all students
Item 52	My school's administration is welcoming of all students
Item 53	My school's administration makes sure that all students are provided necessary support
Item 54	My school's administration supports cooperative learning among all students
Item 55	My school's administration encourages teachers to use cooperative learning practices with all students
Item 56	My school's administration supports cooperation among all students
Item 57	My school's administration supports common goals among all students
Item 58	My school's administration supports frequent personal interactions among all students
Item 59	My school's administration makes sure that students get rid of stereotypes

Note. ES = Equal Status, Coop = Cooperation, CG = Common Goals, AP = Acquaintance Potential, DS = Disconfirming Stereotypes, IS = Institutional Support

Inter-factor correlations were low to moderate in strength (See Figure 1.) and the internal consistency of each subscale was at or above .75 (See Table 10.), suggesting that each factor

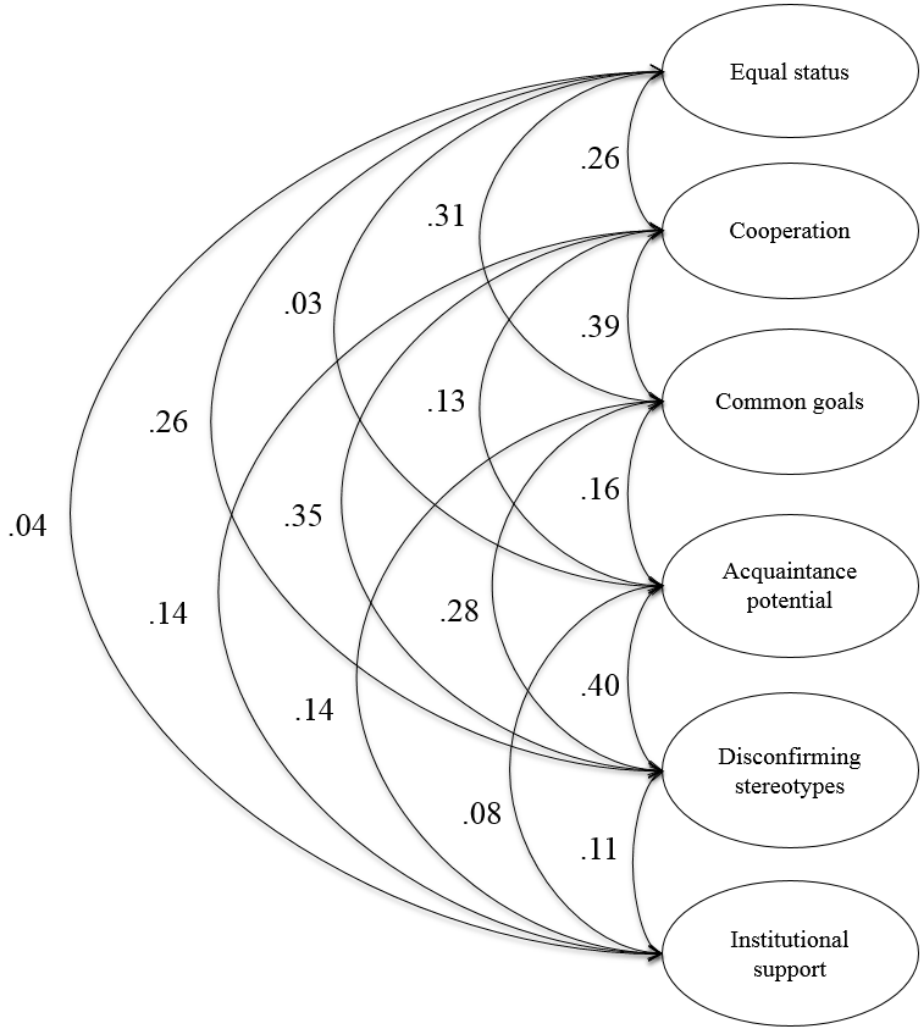

Figure 1. IRCES Inter-factor correlations.

represented and measured its own independent construct. In addition, when composite variables were created from each IRCES subscale and correlated with one another, the correlations were low to moderate in strength or insignificant, also suggesting factor independence (See Table 11.). The highest correlation among composites—though not high enough to suggest

multicollinearity—was between cooperation and common goals ($r = .52$, $p < .01$), which, due to the disagreement in the literature as to whether they are separate constructs (Allport, 1954; Aronson et al., 2013; Cook, 1985), was expected.

Table 10
Reliabilities for IRCES Subscales

Subscale	Items per Scale	α
Equal status	4	0.75
Cooperation	5	0.90
Common goals	7	0.89
Acquaintance potential	5	0.94
Disconfirming stereotypes	10	0.94
Institutional support	12	0.96

Convergent and Discriminant Validity

In order to assess convergent and discriminant validity, the six IRCES composites were correlated with various subscales from the PALS (Midgley et al., 2000) and the TMCI-SF (Sink & Spencer, 2007). See Table 11 for the list of composite correlations, means, and standard deviations. The multidimensional PALS (Midgley et al., 2000) measured respondents' perceptions of: (a) the mastery goal structure in the school ($\alpha = .73$), (b) the performance goal structure in the school ($\alpha = .65$), (c) the mastery approach to instruction in their classroom ($\alpha = .49$), (d) the performance approach to instruction in their classroom ($\alpha = .72$), and (e) their personal teaching efficacy ($\alpha = .62$). Usually, low reliability scores such as those of the performance goal structure, mastery approach to instruction, and personal teaching efficacy would be causes for excluding the subscales from any further analyses. However, the decision to exclude performance goal structure, mastery approach to instruction, and personal teaching efficacy from the assessment of convergent and discriminant validity was overridden by the fact

that all PALS subscales have been empirically validated (Midgley et al., 2000) and used in numerous past research studies. Moving forward, needless to say, the following results pertaining to the relationships between IRCES and PALS subscales need to be interpreted with caution.

Equal status showed low correlations with mastery approach to instruction ($r = .25$, $p < .01$) and personal teaching efficacy ($r = .25$, $p < .01$). Cooperation showed low correlations with mastery goal structure ($r = .17$, $p < .05$), mastery approach to instruction ($r = .28$, $p < .01$), and personal teaching efficacy ($r = .31$, $p < .01$). Common goals showed low correlations with mastery goal structure ($r = .23$, $p < .01$), mastery approach to instruction ($r = .27$, $p < .01$), and personal teaching efficacy ($r = .27$, $p < .01$). Acquaintance potential showed a low correlation with mastery approach to instruction ($r = .36$, $p < .01$). Disconfirming stereotypes showed low correlations with mastery goal structure ($r = .21$, $p < .05$) and personal teaching efficacy ($r = .17$, $p < .05$) and a moderate correlation with mastery approach to instruction ($r = .44$, $p < .01$). Institutional support demonstrated a moderate correlation with mastery goal structure ($r = .55$, $p < .01$), a low correlation with personal teaching efficacy ($r = .17$, $p < .05$), and a negative correlation with performance approach to instruction ($r = -.19$, $p < .05$).

The multidimensional TMCI-SF (Sink & Spencer, 2007) measured respondents' perceptions of: (a) student satisfaction in the class ($\alpha = .85$), (b) student-to-student competitiveness within the class ($\alpha = .64$), (c) the difficulty of the academic work in the class ($\alpha = .73$), and (d) peer relations within the class ($\alpha = .05$), which measured both friction and collaboration. The peer relations variable was excluded from these analyses because of its

Table 11
IRCES, PALS, and TMCI-SF Composite Correlations, Means, and Standard Deviations

Subscales	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1) Equal status															
2) Cooperation	.30**														
3) Common goals	.34**	.52**													
4) Acquaintance potential	.13	.24**	.19*												
5) Disconfirming stereotypes	.26**	.43**	.37**	.46**											
6) Institutional support	.14	.18*	.20*	.11	.15										
7) Mastery goal structure	.10	.17*	.23**	.12	.21*	.55**									
8) Performance goal structure	.03	-.03	.02	-.14	-.09	-.09	-.07								
9) Mastery approach to instruction	.25**	.28**	.27**	.36**	.44**	.09	.33**	.05							
10) Performance approach to instruction	-.08	-.07	-.04	-.01	-.06	-.19*	-.05	.53**	.11						
11) Personal teaching efficacy	.25**	.31**	.27**	.08	.17*	.17*	.25**	-.16*	.29**	-.23**					
12) Satisfaction	.25**	.22**	.15	.27**	.33**	.21*	.39**	-.11	.25**	-.12	.27**				
13) Competitiveness	-.10	-.03	.07	.02	-.04	.08	.09	.31**	.03	.31**	-.16	.08			
14) Difficulty	-.02	-.13	-.21*	-.06	-.21**	-.24**	-.25**	.14	.00	.25**	-.22**	-.34**	.02		
15) Social Desirability	.30**	.14	.15	.12	.24**	.13	.12	-.11	.18*	-.08	.21**	.12	-.20*	-.01	
M	4.61	5.44	5.22	4.16	4.93	5.01	3.71	2.99	3.51	2.59	3.58	23.31	9.14	10.97	20.07
SD	0.88	0.60	0.67	1.18	0.80	0.99	0.62	0.71	0.67	0.78	0.56	3.53	2.53	3.43	5.37

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

extremely poor internal consistency. And, any results and interpretations of findings related to the relationships between IRCES subscales and the TMCI-SF subscale, competitiveness, need to be interpreted with caution because of its less than ideal internal consistency.

All six IRCES variables, with the exception of common goals, showed low but significant correlations with satisfaction. When the IRCES variables were correlated with competitiveness, the coefficients were insignificant and hovered just above or below zero. Common goals (r = -.21, p < .05), disconfirming stereotypes (r = -.21, p < .01) and institutional support (r = -.24, p < .01) were negatively correlated with difficulty.

Social desirability. All subscales from the IRCES, the PALS, and the TMCI-SF were correlated with the M-C SDS to measure the relationship between the variables used in this study and respondents' tendency to offer socially acceptable responses when self-reporting, even if the responses are not entirely true. All correlations were low, negative, or hovered around zero. The significant correlations were with equal status (r = .30, p < .01), disconfirming stereotypes (r = .24, p < .01), mastery approach to instruction (r = .18, p < .05), personal teaching efficacy (r = .21, p < .01), and competitiveness (r = -.20, p < .05).

Conclusion

Phase Two of this dissertation resulted in a 43-item, multidimensional scale that contained six subscales, each theoretically matching one of the six optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947)—equal status, cooperation, common goals, acquaintance potential, disconfirming stereotypes, and institutional support. Disconfirming stereotypes and institutional support were of particular importance, together having accounted for two-thirds of the 66% of the variance explained by

the entire IRCES model. The following chapter is a calibrated discussion of the results of Phases One and Two, theoretical and practical implications, suggestions for future research, and the limitations of this study.

CHAPTER FIVE

DISCUSSION

The purpose of this dissertation was to create the IRCES by modeling its subscales after the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947) and test its reliability and validity. This investigation involved two phases. Phase One applied qualitative methodology consisting of focus groups with in-service K-12 teachers and administrators, interviews with cognitive and social psychologists, and a thorough review of literature to create and revise the items. Phase Two applied quantitative techniques such as EFA (Meyers et al., 2013) and bivariate correlational analyses (Howell, 2002) to assess the factor structure and convergent and discriminant validity of the IRCES. The hypothesis for Phase Two was that six IRCES factors would emerge and they would theoretically and practically mirror the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947). The following is a discussion of the results and implications of this dissertation.

Factor Analysis and Internal Consistency

The six original subscales within the IRCES and the items of which they are comprised were created as models of the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947), their operational definitions in the research literature, and their application in educational settings (Aronson et al., 1978). The first step in validating the IRCES was to factor analyze the original 56 items using an EFA and compare the model that emerged with the hypothesized model. One of the main goals of any data reduction technique such as an EFA is to lessen the number of variables in a measurement

scale while maintaining an appropriate amount of information (Comrey & Lee, 1992). Too many variables create an unmanageable scale whereas too few can lead to an incomplete analysis (DeVellis, 2012). During the EFA in this study, to reduce the number of items in the IRCES, all items with factor loadings less than .50 were eliminated, which resulted in a six-factor model consisting of 43 items. Thirteen items with factor loadings less than .50 were eliminated from the original IRCES model (See Table 12.)—five from the equal status subscale, four from cooperation, one from common goals, and three from acquaintance potential.

Table 12
Eliminated IRCES Items

Subscale and item	Variable
ES	
Item 1	During group work, I have equal expectations for all students
Item 2	During group work, I make sure all students are equal
Item 5	During group work, I make sure all students feel accomplished
Item 6	During group work, I make sure all students have equal status
Item 9	During group work, I hold all students equally accountable for their individual tasks
Coop	
Item 10	During group work, I make sure students cooperate with one another
Item 14	During group work, I make sure students depend on one another
Item 16	During group work, I make sure students check on their fellow group members' progress
Item 18	During group work, I make sure students share responsibilities
CG	
Item 27	During group work, I make sure all students are pooling their efforts to achieve their group's common objective
AP	
Item 30	I allow students to frequently participate in personal interactions with one another
Item 31	I allow students to frequently practice their interpersonal skills with one another
Item 32	The seating arrangement in my classroom makes it easy for students to interact with one another

Note. ES = Equal Status, Coop = Cooperation, CG = Common Goals, AP = Acquaintance Potential.

Each factor in the final model contained homogenous items—items from only one of the original subscales—and therefore represented one of the six contact conditions. This evidence, along with each subscale's high Cronbach's (1951) alpha, demonstrates that each IRCES subscale measures its intended construct and the items within each subscale are highly related to one another. In addition, low to moderate inter-factor correlations (See Figure 1.) and composite correlations (See Table 11.) show that each IRCES subscale is an independent construct and all

six conditions of the contact hypothesis are represented in the final model, which demonstrates strong content validity.

Convergent and Discriminant Validity

Prior to the following discussion of the results related to the convergent and discriminant validity of the IRCES, the reader is reminded to interpret the findings related to the mastery approach to instruction ($\alpha = .49$) composite variable with a fair amount of caution because of its low reliability score. The results of the convergent and discriminant validity assessment show initial signs of progress toward construct validity. The hypotheses for this assessment were as follows: the IRCES subscales would (a) correlate positively with mastery goal structure, mastery approach to instruction, personal teaching efficacy (Midgley et al., 2000), and satisfaction (Sink & Spencer, 2007), (b) correlate negatively with performance goal structure, performance approach to instruction (Midgley et al., 2000), and competitiveness, and (c) not correlate in either direction with difficulty (Sink & Spencer, 2007). Across the board, most significant correlations were low with the exception of a moderate correlation between mastery goal structure and institutional support ($r = .55$, $p < .01$); there were no strong correlations, positive or negative. The following is a discussion of the results of the convergent and discriminant validity assessment broken down by IRCES subscale.

Equal Status

As expected, the equal status variable correlated positively with mastery approach to instruction ($r = .25$, $p < .01$), personal teaching efficacy ($r = .25$, $p < .01$), and satisfaction ($r = .25$, $p < .01$), suggesting that the equal status variable is related to a classroom focused on intrinsic motivation to learn, teaching efficacy, and teachers' perceptions of student satisfaction

in their classes. Equal status did not correlate with difficulty, suggesting that academic rigor can be present or absent in a classroom regardless of whether teachers ensure equal status among students. The lack of significant correlations with the goal structure variables could be due to the fact that equal status measures classroom practices while the goal structure variables measure school-wide, institutional constructs. One would think, though, that school wide goal structures would trickle down to, and affect, classrooms. The coefficients for equal status and performance approach to instruction and competitiveness were negative, close to zero, and not significant, meaning that, as hoped for, equal status is at least not related to extrinsic motivation to learn, a focus on grades, test scores, and meritocracy, and student-to-student competition. Ideally, equal status would be negatively correlated with these variables because they theoretically contradict one another; however, no relationship still shows an adequate level of discriminant validity.

Cooperation

Cooperation converged with mastery goal structure ($r = .17$, $p < .05$), mastery approach to instruction ($r = .28$, $p < .01$), personal teaching efficacy ($r = .31$, $p < .01$), and satisfaction ($r = .22$, $p < .01$), suggesting that the cooperation variable is positively related to an intrinsic motivational approach to learning within the schools and classrooms, teachers' sense of efficacy, and their perceptions of student satisfaction. The cooperation scale did not have a significant relationship with any other variable. This was expected with the difficulty variable but, with performance goal structure, performance approach to instruction, and competitiveness, significant negative correlations would have been ideal. Nevertheless, as mentioned above, no relationship with these variables still supports some level of discriminant validity.

Common Goals

The common goals variable correlated positively with mastery goal structure ($r = .23$, $p < .01$), mastery approach to instruction ($r = .27$, $p < .01$), and personal teaching efficacy ($r = .27$, $p < .01$) and negatively with difficulty ($r = -.21$, $p < .05$)—all expected results. Similar to equal status and cooperation, the common goals variable was not related to performance goal structure, performance approach to instruction, and competitiveness. There was no relationship between common goals and satisfaction, which was unlike every other IRCES variable. These findings show initial support for convergent and discriminant validity of the common goals variable.

Acquaintance Potential

The findings related to acquaintance potential were slightly different. There was no relationship between acquaintance potential and the goal structure variables. Seeing that the goal structure variables are measures of institutional constructs and acquaintance potential is specific to student-to-student interactions within classrooms, a lack of a relationship seems understandable. In retrospect, the significant relationships found between acquaintance potential and both mastery approach to instruction ($r = .36$, $p < .01$) and satisfaction ($r = .27$, $p < .01$) also make sense. A teacher who allots class time for students to interact with one another on a personal level is likely to focus on student engagement and intrinsic motivation to learn and enjoy school as opposed to outcomes, grades, and test scores. The lack of significant relationships between acquaintance potential and performance approach to instruction, competitiveness, and difficulty also supports this assumption.

Disconfirming Stereotypes

There was convincing evidence for the convergent and discriminant validity of the disconfirming stereotypes composite. It correlated positively with mastery goal structure (r = .21, p < .05), mastery approach to instruction (r = .44, p < .01), personal teaching efficacy (r = .17, p < .05), and satisfaction (r = .33, p < .01), and negatively with difficulty (r = -.21, p < .01). Much like the other conditions, disconfirming stereotypes did not correlate with either the performance constructs or competitiveness. Again, significant negative correlations with these variables would have been preferred but no relationship still supports a certain level of convergent and discriminant validity. These findings show that the disconfirming stereotypes composite, which measures teachers' willingness and ability to ensure that students reject any prior prejudicial attitudes and appreciate differences among their classmates, is somewhat positively related to the promotion of intrinsic motivation to learn in classes and schools, perceptions of teaching efficacy, teachers' perceptions of their students' satisfaction with their classes, negatively related to excessive academic challenge, and not related at all to meritocracy within schools and classrooms.

Institutional Support

Institutional support is the only subscale in the IRCES that does not directly measure teachers' practices and habits in the classroom; it measures teachers' perceptions of their school administration's support for the previous five conditions within the school and its policies. Even though, according to contact theory, institutional support is significantly related to the other contact conditions (Pettigrew & Tropp, 2006, 2011) with signs of a cause-effect relationship (Sherif et al., 1961), slightly different relationships between institutional support and the PALS

and TMCI-SF composites were expected. For example, institutional support had the strongest relationship with the school-wide mastery goal construct ($r = .55$, $p < .01$) out of all the IRCES subscales and was the only IRCES subscale to not correlate with the classroom-specific mastery approach to instruction. In retrospect, the latter finding seems reasonable because even though school-wide policies—i.e. goal structures—may be related to, or have an effect on, classroom practices, teachers have direct control over what happens in their classrooms on a daily basis. Surprisingly and in slight contrast with the last point, institutional support was the only IRCES subscale to correlate negatively with performance approach to instruction ($r = -.18$, $p < .05$); it also correlated positively with personal teaching efficacy ($r = .17$, $p < .05$) and satisfaction ($r = .21$, $p < .05$) and negatively with difficulty ($r = -.24$, $p < .01$)—all teacher-level variables. Institutional support did not correlate with performance goal structure and competitiveness. Negative correlations with these variables were expected but no relationships still show a fair amount of discriminant validity.

Let the findings show that the IRCES, in its present state, appears to show promise as a reliable and valid measure of the six optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947) within K-12 schools and classrooms. The following is a discussion of the potential impact the IRCES could have on future research and K-12 policy and practices.

Theoretical Implications

Since its inception in the late 1940s, intergroup contact theory (Allport, 1954) has been continually applied and researched in numerous types of settings with various groups of people resulting in two consistent, interconnected findings: (a) when the optimal conditions for contact

are highly controlled and supervised by an authority figure (i.e., the researcher), the outcome tends to be positive, and (b) when no authority figure exists to help reduce the conflict or the authority figure disregards the optimal conditions in and around a contact situation, as in many naturalistic settings, prejudice and stigma tend to persist (Pettigrew & Tropp, 2005, 2006; Ronning & Nabuzoka, 1993; Sherif et al., 1961). This study developed and validated a scale that measures the optimal contact conditions from the view of the teacher—the authority figure closest to, and most responsible for, student-to-student intergroup contact—within an authentic classroom setting.

The combined results of the EFA and assessment of convergent and discriminant validity serve as empirical evidence that there may be more to successful contact situations in educational settings than past researchers have led readers to believe (Armstrong et al., 1981; Ballard et al., 1977; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson et al., 1979; Johnson, R. T., & Johnson, D. W., 1981; Maras & Brown, 1996, 2000; Ronning & Nabuzoka, 1993; Wong, 2008). Most experimental studies that result in significant increases in positive intergroup attitudes simply placed students in small, heterogeneous groups and assigned each group a cooperative task. However, as mentioned above, these experimental results were not necessarily generalizable to natural classroom settings and were not maintained over time. Findings from this study provide an initial explanation as to why this is. Apparently, there are more constructs that are present within contact situations in educational settings that are in need of teachers' attention and care.

In addition, there has been slight disagreement among theorists as to the operationalization of certain conditions, which conditions are necessary for successful contact,

and the total number of conditions (Allport, 1954; Aronson et al., 2013; Cook; 1985). This study's analysis of the IRCES factor structure provided additional clarity regarding these issues. For example, the six-factor IRCES model that emerged from the EFA matched closest with Aronson and colleagues' (2013) latest list of six conditions. The low to moderate inter-factor and composite correlations (See Figure 1 and Table 11.) between cooperation and common goals serve as evidence that these constructs are independent from one another, which supports Aronson and colleagues' (2013) list as well as Allport's (1954) original hypothesis but contrasts with Cook's (1985) operational definition of cooperative interdependence that includes the concept of working together toward a common goal. Results also show that disconfirming stereotypes and acquaintance potential were valuable additions to Allport's (1954) original list of conditions for these two factors combined to represent 34% of the variance in the data.

Similar to the findings in Pettigrew and Tropp (2006), institutional support played a particularly important role in the final model—over and above all other conditions with the exception of disconfirming stereotypes—emerging as the second factor and accounting for 13.2% of the variance. However, further investigation into the operational definition of institutional support within educational settings is necessary.

For example, the education system in the U.S. is multifaceted and hierarchical. There are federal laws and policies such as IDEIA (2004), NCLB (2001), the Race to the Top grant program, and the Common Core State Standards (CCSS) (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010) that impact states and school districts. There are district officials whose leadership affects school-site administrators' decision making. There are principals, assistant principals, and deans who oversee curriculum

and instruction, the allocation of resources, and decisions related to student discipline. And finally, there are teachers, who are directly responsible for students' academic and social development.

The IRCES measures the contact conditions from the perspective of the teacher because the teacher's role in a classroom is closest in resemblance to the researcher's role in most experimental studies that successfully applied contact theory to educational settings; and, teachers are the only stakeholders that have day-to-day knowledge of both individual classroom and school-wide administrative practices. A school's administration acts as the institutional support in the IRCES because, of all the aforementioned laws, policies, and leaders within a hierarchical educational bureaucracy, school-site administrators are closest to, and directly responsible for, classroom teachers; however, as mentioned above, the institutional support construct, in and of itself, may be multidimensional, which would warrant further investigation into the relationship between the various facets of institutional support and positive intergroup relations within schools and classrooms.

Practical Implications

Social skills are essential for students to thrive in classroom environments and are largely neglected in our current educational climate for it is focused almost solely on standardized testing and accountability (Elias, 2009), in which competitive rivalry and individual success are emphasized above teamwork, cooperation, and collective success (Apple, 2006; Giroux, 2003; Parkison, 2008). This research study examined the array of classroom conditions, as supported and promoted by teachers, which optimize contact situations among students with and without disabilities.

There is an urgency and need to measure the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947) in the classroom because—despite many ongoing segregated special education programs—local, state, and federal policies such as IDEIA (2004) and school choice programs like the Milwaukee Parental Choice Program (Friedman Foundation for Educational Choice, 2014; Greene, 2011; Walberg, 2007; Witte, Carlson, Cowen, Fleming, & Wolf, 2012) have led to an increased number of inclusive classrooms within K-12 schools across the U.S. Unfortunately, prejudice and stigma toward SWD still exist (Nowicki & Sandieson, 2002) and as this problem continues to interfere with the learning environments within schools, it is critical to understand and examine the factors that facilitate intergroup contact in inclusive classrooms. As such, the overarching goal of the current research study was to fully understand and improve classroom environments so that students develop and maintain positive attitudes toward their peers. The IRCES can help teachers, school-site administrators, policy makers, and researchers to better understand how students work together in situations of equal status, where they are asked to cooperate and pursue common learning goals. The IRCES benefits students directly by improving the classroom environment, as controlled and regulated by teachers, in order to encourage students to work with others to learn. The ability to work well with others and problem solve are skills deemed necessary in future careers (Achieve, 2012).

Additionally, the findings of this study yield recommendations for changes in pedagogical practice among teachers in order to improve student outcomes. While previous research has applied intergroup contact theory to the field of education with positive student outcomes (Armstrong et al., 1981; Brown, Eller, Leeds, & Stace, 2007; Johnson, D. W., &

Johnson, R. T., 1981; Johnson, R. T., & Johnson, D. W., 1981; Shook & Fazio, 2008), it often lacks a validated measure of the conditions from the teachers' perspective. These conditions precede and surround contact situations and theoretically determine their success. School-site administrators and teachers will be better informed about the social climate that presently exists in their classrooms and can therefore acquire evidence about the specific conditions that lead to more positive student social and behavioral outcomes. Teachers and administrators can then focus on those specific conditions within classrooms and change instructional practices to improve students' interpersonal skills. Results and insights obtained from future research studies that apply the IRCES may inform the construction of interventions and professional development opportunities for teachers regarding how to best create a classroom environment that is likely to yield positive student social, behavioral, and academic outcomes (Patrick & Ryan, 2005).

Suggestions for Future Research

The findings of this validation study, while positive, are preliminary, leaving room for further IRCES validation. The logical next step would be a confirmatory factor analysis (CFA) (Brown, 2006)—utilizing a new sample of current in-service teachers—to solidify the factor structure that emerged from this study. Correlational analyses with scales other than the PALS (Midgley et al., 2000) and TMCI-SF (Sink & Spencer, 2007) could provide additional evidence of convergent and discriminant validity. Next, predictive validity could be assessed using student academic and social outcomes such as test scores, grades, academic engagement (Furrer & Skinner, 2003; Patrick, Skinner, & Connell, 1993; Skinner & Belmont, 1993; Skinner, 1998; Wellborn, 1992) and self-efficacy (Eckard, 1975), attitudes toward various out-groups (Bogardus, 1925; Morland, 1976; Rosenbaum, Armstrong, & King, 1986), and empathy (Bryant,

1982; de Wied et al., 2007; Turner, Tam, Hewstone, Kenworthy, & Cairns, 2013), among others (Developmental Studies Center, 2005; Duckworth, Peterson, Matthews, & Kelly, 2007; Lufi & Cohen, 1987).

Testing whether the optimal contact conditions predict student outcomes would not only benefit the effort to empirically validate the IRCES, it would contribute appreciably to the ongoing refinement of intergroup contact theory and its place in education, especially inclusive education. Past research that applied contact theory in inclusive educational settings (Armstrong et al., 1981; Ballard et al., 1977; Johnson, D. W., & Johnson, R. T., 1981, 1982, 1984a, 1984b; Johnson et al., 1979; Johnson, R. T., & Johnson, D. W., 1981; Maras & Brown, 1996, 2000; Ronning & Nabuzoka, 1993; Wong, 2008) focused on experimentally testing cooperative learning interventions that arguably encompassed only the cooperation and common goals conditions while disregarding others that, according to the findings of this dissertation, not only exist in classrooms but also play a vital role in the development and maintenance of the educational environment within schools and classrooms.

Using the IRCES to measure the contact conditions and then testing their relationship to student academic and social outcomes would reach beyond past research with the purpose of providing a more detailed description and explanation of inclusive classroom conditions and practices—constructs and concepts that appear to be more complex than previously depicted—within authentic K-12 schools and classrooms as opposed to manipulated research settings. A multivariate analysis of the optimal contact conditions and student outcomes would also inform future efforts to improve upon past experimental research by continuing to test for potential

cause-effect relationships while incorporating the complete list of six conditions, including the more recent additions (i.e., disconfirming stereotypes and acquaintance potential).

As discussed above, due to the multifaceted, hierarchical education system in the U.S, further investigation into the nature of the institutional support condition is justified. When contact theory was first developed in the late 1940s, early 1950s, Allport (1954), along with other theorists (Williams, 1947), saw institutional support as the overlying laws and policies that promoted positive intergroup relations, such as *Brown v. Board of Education* (1954). They also included in their operational definition of institutional support the people responsible for implementing and upholding these laws and policies. The operational definition of institutional support on the IRCES includes only the school's administration because that portion of institutional support is closest to, and directly responsible for, teachers and students; and, even though school-site administrators are obligated to implement and uphold laws and policies, they have a fair amount of autonomy. However, the other aspects of institutional support—i.e., laws, policies, educational leaders other than school-site administrators—are likely related, in some way, to student academic and social outcomes. Future research studies that measure these relationships would be valuable to researchers, practitioners, and policy makers.

The IRCES could also be applied in a comparative study of school climate within different types of schools such as traditional public, charter, Catholic, and secular private. Policy implementation, curricula, and pedagogical practices tend to vary depending on the system within which schools operate (Lubienski, Lubienski, & Crane, 2008). For example, traditional public schools are usually mandated to comply with the CCSS, administer yearly student assessments based on these standards, and are often restricted to using only certain classroom

resources provided by their districts. Whereas, charter schools, even though they too must follow and implement the CCSS and their testing requirements, have more freedom to expand on curricula and offer specialized programs that emphasize certain subjects or educational philosophies. Private schools have complete freedom to create their own curricula, choose their own resources, and approach education as they see fit.

As state and city-wide school choice programs that provide parents with public funding for private education (Friedman Foundation for Educational Choice, 2014), charter schools, and magnet programs within traditional public schools continue to grow in number across the U.S. (National Center for Education Statistics, 2013b), parents are devoting more time and energy to exploring various different educational options for their children (Kimelberg & Billingham, 2012). Unfortunately, their investigations are limited because summative, year-end academic test scores are often the only data available for comparison. Applying the IRCES in a comparative analysis of school type would provide researchers, school leaders, policy makers, and parents a comprehensive, alternative evaluation of the relationship between school climate and school type, a long-desired, supplemental assessment for which many have been searching.

Lastly, classroom and school climate scales are often made into two versions (Sink & Spencer, 2005, 2007)—one from the teacher's perspective and one from the student's perspective. The teacher version of the IRCES created in this dissertation could serve as a model for a student version and the latter could be subjected to the same validation processes as the former. Using the two versions together would provide an interesting analysis of classroom and school climate from the perspectives of two different groups of stakeholders—teachers and students—while adding to the validation of the optimal situational conditions of the contact

hypothesis (Allport, 1954; Aronson et al., 2013; Cook 1985; Williams, 1947) as present and impactful constructs within K-12 school and classrooms.

Limitations

While findings suggest that the IRCES has an empirically validated factor structure that aligns with the optimal situational conditions of the contact hypothesis (Allport, 1954; Aronson et al., 2013; Cook, 1985; Williams, 1947), there are several limitations to this research study. Similar to most studies that utilize self-report measurement scales, the first limitation pertains to respondents' tendencies to report socially desirable information on self-report questionnaires, such as the IRCES, PALS (Midgley et al., 2000), and TMCI-SF (Sink & Spencer, 2007): "Variations in respondents sensitivity to the demands of social desirability, or differences in people's perceptions of what is and is not socially desirable, can invalidate a scale" (Crano & Brewer, 2002).

However, two steps were taken in order to measure and minimize this threat. First, along with the IRCES, PALS (Midgley et al., 2000), and TMCI-SF (Sink & Spencer, 2007), respondents were asked to complete the M-C SDS (Crowne & Marlowe, 1960), which measures social desirability bias (SDB). The only IRCES subscales that correlated positively with SDB were equal status ($r = .30$, $p < .01$) and disconfirming stereotypes ($r = .24$, $p < .01$) and these correlations were low to moderate at best. Mastery approach to instruction ($r = .18$, $p < .05$) and personal teaching efficacy ($r = .21$, $p < .01$) were also positively correlated to SDB but these too were weak. Competitiveness was negatively correlated with SDB ($r = -.20$, $p < .05$). Second, all potential respondents were assured confidentiality. Having their names attached to their email addresses was the sole reason why anonymity could not be claimed. Once the emails were sent,

all names were deleted. Social desirability could have been more of an issue in the institutional support condition because items asked respondents to report their perceptions of their current school administrations' practices and policies. Respondents may have deemed it necessary to report inaccurate information in order to avoid reprimand and/or punitive action from their superiors when completing the items in the institutional support condition; however, any suspicion may have been thwarted with the assurance of confidentiality.

The second limitation is the lack of internal consistency in the mastery approach to instruction ($\alpha = .49$) composite variable used in the assessment of convergent and discriminant validity. There were two main reasons for including this composite in the analysis. First, as listed in Table 5, the latest version of *The Manual for the Patterns of Adaptive Learning Scales* (Midgley et al., 2000) reported a sufficient Cronbach's (1951) alpha of .69. And second, based on the findings from this study, the mastery approach to instruction composite showed adequate levels of convergent and discriminant validity. It correlated positively with theoretically aligned subscales such as all five classroom-level IRCES variables—equal status ($r = .25$, $p < .01$), cooperation ($r = .28$, $p < .01$), common goals ($r = .27$, $p < .01$), acquaintance potential ($r = .36$, $p < .01$), and disconfirming stereotypes ($r = .44$, $p < .01$)—mastery goal structure ($r = .33$, $p < .01$), personal teaching efficacy ($r = .29$, $p < .01$) and satisfaction ($r = .25$, $p < .01$); and, it did not correlate with subscales that were theoretically dissimilar, such as performance goal structure, performance approach to instruction, competitiveness, and difficulty.

The third limitation to this study is the small survey sample. As discussed in the participant section of Chapter Four, a large sample north of 200 respondents is preferred for an EFA but suggested minimums drop to as low as 50, under certain conditions (Cattell, 1978;

Comrey, 1973; de Winter et al., 2009; Gorsuch, 1974; Guilford, 1954). Even though the sample size in this study was far from ideal, the KMO measures of sample adequacy in the initial and final EFAs were .82 and .86, both considered more than sufficient by the test's creator (Kaiser, 1974).

Conclusion

The idea behind this dissertation began with a certain level of cognitive dissonance (Festinger, 1957) about inclusion. The number of SWD educated in general education settings for at least part of the school day across the U.S. has grown tremendously since *Brown v. Board of Education* (1954) and the Education for All Handicapped Children Act (1975) (National Center for Education Statistics, 2013a, 2013b, 2013c); and, according to IDEIA (2004), SWD now have the legal right to a free and appropriate public education (FAPE) in the least restrictive environment (LRE). However, the stigma of disability still subsists throughout society in general (Scior, 2011) as well as in schools and classrooms (Nowicki & Sandieson, 2002). My concerns regarding the efficacy of inclusion continued to arise and evolve because of past personal experiences as a classroom teacher who struggled with teaching SWD in a general education setting. The theoretical and philosophical support for inclusion was antithetical to my authentic, practical experiences; efforts at full inclusion always fell short resulting in poor student-to-student interpersonal relations in the classroom, which appeared to be the cause of SWD developing low self-esteem, low self-efficacy, and feelings of social isolation.

The internal dispute between my philosophical beliefs about inclusion and my practical experiences quickly transformed into a genuine interest in how teachers and school leaders could better serve SWD and their families. During the initial stages of this study, after reviewing the

research on inclusion (See Chapter Two of this dissertation.), especially that which focused on interpersonal and intergroup relations between students with and without disabilities, it became apparent that many K-12 teachers and school leaders were experiencing the same road blocks to full inclusion and a possible remedy was in the beginning stages of development. That remedy was forged from the core tenets of Allport's (1954) intergroup contact theory and the contact hypothesis.

It became clear that for SWD to be fully included and effectively educated, and have positive experiences, in general education settings, teachers and administrators needed to pay careful attention to how they structured and maintained the social climate and conditions within their classrooms and schools; and, that lack of due attention to these conditions could lead to the development and perpetuation of negative attitudes toward SWD, social isolation, and lack of academic engagement. The IRCES has the capacity to highlight the specific elements of school and classroom environments to which, and toward which, teachers and administrators need to direct their attention and harness their ongoing efforts. With a valid measurement tool such as the IRCES, researchers can continue to refine contact theory as it pertains to education and authentic school and classroom settings; professors can better their efforts to properly prepare practitioners to enter K-12 schools and classrooms that are rapidly becoming more diverse; school leaders can work to reshape their ideologies regarding inclusion and diversity so as to provide the institutional support that is necessary for positive intergroup relations within their schools; school leaders can also prepare worth-while professional development sessions that assist teachers with creating and maintaining effective and safe learning environments for all students; and, teachers can learn and master lasting pedagogical practices that advance the

dialectical phenomenon of social justice—the promotion of equality by recognizing and celebrating human difference.

APPENDIX A

Focus Group Session One Interview Protocol

Introductory Script

"Thank you for joining me today and agreeing to be a part of these two focus group sessions. I really appreciate your time and any information you are willing to provide will be invaluable to this study."

"As I briefly mentioned in the initial email, I am attempting to create and validate a self-report survey that will measure and evaluate teachers' practices in inclusive classrooms. To begin the process of creating valid and relevant survey items I need to solicit information about inclusive classroom practices from experienced teachers such as yourselves."

"Before I pass out the informed consent forms, please allow me to review a few important details about these focus group sessions. First, you have kindly volunteered your time and are not obligated to be a part of these focus groups; therefore, at any time from this moment forward, you are allowed, without penalty of any kind, to leave and terminate your involvement. Second, each of the two sessions will take no more than an hour. Third, even though the content of the questions I will ask is strictly related to your everyday classroom practices and not sensitive in nature, I expect these two interviews to be kept confidential and not discussed outside this room. Lastly, is everyone comfortable with audio recording the sessions?"

(If anyone objects to the audio recording then the recorder will be put away and not used)

"Do you have any questions before I pass out the informed consent forms?"

(I pass out the informed consent forms)

As you read through these please feel free to ask questions.

(I collect informed consent forms)

Any last comments or questions before we begin?

Focus Group Interview

The following questions pertain to your classroom practices as teachers.

1) What comes to mind when I say "equal status"?
    - Additional prompts (if needed):
        i. What does "equal status" mean in your classroom?
        ii. Describe what "equal status" looks like in your classroom.

2) What comes to mind when I say “cooperation”?
    - Additional prompts (if needed):
        i. What does “cooperation” mean in your classroom?
        ii. Describe what “cooperation” looks like in your classroom.

3) What comes to mind when I say “common goals”?
    - Additional prompts (if needed):
        i. What does “common goals” mean in your classroom?
        ii. Describe what “common goals” looks like in your classroom.

4) What comes to mind when I say “institutional support”?
    - Additional prompts (if needed):
        i. What does “institutional support” mean in your school?
        ii. Describe what “institutional support” looks like in your school.

APPENDIX B

Focus Group Session Two Interview Protocol

Introductory Script

"Thank you for joining me today and agreeing to be a part of the second and final focus group session. I really appreciate your time and any feedback you are willing to provide will be invaluable to this study."

"As I briefly mentioned in the initial email and at the beginning of focus group session one, I am attempting to create and validate a self-report survey that will measure and evaluate teachers' practices in inclusive classrooms. The objective of our first session was to solicit information from all of you about inclusive classroom practices. The information you provided was excellent and extremely helpful, so thank you. Since our last meeting I have created a list of survey items based on our discussion and today's objective will be to have you look through the items and provide feedback as to their content accuracy. In addition, I would like your feedback as to how you think future respondents will perceive and react to the items."

"Do you have any questions and/or concerns thus far?"

"Similar to the introduction in our first session, please allow me to briefly review a few important details about this second focus group session. First, you have kindly volunteered your time and are not obligated to be a part of this focus group; therefore, at any time from this moment forward, you are allowed, without penalty of any kind, to leave and terminate your involvement. Second, this session will take no more than an hour. Third, even though the content of today's discussion is strictly related to everyday classroom practices and not sensitive in nature, I expect this interview to be kept confidential and not discussed outside this room. Lastly, unlike our first session, this conversation will not be recorded."

"In a second I will hand out paper copies of the survey items. At that time, please read through the items at your own pace and provide any feedback regarding content accuracy and future respondents' perceptions and understanding of, and reactions to, the items. Please mention if you think any items should be removed or reworded, and if you think there is important content that needs to be added to the survey."

"Do you have any questions before I pass out the survey items?"

(I pass out the survey items and the participants begin reading and commenting)

Focus Group Session Two Interview Protocol Question Prompts

The following questions will only be asked if the information is not covered in the discussion.

1) “Do you think any questions should be removed, and if so, which ones, and why?”
2) “Do you think any questions should be reworded, and if so, which ones, and why?”
3) “Is there any content missing, and if so, how would you word the question?”

APPENDIX C

Preliminary List of 200 IRCES Items

1) Every student should be given an equal amount of help from the teacher.
2) Students with diverse needs should receive more help from the teachers than others.
3) High performing students should receive less help from the teacher than low performing students.
4) High performing students should spend most of their time teaching themselves.
5) High performing students should spend most of their time working independently.
6) Differentiated instruction should be used as often as possible.
7) Classroom assignments should be differentiated based on students' academic ability levels.
8) Classroom assignments should be differentiated based on students' learning needs.
9) Students should be placed in small groups based on academic ability level.
10) During group work, students of the same ability level should be grouped together.
11) High performing students should be assigned more challenging work than low performing students.
12) Students should be provided the opportunity to cooperate with one another in small groups.
13) Students should have the opportunity to work in groups.
14) Every student should have an integral responsibility during small group activities.
15) Every student should be involved in classwork activities.
16) Students' self-esteem development should be important to teachers.
17) Students should be randomly placed in small groups.
18) High performing students should be placed in leadership roles during small group work.
19) During group work, the "best" student in each group should be designated group leader.
20) All students should have the opportunity to take on leadership roles during academic group work.
21) Teachers should address all learning modalities (i.e., kinesthetic, visual, auditory, etc.).
22) Every lesson should have one common objective for all students in the class.
23) All students should have the same end-of-school-year goals.
24) It is important for the students to know the lesson objective.
25) Teachers should post their class lesson objectives for their students to see.
26) Teachers should verbalize their lesson objectives to their students.
27) Teachers should check for students' understanding of the lesson objective.
28) Classroom assignments should be different for high and low performing students.
29) Teachers should have different expectations for high and low performing students.
30) Teacher should have the same expectations for all students.
31) Teachers should have different lesson objectives for high and low performing students.
32) If teachers have different objectives for different students then the whole class should be made aware of these differences.
33) If teachers have different expectations for different students then the whole class should be made aware of these differences.

34) Students should aspire to be a part of the high performing group.
35) Administrative support is necessary for teachers to be successful in the classroom.
36) School administrators must support the practice of cooperative learning for it to be successful in the classroom.
37) It is the job of school administrators to provide teachers with resources that help support all students.
38) Every school should have at least one resource specialist to help with students who are behind academically.
39) Every school should have at least one resource specialist to help with students who are behind in their social and emotional development.
40) School administrators should be willing to spend money to support cooperative learning in the classrooms.
41) School administrators should be willing to spend money on support for students who are behind academically.
42) School administrators should be willing to spend money on support for students who are behind in their social and emotional development.
43) School administrators should allow teachers to be creative.
44) School administrators should allow teachers to make their own decisions regarding curriculum.
45) School administrators should allow teachers to make their own decisions regarding pedagogy.
46) School administrators should allow their teachers to make their own decisions regarding accommodations for struggling students.
47) Students should be able to discuss ideas with one another in the classroom.
48) Students should be able to exchange ideas with one another in the classroom.
49) Students should be able to help one another in the classroom.
50) Students should be able to work together in the classroom.
51) Teachers should allow students to collaborate with one another.
52) Students should be given the opportunity to work through interpersonal conflicts on their own.
53) Teachers should purposefully assign students to groups.
54) Students should be able to choose their groups.
55) Teachers should set the goals for small group work.
56) Teachers should assign students jobs during small group work.
57) There should be students of varying academic ability levels in each small group.
58) The classroom task should determine the type of student groups created by the teacher.
59) Students should get to choose their own jobs during small group work.
60) Student jobs in small group work should be based on each student's strengths.
61) Teachers should allow talking in the classroom.
62) Teachers should allow noise in the classroom.
63) Student energy is a sign of academic engagement.
64) Student enthusiasm is a sign of academic engagement.
65) Teachers should allow students to walk around in the classroom.
66) Struggling students should have the same academic tasks as high achieving students.

67) Struggling students should have the same responsibilities as high achieving students.
68) Students should be allowed to give presentations as a group.
69) Students should be taught that failure is an acceptable part of learning.
70) Students should be taught how to learn from their mistakes.
71) Teachers should not label students in any way.
72) All students should have the same opportunities in a classroom.
73) All students should be treated in an equitable manner.
74) High performing students deserve more praise than struggling students.
75) Well-behaved students deserve more praise than students who misbehave.
76) Teachers should praise the struggling students just as much as the high performing students.
77) Teachers should not favor the high performing students.
78) Teachers should not favor the well-behaved students.
79) Teachers should respect the students who misbehave in class.
80) The students who constantly misbehave in class have good qualities.
81) During class time, it is okay for teachers to show frustration toward struggling students.
82) During class time, it is okay for teachers to show frustration toward students who misbehave.
83) Teachers should ensure that all students treat each other with respect.
84) Teachers should model respectful behavior.
85) Teachers should model how to treat others equitably.
86) Teachers should allow students to explore their own questions.
87) Students should leave class wanting to learn more.
88) Students should leave class with all of their questions answered.
89) During group work, students should be graded individually.
90) During group work, students should be graded as a group.
91) Teachers should talk about grading in front of students.
92) Teachers should monitor group work in order to ensure that every student is participating.
93) Teachers should outwardly reprimand students for not participating during group work.
94) Peer acceptance of every student should be a classroom goal.
95) Teachers should have social classroom goals as well as academic classroom goals.
96) Social goals are just as important as academic goals.
97) Social and academic goals are interrelated.
98) School leaders should promote social equality.
99) School leaders should support socially equitable practices in classrooms.
100) School leaders should be as concerned with social goals as they are with academic goals.
101) Students' social development should be as much of a concern to school leaders as students' academic development.
102) School leaders should allow teachers to have energetic and loud classrooms.
103) School leaders should work to create a cooperative learning climate within their schools.
104) School leaders should encourage their teachers to use cooperative learning techniques in their classrooms.

105) School leaders should send their teachers to cooperative learning professional development opportunities.
106) School leaders should provide teachers with professional development opportunities that help with improving their knowledge and skills in cooperative learning techniques.
107) School leaders should provide teachers with professional development opportunities that help with improving their knowledge and skills in working with students with diverse learning needs.
108) School leaders should be accepting of students with diverse learning needs.
109) Teachers should be accepting of students with diverse learning needs.
110) School leaders should educate their teachers on the diverse learning needs of various types of students.
111) During small group instruction, students of the same ability level should be grouped together.
112) Group leaders should be assigned the most difficult task of a group project/assignment.
113) It should be solely the group leader's responsibility to help fellow group members complete their work.
114) High-achieving students should tutor struggling students while working in pairs.
115) High-achieving students should tutor struggling students while working in groups.
116) Having low-achieving students teach high-achieving students content material should be avoided.
117) A group project/assignment should have a common objective for the group as a whole.
118) Each group member should have his or her own individual task within a group project.
119) Each individual group member should be accountable for his or her own separate task that contributes to the common group objective.
120) The individual student tasks within the overlying common group objective should vary in level of difficulty.
121) The more difficult tasks should be assigned to the more capable group members.
122) Each individual student's task should be of equal importance to the common group objective.
123) Each group member should have the opportunity to help all other group members with obtaining the common group objective.
124) Each group member should have the opportunity to teach fellow group members what they learned about their individual portion of the common objective.
125) Each group member should be assessed individually on the common group objective.
126) Each group member's individual work should contribute equally to one common overall group grade.
127) All students should have equal levels of responsibility during group assignments.
128) All students should have equal access to all content standards.
129) Students should work together on group assignments.
130) All students should be able to participate in the same activities.
131) During class, students should participate in content-related competitive games.
132) Awards, prizes, and/or privileges should be given in class to students who earn high grades on assignments/projects.

133) Awards, prizes, and/or privileges should be given in class to students who earn high grades on their report cards.
134) Awards, prizes, and/or privileges should be given in class to students who win content-related competitive games.
135) Awards, prizes, and/or privileges should be given in class to students who demonstrate exemplary behavior.
136) In order to share out loud in class, students must raise their hands.
137) In order to answer the teacher's questions, students must raise their hands.
138) A competitive classroom environment helps motivate students.
139) Student groups should be granted autonomy when creating group projects/assignments.
140) Student groups should be granted autonomy when completing group projects/assignments.
141) Teachers should provide structure to group projects/assignments.
142) Teachers should provide guidelines for group projects/assignments.
143) Classmates should depend on one another when completing an assignment.
144) Classmates should depend on one another when learning.
145) School administrators should welcome all students into their school.
146) School administrators should ensure that all students have the same access to the content standards.
147) School administrators should promote cooperative learning within their classrooms.
148) School administrators should ensure that all students have the same opportunities to participate in classroom assignments/projects.
149) School administrators should promote competition among students in the classroom.
150) School administrators should allow all students to participate in the same activities.
151) School policies should allow for the admission of all students.
152) Current policies should provide all students equal access to the content standards.
153) Current policies should allow for cooperative learning in classrooms.
154) Current policies should allow all students the same opportunities to participate in classroom assignments/projects.
155) Current policies should help create competitive atmospheres within classrooms.
156) Current policies should allow all students to participate in the same extra-curricular activities.
157) Current policies should allow for professional development opportunities for teachers to learn new classroom strategies and practices that help with instructing students with diverse learning needs.
158) Teachers should be concerned with the respect their students have for them.
159) Teachers should value every student in their classrooms.
160) Every student’s opinion should be valued in a classroom.
161) Equality is not equity when it comes to teaching students with diverse learning needs.
162) Students with diverse learning needs should receive additional resources.
163) Students with diverse learning needs should receive accommodations.
164) Every student should feel as if they are contributing in the classroom.
165) Teachers should allow students to choose methods of learning that make them feel comfortable.

166) Teachers should take all students' learning needs into consideration.
167) Teachers should use various strategies when placing students in small groups.
168) Teachers should explicitly teach students how to work in cooperative groups.
169) Students should be allowed to depend on one another to complete assignments.
170) Teachers should show students what effective group work looks like.
171) Teachers should grade their students on how well they work in groups.
172) Students should choose their own roles during group projects.
173) Students should be allowed to evaluate their own work.
174) Students should be allowed to evaluate each other's work.
175) Teachers should encourage students to take on tasks that are outside their comfort zones.
176) Teachers should assign students tasks that are outside their comfort zones.
177) Teachers should encourage students to try different tasks.
178) Students should create their own goals.
179) Students should create their own objectives.
180) In a classroom setting, social goals are just as important as academic goals.
181) Students' social-emotional development is just as important as their academic development.
182) All students should be held to high standards.
183) A teacher should create common academic goals for all the students in his or her class.
184) A teacher should create common social-emotional goals for all the students in his or her class.
185) The teacher should be responsible for creating the social norms within a classroom.
186) The students should be responsible for creating the social norms within a classroom.
187) A school leader should celebrate diversity among the student body of his or her school.
188) A school leader should support the interactions between students of diverse backgrounds.
189) A school leader should support the interaction between students of diverse needs.
190) A school leader should ensure that students with diverse needs be educated in separate environments in order to provide them the proper support.
191) A school leader should promote academic competition among the students within the school.
192) A school leader should promote academic competition among the students within a classroom.
193) School leaders should make students' social-emotional development a priority.
194) School leaders should provide their teachers with opportunities for professional development pertaining to students' social-emotional development.
195) It is beneficial for students to try to outperform their classmates.
196) During small group work in a classroom, a student may only reach his or her goal if the other group members reach theirs.
197) Students should be allowed to ask one another for help with assignments.
198) Students should be allowed to share materials and resources during class.
199) Teachers should set rules for working in cooperative groups.

200) Students should be responsible for checking on their classmates to make sure they are learning the content.

APPENDIX D

The Patterns of Adaptive Learning Scales (PALS) – Teacher Survey

Mastery Goal Structure

- In this school, the importance of trying hard is really stressed to students (item 3)
- In this school, students are told that making mistakes is OK as long as they are learning and improving (item 5)
- In this school, a lot of the work students do is boring and repetitious (item 14)
- In this school, students are frequently told that learning should be fun (item 16)
- In this school, the emphasis is on really understanding schoolwork, not just memorizing it (item 20)
- In this school, a real effort is made to recognize students for effort and improvement (item 22)
- In this school, a real effort is made to show students how the work they do in school is related to their lives outside of school (item 27)

Performance Goal Structure

- In this school, it's easy to tell which students get the highest grades and which students get the lowest grades (item 7)
- In this school, students who get good grades are pointed out as an example to others (item 10)
- In this school, students hear a lot about the importance of getting high test scores (item 12)
- In this school, grades and test scores are not talked about a lot (item 15)
- In this school, students hear a lot about the importance of making the honor roll or being recognized at honor assemblies (item 25)
- In this school, students are encouraged to compete with each other academically (item 29)

Mastery Approach to Instruction

- I make a special effort to recognize students' individual progress, even if they are below grade level (item 4)
- During class, I often provide several different activities so that students can choose among them (item 11)
- I consider how much students have improved when I give them report card grades (item 13)
- I give a wide range of assignments, matched to students' needs and skill level (item 26)

Performance Approach to Instruction

- I give special privileges to students who do the best work (item 1)
- I display the work of the highest achieving students as an example (item 9)
- I help students understand how their performance compares to others (item 17)

- I encourage students to compete with each other (item 19)
- I point out those students who do well as a model for the other students (item 21)

Personal Teaching Efficacy

- If I try really hard, I can get through to even the most difficult student (item 2)
- Factors beyond my control have a greater influence on my students' achievement than I do (item 6)
- I am good at helping all the students in my classes make significant improvement (item 8)
- Some students are not going to make a lot of progress this year, no matter what I do (item 18)
- I am certain that I am making a difference in the lives of my students (item 23)
- There is little I can do to ensure that all my students make significant progress this year (item 24)
- I can deal with almost any learning problem (item 28)

APPENDIX E

My Class Inventory—Short Form for Teachers (TMCI-SF)

Satisfaction

- The students enjoy their schoolwork in the class (item 1)
- Students are happy with the class (item 7)
- Students in the class have good buddies (item 11)
- Students seem to like the class (item 12)
- Most students appreciate their learning experiences in the class (item 16)
- The students see the class as fun (item 21)

Competitiveness

- Students often race to see who can finish their work first (item 2)
- Most students want their work to be better than their friend's work (item 8)
- Some students always try to outperform their peers (item 17)

Difficulty

- In the class the work is hard to complete (item 4)
- Most students cannot complete their assignments without a lot of help (item 9)
- Only the brightest students can do all the work (item 13)
- The schoolwork is too complicated for the students (item 18)
- Most students in the class do not know how to do their work very well (item 23)

Peer Relations

- Students do not fight with each other (item 2)
- In the class everyone is friends (item 5)
- All students in my class get along well with each other (item 15)
- All students in the class are fond of one another (item 20)
- Students in the class do not argue with each other (item 22)

School Counseling Impact (SCI)

- The school counselor helps students feel good about learning in this classroom (item 6)
- The school counselor aids with building classroom cohesion (item 10)
- Because of the school counselor's visits to the classroom, the students tend to work more cooperatively (item 14)
- The school counselor helps make the learning less difficult (item 19)
- The school counselor helps create unity in the classroom (item 24)

APPENDIX F

The Marlowe-Crowne Social Desirability Scale (M-C SDS)

1) Before voting I thoroughly investigate the qualification of all the candidates
2) I never hesitate to go out of my way to help someone in trouble
3) It is sometimes hard for me to go on with my work it I am not encouraged
4) I have never intensely disliked anyone
5) On occasion I have had doubts about my ability to succeed in life
6) I sometimes feel resentful when I don't get my way
7) I am always careful about my manner of dress
8) My table manners at home are as good as when I eat out in a restaurant
9) If I could get into a movie without paying and be sure I was not seen I would probably do it
10) On a few occasions, I have given up doing something because I thought too little of my ability
11) I like to gossip at times
12) There have been times when I felt like rebelling against people in authority even though I knew they were right
13) No matter who I'm talking to, I'm always a good listener
14) I can remember "playing sick" to get out of something
15) There have been occasions when I took advantage of someone
16) I'm always willing to admit it when I make a mistake
17) I always try to practice what I preach
18) I don't find it particularly difficult to get along with loud mouthed, obnoxious people
19) I sometimes try to get even rather than forgive and forget
20) When I don't know something I don't at all mind admitting it
21) I am always courteous, even to people who are disagreeable
22) At times I have really insisted on having things my own way
23) There have been occasions when I felt like smashing things
24) I would never think of letting someone else be punished for my wrong-doings
25) I never resent being asked to return a favor
26) I have never been irked when people expressed ideas very different from my own
27) I never make a long trip without checking the safety of my car
28) There have been times when I was quite jealous of the good fortune of others
29) I have almost never felt the urge to tell someone off
30) I am sometimes irritated by people who ask favors of me
31) I have never felt that I was punished without cause
32) I sometimes think when people have a misfortune they only got what they deserved
33) I have never deliberately said something that hurt someone's feelings

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