EFFECTS OF TEACHERS’ BACKGROUNDS AND PERSPECTIVES OF DISABILITY STIGMA ON EFFORTS TO ADDRESS STIGMA IN THE CLASSROOM

by

Rachel Salinger

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Education

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ABSTRACT

Stigmatization of students with disabilities is related to a variety of adverse long-term effects and many teachers experience challenges implementing empirically-based practices to address this stigma. The purpose of this study was to explore the factors that predict teachers' efforts to address stigma in the classroom and barriers to implementing such efforts. The relationships between teachers' backgrounds, personal attitudes towards students with disabilities, awareness of public stigma of students with disabilities, and use of empirically-based practices to increase acceptance in their classrooms, as well as teachers' perceived barriers to implementing these practices were investigated through collection of self-report survey data from currently practicing teachers. Several of the measures were adapted from empirically-based scales (e.g. Placement and Services Survey, ADHD Stigma Questionnaire, Barriers to Implementing Evidence-Based Interventions in the Classroom Survey), whereas the measure on attempts to address stigma was developed originally. To pilot test the measures, 142 participants recruited through a large school district completed the survey electronically and correlational, item, and Rasch analysis were conducted to revise the scales. Subsequently, 330 additional participants from the same school district completed the finalized survey measures. Descriptive analysis revealed that 90 percent of teachers reported attempts to address stigma, with social contact based practices being most frequently endorsed. Correlational, multiple regression, and path analyses indicated significantly different predictors of attempts to address stigma for elementary, secondary, and overall teachers. Predictors were personal in nature for elementary teachers (i.e., pre-service education and personal attitudes), and involved school-wide factors for secondary teachers (i.e., school-wide percent of special education students and level of integration into general education classes). When combined, teachers' use of practices was predicted by their placement in general as compared to special education classes and the presence of personal relationships with individuals with disabilities. Additionally, correlational analysis revealed that school-wide initiatives and teachers' involvement therein were related to teachers' attempts to address stigma in their own classes. Finally, descriptive analysis indicated that the most commonly reported barriers to implementing empirically-based practices to address stigma included constraints of time, materials, class size, and feeling overwhelmed. Overall, this study revealed that there are distinct factors that may be utilized to predict teachers' attempts to address stigma. The implications of these findings for school psychologists, administrators, and educational institutions in providing the appropriate support for teachers to successfully implement strategies to reduce stigma are discussed.

Chapter 1

LITERATURE REVIEW

1.1 Introduction and Background

Addressing the stigmatization of students with disabilities has arisen as a critical and complex responsibility of educators in the current educational context. Both legislation and research emphasize the need for equal treatment of all students and support the education of students with disabilities in their least restrictive environment as a method to facilitate this equality. Specifically, the Rehabilitation Act of 1973 and the Americans with Disabilities Amendments Act of 2008 protect individuals from discrimination in public domains, requiring that schools in particular ensure equal treatment for students with disabilities (Americans with Disabilities Amendments Act, 2008; Rehabilitation Act, 1973). Regulations stipulating the education of students with disabilities in their least restrictive environment, which is defined as instruction with nondisabled peers to the greatest extent possible, include the Individuals with Disabilities Education Act of 2004 and the Every Student Succeeds Act of 2015 (Every Student Succeeds Act, 2015; Individuals With Disabilities Education Act, 2004). Recent research also provides support for the effectiveness of educating students with disabilities in their least restrictive environment. Studies have found that placing students with disabilities in the general education classroom for greater portions of the school day improves academic achievement and engagement in school activities, as well as social and emotional outcomes (King-Sears, 2001; Lee et al., 2010; Soukup et al., 2007; Timberlake, 2014).

Even though equal treatment and inclusion of students with disabilities in schools have increased significantly, from 20 percent of students receiving education in general education schools before the implementation of the Individuals with Disabilities Education Act to 95 percent currently, many students continue to suffer the effects of stigma resulting from their disability (Berwick, 2015; U.S. Department of Education, National Center for Education Statistics, 2016). Research provides evidence that the majority of typically developing students maintain negative cognitive and affective attitudes towards peers with disabilities (Corrigan & Penn, 1999; Vogel, Wade, & Hackler, 2007). These stigmatizing attitudes correspond with negative behavioral intentions towards these peers with disabilities, often manifesting in schools as alienation, bullying, or victimization (Bell, Long, Garvan, & Bussing, 2011; Lee, 2014; Segall & Campbell, 2012). Students targeted by stigma often experience adverse long-term effects including worsened disability prognosis, reduced likelihood to seek or maintain treatment, diminished confidence, self-esteem, self-efficacy, and overall well being, impairments in social development and acceptance, and decreased academic and professional opportunities (Bell et al., 2011; Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Fellner, 2015; Katz, Porath, Bendu, & Epp, 2012; Ludwikowski, Vogel, & Armstrong, 2009; Mann & Himelein, 2008).

As these attitudes begin to develop in childhood and directly affect students in the educational context, schools have a responsibility to address stigma through prevention, intervention, or modifications in the classroom (Bellanca & Pote, 2013; Murman, Buckingham, Fontilea, Villanueva, Leventhal, & Hinshaw, 2014; Segall & Campbell, 2012). Further, anti-stigma initiatives for children have been found to be most effective when facilitated by teachers in the school setting, as compared to those facilitated by outside personnel or in community settings (Staniland & Byrne, 2013; Weisman, Kia-Keating, Lippincott, Taylor, & Zheng, 2016). In order to address the stigma of individuals with disabilities and increase acceptance, research primarily supports the use of programs focusing on education, social contact, or advocacy (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Dunn, 2016; Ferrari, 2016; Mann & Himelein, 2008; Murman et al., 2014; Ventieri, Clarke, & Hay, 2011). Effective educational programs teach accurate information about disabilities to challenge myths or stereotypes and may include explicit courses focusing on disability knowledge, information integrated into the existing curriculum, videos, books, or theater productions (Bellanca & Pote, 2013; Mann & Himelein, 2008; Murman et al., 2014). Programs involving social contact, either through direct or indirect contact, reduce stigma by challenging stereotypes and attitudes through first person interactions (Corrigan & Penn, 1999; Dunn, 2016; Ferrari, 2016; Mann & Himelein, 2008). Although less common, advocacy efforts such as clubs or school-wide campaigns have also been found to reduce stigma and stereotypes of individuals with disabilities (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Murman et al., 2014).

Despite the research on empirically-based interventions to increase acceptance of students with disabilities, many teachers experience challenges in implementing such initiatives (Cramer, 2015; Segall, 2011; Yu, Ostrosky, Meyer, Favazza, Mouzourou, &

van Luling, 2016; Weisman et al., 2016). Limited evidence suggests that teachers' efforts to address this stigma in the classroom may be influenced by their training, experience, background, personal attitudes towards students with disabilities, and awareness of public stigma of individuals with disabilities (Chung, Edgar-Smith, Palmer, Chung, DeLambo, & Huang, 2015; Park & Chitiyo, 2011; Segall, 2011; Segall & Campbell, 2012). Namely, studies have presented evidence that teachers have more positive attitudes towards students with disabilities if they are female, younger, special education certified, teach at the elementary level, and if they have more advanced training, recent qualifications, and contact with individuals with disabilities (Bell et al., 2011; Bellanca & Pote, 2013; Brown, 2008; Chung et al., 2015; O'Driscoll, Heary, Hennessy, & McKeague, 2012; Park & Chitiyo, 2011). These attitudes towards students with disabilities have in turn been found to predict teachers' behavior in the classroom, including their use of interventions for students with disabilities, successful implementation of interventions, and accurate referral of students for specialized services (Chung et al., 2015; Lequia, 2015; O'Driscoll et al., 2012; Park & Chitiyo, 2011). Additional research has found that teachers holding special education certifications, with more specialized training, or with more experience with students with disabilities are more aware of the effects of public stigma and use more effective strategies to facilitate successful inclusion, behavioral interventions for students with disabilities, and empirically-based strategies to provide students with disabilities access to the general curriculum (Bell et al., 2011; Segall, 2011; Segall & Campbell, 2012).

However, the complete and specific relationships between these factors and teachers' attempts to increase acceptance in the classroom are yet uncertain. First, the literature on teachers' use of practices to address disability stigma should be updated to understand the current situation in classrooms. Additionally, there are unanswered questions in terms of the associations of teachers' background factors with their personal attitudes and perceptions of public stigma. Although prior studies have explored the relationships between teachers' background factors, personal attitudes, perceptions of public stigma, and their behavior in the classroom, none have focused specifically on teachers' behavior to address disability stigma. Furthermore, there is a gap in the literature in terms of the complete relationships and relative predictive importance of the factors of teachers' backgrounds, personal attitudes, and perception of public stigma, in predicting teachers' attempts to address stigma. Finally, data on teachers' reported barriers to addressing disability stigma in the classroom is not currently present in the literature. This study aims to examine the factors that predict teachers' efforts to address stigma in the classroom, the relationship between teachers' backgrounds, personal attitudes towards students with disabilities, awareness of public stigma of students with disabilities, and use of empirically-based practices to increase acceptance in their classroom, and teachers' perceived barriers to implementing efforts to address stigma. By developing a more complete understanding of these factors, relationships, and barriers, methods to effectively address the issue of student level stigma on a large scale may be developed in the form of adjustments to pre-service teacher training, professional development, consultation efforts of specialists, or provision of resources within schools.

1.2 Stigma: What is It and Why is It Important?

Stigma has been broadly defined as a "socially constructed mark of disapproval, shame or disgrace that causes significant disadvantage through the curtailment of opportunities," (Martin, 2010, p. 261). This mark generally results from the presence of any characteristic that is seen as different from the norm or from the majority group, including variances in ethnicity, gender, religion, culture, or physical or mental health (Bell et al., 2011; Bellanca & Pote, 2013; Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Vogel et al., 2007; Vogel, Shechtman, & Wade, 2010). This characteristic is then often erroneously construed as undesirable, leading to negative beliefs, emotions, and behaviors towards individuals exhibiting such a characteristic (Dunn, 2016).

The manifestation of stigma is largely seen in the development of stereotypes, prejudice, and discrimination (Bell et al., 2011; Brown, 2008; Corrigan & Shapiro, 2010; Murman et al., 2014; O'Driscoll et al., 2012; Ohan, Ellefson, & Corrigan, 2015; Ohan, Visser, Moss, & Allen, 2013; Vogel, Bitman, Hammer, & Wade, 2013). Stereotypes are the beliefs or cognitive schemas learned from a specific society, which categorize individuals into groups based on perceived characteristics (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; O'Driscoll et al., 2012). These beliefs may be unpredictable and possibly dangerous, especially to the members of the stereotyped group by spreading often untrue information and gross generalities about individuals with certain characteristics (Martin, 2010). Prejudice, a negative affective attitude, often results from the societal development of these negative beliefs (Bellanca & Pote, 2013; Brown, 2008; O'Driscoll et al., 2012; Power & Green, 2010). In defining a negative attitude as prejudice, it must be an emotional reaction that is applied to a group of individuals solely based on their perceived membership in a group seen as undesirable (Corrigan & Shapiro, 2010; Mason, Pratt, Patel, Greydanus, & Yahya, 2004). Such emotional reactions are perilous if they become too strong or organized, increasing the risk of leading to negative behaviors towards a group, such as increased social distance, diminished expectancies, or other discriminatory behavior. Research defines discrimination as the differential treatment of a group resulting from being targeted by prejudice (Corrigan & Shapiro, 2010; Mason et al., 2004; O'Driscoll et al., 2012). This may manifest as any negative action, including peer exclusion, removal of empowerment, prohibition of opportunities, failure to provide support, or segregation from individuals from the majority group, which may harm the targeted individuals in some way (Corrigan & Shapiro, 2010; O'Driscoll et al., 2012).

1.2.1 Public Stigma

The preponderance of research on stigma generally focuses on public stigma, regardless of whether it uses this terminology. Public stigma is defined as stereotypes, prejudice, or discrimination towards a specific perceived subgroup endorsed by large segments of a population (Bell et al., 2011; Corrigan, Morris, Larson, Rafacz, Wassel, Michaels, Wilkniss, Batia, & Rusch, 2010; Corrigan & Shapiro, 2010; Vogel et al., 2010; Vogel et al., 2013). Specifically, public stigma is held by members of the majority group towards individuals considered to be different from the agreed upon norm. This may be manifested as any negative reaction towards the group perceived as different or other, even if these negative actions are not easily visible or delineated in the society (Bell et al., 2011; Vogel et al., 2010).

1.2.2 Self-Stigma

Self-stigma results when an individual targeted by public stigma internalizes such public stigma or accepts the negative beliefs held by others (Bell et al., 2011; Corrigan et al., 2010; Murman et al., 2014; O'Driscoll et al., 2012; Vogel et al., 2007; Vogel et al., 2010). This process of an individual acceding to the negative perceptions others maintain of them and consequently self-labeling as socially undesirable or unacceptable understandably leads to many adverse outcomes, including reductions in self-esteem, self-efficacy, and self-worth (Corrigan et al., 2010; Corrigan & Shapiro, 2010; Fellner, 2015; Ludwikowski et al., 2009; Vogel et al., 2007; Vogel et al., 2010; Vogel et al., 2013).

Recent research has attempted to explain the process of the development of self-stigma. For example, modified labeling theory has been used to describe this progression by explaining that the act of labeling individuals as different leads to self-stigma. Specifically, these negative labels created by the public cause negative external perceptions, such as societal devaluation and discrimination, which in turn harm individuals' sense of self (Vogel et al., 2007; Vogel et al., 2010; Vogel et al., 2013).

This relationship between public and self-stigma was examined in a study conducted by Ludwikowski, Vogel, and Armstrong (2009). In this study, students were surveyed about perceived public stigma, personal stigma of close others, and self-stigma. The findings conveyed a relationship of public and personal stigmas with self-stigma. In particular, public stigma was found to be especially linked to self-stigma in this sample.

Furthermore, a study conducted by Vogel, Bitman, Hammer, and Wade (2013) revealed that public stigma predicts the development of self-stigma over time. Students with diagnosed mental illnesses were surveyed on their perceptions of public and self-stigma at two time points. Results showed a relationship between perceived public stigma at the first time point and perceived self-stigma at the second time point, suggesting a possible causal relationship between the public and self-stigma, although further research is necessary to confirm the causal nature of this relationship.

1.2.3 Disability Stigma

Individuals with physical or mental disabilities are often targeted by public stigma in society, provoking a risk of self-stigma as a result (Adler & Wahl, 1998; Bell et al., 2011; Bellanca & Pote, 2013; Campbell, Ferguson, Herzinger, Jackson, & Marino, 2004; Corrigan & Penn, 1999; Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000; Eisenman & Tascione, 2002; Gillespie-Lynch, Brooks, Someki, Obeid, Shane-Simpson, Kapp, Daou, & Smith, 2015; Segall, 2011; Segall & Campbell, 2012; Ventieri et al., 2011; Vogel et al., 2007). Disabilities are conditions of impairment that substantially restrict or limit major life activities considered routine by typically developing individuals (Dunn, 2016; Mason et al., 2004; Power & Green, 2010). Research has found overwhelming evidence for the presence of stigma towards individuals with disabilities, both in the general public, in childhood peer relationships, and specifically in schools (Bellanca & Pote, 2013; Corrigan & Penn, 1999; Gillespie-Lynch et al., 2015; Katz et al., 2012; Lee, 2014; Segall, 2011; Segall & Campbell, 2012; Ventieri et al., 2011; Vogel et al., 2007; Yu et al., 2016). This stigma presents as stereotyped beliefs, such as the perception that individuals with disabilities are dangerous, dysfunctional, unpredictable, unintelligent, incompetent, lazy, or noncontributing, which lead to prejudiced attitudes and discriminatory behaviors (Corrigan & Shapiro, 2010; Ferrari, 2016; Wahl, Susin, Kaplan, Lax, & Zatina, 2011).

The literature on disability stigma in the general public provides abundant evidence for the existence and harmful effects of such stigma (Adler & Wahl, 1998; Corrigan & Penn, 1999; Crisp et al., 2000; Ventieri et al., 2011; Vogel et al., 2007). For instance, this stigma was examined in a study conducted by Crisp, Gelder, Rix, Meltzer, and Rowlands (2000). Typically developing individuals were interviewed on their perceptions of common mental disabilities. This study revealed that the majority of respondents viewed individuals with disabilities negatively, maintained stereotypes of these individuals, and avoided talking to individuals with disabilities.

Research focusing on childhood specific stigma towards peers with disabilities reveals similarly negative cognitions, attitudes, and behaviors (Bell et al., 2011; Bellanca & Pote, 2013; Campbell et al., 2004; Gillespie-Lynch et al., 2015; Ohan et al., 2013; Segall & Campbell, 2012). One such study conducted by Ballanca and Pote (2013) examined this stigma. Children participating were asked to read a vignette about a child with attention deficit hyperactivity disorder (ADHD), depression, or a learning disability or a vignette about a typically developing child. They were then surveyed about their attitudes toward the child in the vignette. Findings showed that the children maintained more negative beliefs and attitudes towards the children with disabilities as compared to the typically developing child.

Another study conducted by Campbell, Ferguson, Herzinger, Jackson, and Marino (2004) presented similar results. In this study, children watched videotapes of a child who engaged in typical behaviors and a child who engaged in behaviors characteristic of an individual with autism. When surveyed about their attitudes and behavioral intentions towards the children in the videotapes, the participants reported much more favorable attitudes and intentions towards the child engaging in typical behaviors as compared to the child displaying behaviors characteristic of autism.

The development of school-based stigma of students with disabilities has also been a focus of research (Chamberlain, Kasari, & Rotheram-Fuller, 2007; Eisenman & Tascione, 2002; Katz et al., 2012; Lee, 2014; Segall, 2011; Yu et al., 2016). This school-based stigma is often manifested as peer victimization, bullying, and social alienation. One study conducted by Yu, Ostrosky, Meyet, Favazza, Mouzourou, and van Luling (2016) utilized teacher report to explore students' relationships and attitudes towards peers with disabilities. Results revealed that typically developing students tended to avoid peers with disabilities and often became upset or bothered by the behaviors of the children with disabilities.

Social acceptance of students with disabilities in school was also examined in a study conducted by Chamberlain, Kasari, and Rotheram-Fuller (2007). This study involved the use of social network analysis and self-report surveys to investigate the relationships of students with autism with their typically developing peers. The findings conveyed that students with autism experienced less acceptance and social reciprocity than their typically developing peers (Chamberlain et al., 2007). Thus disability stigma is known to be both prevalent and universal in society in the public, as well as between children and specifically in schools.

1.2.4 What Causes Stigma?

Stigmatizing beliefs, attitudes, and behaviors result from varied occurrences, including lack of accurate information about individuals, ingroup-outgroup distinctions, label and attribution bias, innate tendencies to compare oneself to others, and may be influenced by various demographic factors (Bell et al., 2011; Cramer, 2015; Fellner, 2015; Katz et al., 2012; Lequia, 2015; Ludwikowski et al., 2009; Ohan et al., 2013; Ohan et al., 2015). More specifically, the literature on stigma consistently supports the concept that lack of knowledge about a group, such as individuals with disabilities, often leads to stereotypes, prejudice, and social exclusion (Fellner, 2015; Katz et al., 2012; Weisman et al., 2016). In a study conducted by Brockington, Hall, Levings, and Murphy (1993), participants were surveyed about their knowledge of mental illness and their attitudes towards individuals with such mental illnesses. Results revealed that participants with less accurate understandings of mental illnesses did in fact endorse more stigmatizing attitudes and beliefs of individuals with mental illness.

Another phenomenon often used to explain the development of stigma is the ingroup-outgroup distinction (Bell et al., 2011; Bellanca & Pote, 2013; Dunn, Fisher, & Beard, 2012; Lequia, 2015; Vogel et al., 2010). In this process, an individual distinguishes between others perceived to be like them based on perspective and experience, the ingroup, and those perceived as different, the outgroup (Dunn et al., 2012). The individual then attributes negative, often inaccurate beliefs and attitudes to the outgroup, causing this group to be perceived as undesirable and socially unacceptable (Bell et al., 2011; Lequia, 2015; Vogel et al., 2010). Therefore, when applied to stigma of individuals with disabilities, people without disabilities tend to consider themselves as part of the ingroup, or the typically developing group, whereas they consider people with disabilities as part of the outgroup, thus perceiving these individuals as less socially acceptable.

Label and attribution biases also explain the development of stigma, especially for individuals with disabilities (Brown, 2008; Dunn, 2016; Mann & Himelein, 2008; Mason et al., 2004; Ohan et al., 2013; Ohan et al., 2015). Research on stigma of individuals with disabilities has found support for the theory that the presence of a diagnostic label may lead to stigmatizing beliefs about an individual. In the literature, this is referred to as labeling theory, which suggests that labels such as diagnoses classify people as part of a different group, signifying associated stereotypes and leading to stigmatization (Dunn, 2016; Mann & Himelein, 2008; Mason et al., 2004; Ohan et al., 2015). Similarly, attribution bias has been used to describe the development of stigma in response to diagnostic labels. Based on this theory, labels are thought to define the essence of a person, thus removing all unique qualities (Brown, 2008; Dunn, 2016). In other words, all the individual's characteristics, behaviors, and expectancies of aptitude are attributed solely to the diagnostic label. Studies have found that the presence of a diagnostic label increases the likelihood of stigmatization by the typical adult or child, as well as by educational professionals and researchers (Ohan et al., 2013; Ohan et al., 2015). Additionally noteworthy, research has found that the presence of a diagnostic label alone leads to stigma, although different labels do not produce differing levels of stigma (Ohan et al., 2015; Segall, 2011).

Stigma may also arise from the innate tendency to compare oneself to others in terms of appearance, behaviors, or achievements (Dunn, 2016; Katz et al., 2012; Ohan et al., 2013). In particular, research has found that individuals stigmatize others, such as those with disabilities, based on the aesthetic of the disability, how apparent or obviously the disability presents, the disruptiveness of the disability, and the perceived danger or contagiousness of the disability (Dunn, 2016). The effect of apparent symptoms or behaviors characteristic of disabilities on stigma was revealed in a study conducted by Ohan, Visser, Moss, and Allen (2013). When adults were presented with vignettes describing the behaviors and appearances of either a typically developing child or a child with characteristically presenting ADHD, they highly stigmatized the children with the appearance and behaviors different from their own. Furthermore, within the school setting, children have been found to evaluate social acceptance by comparing themselves to others based on grades, grouping, and the presence of one-on-one aides for students (Katz et al., 2012). This value of social acceptance then leads to the development of stereotypes, prejudice, discrimination, and stigmatization of those considered based on the comparison to be different.

Research has also provided evidence that stigma may be effected by the demographic factors of either the stigmatized or the stigmatizers (Bellanca & Pote, 2013; Cramer, 2015; Fellner, 2015; Gillespie-Lynch et al., 2015; Mason et al., 2004; Ludwikowski et al., 2009; O'Driscoll et al., 2012; Staniland & Byrne, 2013). In particular, individuals with disabilities who are culturally, linguistically, or racially diverse and those from lower social economic classes tend to be more stigmatized, even as compared to other students with disabilities (Cramer, 2015; Fellner, 2015). It has also been found that children with less pronounced disabilities are often more stigmatized because when a child's disability is not obvious, others hold higher expectations for him or her, which may be unrealistic based on the disability (Mason et al., 2004). Moreover, studies have revealed that individuals who are male rather than female are more likely to stigmatize others and more readily perceive stigma in society (Gillespie-Lynch et al., 2015; Ludwikowski et al., 2009; O'Driscoll et al., 2012; Staniland & Byrne, 2013). Also, within the child and adolescent population, older adolescents are far more likely to stigmatize others as compared to younger children or adolescents (Bellanca & Pote, 2013; O'Driscoll et al., 2012). Therefore, there are associations between demographic factors and degree of stigmatization.

1.2.5 Why is Stigma Important to Understand?

Examining and understanding the processes of stigmatization, especially of individuals with disabilities is invaluable, as the presence or absence of this stigma has the potential to precipitate long-term outcomes (Bell et al., 2011; Corrigan et al., 2010; Corrigan & Shapiro, 2010; Dunn, 2016; Fellner, 2015; Ludwikowski et al., 2009; Ventieri et al., 2011; Wahl et al., 2011). As eloquently explained by the former U.S. Surgeon General, "stigma tragically deprives people of their dignity and interferes with their full participation in society," (U. S. Department of Health and Human Services, 1999). Whereas the absence of stigma in individuals with disabilities has been found to lead to positive self-beliefs and developments of social ties to the community, the presence of stigma causes long-term negative outcomes, such as worsened prognosis for the disability itself, interference with treatment effects, worsened self-esteem and wellbeing, diminished social outlooks, decreased academic and professional achievements, and adverse influence on risks of incarceration and homelessness (Bell et al., 2011; Bellanca & Pote, 2013; Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Dorsey, Mouzourou, Park, Ostrosky, & Favazza, 2016; Dunn, 2016; Eisenman, Pell, Poudel, & Pleet-Odle, 2015; Fellner, 2015; Katz et al., 2012; Ludwikowski et al., 2009; O'Driscoll et al., 2012; Vogel et al., 2010).

The stigma of individuals with disabilities has been found to predict the course and impact of the disability both directly and through its influence on treatment (Corrigan & Shapiro, 2010; Power & Green, 2010; Ludwikowski et al., 2009; Vogel et al., 2007; Vogel et al., 2010; Vogel et al., 2013). Abundant research has provided evidence of the harmful effects of stigma on individuals' attitude toward treatments, such as counseling, psychiatric care, and other supports, as well as their likelihood to seek treatment, stay in treatment, and fully comply with such treatment (Bell et al., 2011; Corrigan & Shapiro, 2010; Esters, Cooker, & Ittenbach, 1998; Ferrari, 2016; Ludwikowski et al., 2009; Mann & Himelein, 2008; Martin, 2010; Murman et al., 2014; NASP, 2010; Ohan et al., 2015; Power & Green, 2010; Sirey, Bruce, Alexopoulos, Perlick, Raue, Friedman, & Meyers, 2001; Ventieri et al., 2011; Vogel et al., 2007; Vogel et al., 2010; Vogel et al., 2013; Wahl et al., 2011; Weisman et al., 2016). Beyond the effects of the stigma towards individuals with disabilities, the literature labels specific negative attitudes towards individuals who seek treatment as help-seeking stigma, which is defined as the perception that people who seek treatment are undesirable or socially unacceptable (Ludwikowski et al., 2009). Studies have consistently found support for the adverse effects of stigma on treatment (Murman et al., 2014; Vogel et al., 2007; Vogel et al., 2010). The effects of both public and self-stigma on attitudes towards treatment and willingness to seek treatment were revealed in a study conducted by Vogel, Wade, and Hackler (2007). Based on the analysis of student survey responses, findings determined that perceptions of public stigma influenced self-stigma, which effected attitudes toward treatment, which then impacted willingness to seek treatment (Vogel et al., 2007). This relationship is presented in Figure 1, drawn from the 2007 study conducted by Vogel, Wade, and Hackler. These findings were replicated in a similar study conducted by Vogel, Shechtman, and Wade (2010) focusing on group counseling as the treatment in question. Another study conducted by Sirey, Bruce, Alexopoulos, Perlick, Raue, Friedman, and Meyers (2001) revealed parallel effects of stigma on treatment. Individuals who were newly admitted to treatment were surveyed about their perception of public stigma and their treatment compliance was tracked over time. Results indicated that the participants who perceived greater stigma were more likely to withdrawal from treatment early.

The literature presents ample empirical indication of the detrimental impact of stigma on confidence, self-esteem, self-efficacy, and overall wellbeing (Bell et al., 2011; Chen & Schwartz, 2012; Corrigan et al., 2010; Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Dorsey et al., 2016; Mann & Himelein, 2008; Martin, 2010; Wahl et al., 2011; Weisman et al., 2016). These adverse effects arise in part from the influence of discrimination, social alienation, and victimization resulting from the stigma, which lead to discouragement and damage self-esteem (Chen & Schwartz, 2012; Wahl et al., 2011). Another explanation of this process is suggested in a theorized self-fulfilling prophesy influence known as the "why try effect." Specifically, it is suggested that when individuals believe and internalize stigma, they discontinue attempts to succeed and become convinced that they are unable to achieve their goals, thus diminishing their self-esteem and self-efficacy (Corrigan & Shapiro, 2010).

Social rejection is another great risk for individuals targeted by stigma (Bell et al., 2011; Bellanca & Pote, 2013; Chen & Schwartz, 2012; Corrigan & Penn, 1999; Dorsey et al., 2016; Katz et al., 2012; Ventieri et al., 2011; Wahl et al., 2011; Weisman et al., 2016). In some cases, the discriminatory behavior caused by the stigma of individuals with disabilities is then compounded by symptomatic social and emotional impairments, making social isolation an even larger risk (Bellanca & Pote, 2013; Dorsey et al., 2016). Studies have found that children with disabilities are bullied in school at alarming rates, with some finding that as many as ninety-four percent of students with disabilities are bullied each year (Chen & Schwartz, 2012). This social isolation and lack of peer relationships may lead to many other risk factors in education, employment, and emotional development (Chen & Schwartz, 2012; Corrigan & Penn, 1999; Ventieri et al., 2011).

Stigmatization is known to adversely affect individuals' academic and professional achievement (Bell et al., 2011; Chen & Schwartz, 2012; Corrigan et al., 2010; Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Dorsey et al., 2016; Katz et al., 2012; Mann & Himelein, 2008; Martin, 2010; Morrow, Hubbard, & Swift, 2014; O'Driscoll et al., 2012; Ventieri et al., 2011; Weisman et al., 2016). In particular, individuals targeted by stigma and associated discriminatory behavior are more likely to experience academic failure, less positive school attitudes, increased problem behavior, more suspensions, worse attendance, and higher retention rates (Chen & Schwartz, 2012; Dorsey et al., 2016; Katz et al., 2012; Morrow et al., 2014; O'Driscoll et al., 2012; Weisman et al., 2016). Moreover, perceived public stigma has been shown to decrease the likelihood that students disclose their disabilities to teachers in later education, precluding them from receiving necessary supports in class (Martin, 2010). The experienced stigma as well as this diminished academic achievement then negatively impact professional outlook by increasing risk of unemployment, discrimination in the workplace, and interference with goals at work (Bell et al., 2011; Corrigan et al., 2010; Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Mann & Himelein, 2008; O'Driscoll et al., 2012; Ventieri et al., 2011). Finally, discrimination and diminished employment rates resulting from stigma may harm housing options and increase risk of delinquency and incarceration frequency and duration (Bell et al., 2011; Mann & Himelein, 2008; O'Driscoll et al., 2012).

However, preventing public and self-stigma from early in an individual's childhood would effectively reduce the risk of these many negative outcomes, as well as increase the incidence of positive self-beliefs and social connections (Dunn, 2016; Eisenman, et al., 2015). The positive effects of successful efforts to maximize acceptance of students with disabilities were demonstrated in a study conducted by Eisenman, Pell, Poudel, and Pleet-Odle (2015). Students with disabilities in an inclusive high school who were interviewed about their experiences in this study specifically described how the acceptance of peers and teachers improved their confidence and self-beliefs. Clearly, the abundant detriments to individuals targeted by stigma contrasted with the positive effects of increasing acceptance provides evidence for the necessity to thoroughly understand the development of stigma in order to effectively combat its impact on those effected.

1.3 Teachers' Perspective of Student Stigmatization

The literature suggests that teachers' demographic factors and backgrounds may be used to predict their perspectives on student stigmatization, which in turn predict their behaviors in the classroom (Bell et al., 2011; Bellanca & Pote, 2013; Chung et al., 2015; Lee, 2014; Lequia, 2015; O'Driscoll et al., 2012; Park & Chitiyo, 2011; Segall, 2011). The specific relationships between these predictors and teacher behavior are imperative to understand in order to facilitate the development of appropriate support for these educators. Explicitly, the effect of teachers' background on their personal attitudes, their recognition of public stigma, and their behavior, the influence of teachers' personal attitudes on their behavior, and the impact of teachers' recognition of public stigma on their behavior are discussed.

1.3.1 Background Factors as Predictors of Teachers' Perspectives and Behavior

Teachers' personal attitudes towards students with disabilities are predicted by a variety of background factors and experiences, including gender, age, training, special education certification, teaching position, personal contact with individuals with disabilities, and length of teaching experience (Bell et al., 2011; Bellanca & Pote, 2013; Chung et al., 2015; Brown, 2008; Lequia, 2015; O'Driscoll et al., 2012; Park & Chitiyo, 2011). In particular, a predominance of research has found that females tend to have more positive attitudes towards students with disabilities (Brown, 2008; Chung et al., 2015; Gillespie-Lynch et al., 2015; Ludwikowski et al., 2009; O'Driscoll et al., 2012; Park & Chitiyo, 2011; Staniland & Byrne, 2013). It is also notable that one study found that men report feeling more responsible for supporting students with disabilities than women and that other studies have found inconclusive effects of gender (Brown, 2008; O'Driscoll et al., 2012).

The effect of age on personal attitudes towards students with disabilities has been universally supported in the literature. Namely, research has consistently found that attitudes towards students with disabilities are more positive in younger teachers (O'Driscoll et al., 2012; Park & Chitiyo, 2011). However, research has also supported the potentially confounding finding that more quantity and specialization of training on special education or working with students with disabilities is linked to teachers' more positive attitudes towards these students (Bell et al., 2011; Park & Chitiyo, 2011; Segall, 2011). Training of either pre-service, professional development, or in-service types focusing on disabilities consistently improves teachers' attitudes towards students with disabilities (Bell et al., 2011).

Most research also supports the connection between special education certification and more positive attitudes towards students with disabilities (Chung et al., 2015; Segall, 2011; Segall & Campbell, 2012). However, the findings of prior studies do not consistently suggest that this certification leads to a significant difference in attitudes (Park & Chitiyo, 2011).

Teachers working at the elementary school level have also been found to have more positive attitudes towards students with disabilities (Chung et al., 2015; Park & Chitiyo, 2011). It has been suggested that this effect may result from these teachers spending more time per day with each child, allowing them to understand the unique strengths and weaknesses of each student rather than simply using diagnostic labels to inform their understandings of their students (Park & Chitiyo, 2011).

Contact with individuals with disabilities, either personally or professionally, improves teachers' attitudes towards students with disabilities (Bellanca & Pote, 2013; Lequia, 2015; Park & Chitiyo, 2011; Segall, 2011; Segall & Campbell, 2012). One study conducted by Lequia (2015) compared teachers' attitudes towards students with disabilities, obtained through survey report, to the amount of time students with disabilities spent in their classroom. Results revealed a direct association between time spent with students with disabilities and teachers' positive attitudes towards these students.

The effect of length of teaching experience may also be somewhat confounded by the influence of age as compared to the impact of contact with individuals with disabilities. Specifically, some studies suggest that teachers with less experience have less personal stigma, whereas others indicate that teaching experience is not predictive of attitudes in either direction (Bell et al., 2011; Lalvani, 2015). These inconclusive and seemingly improbable findings may be attributed to the opposing influences of age, suggesting a younger teacher would have a more positive attitude, and contact with individuals with disabilities, suggesting a more experienced teacher would have established more contact with students with disabilities and thus have a more positive attitude (Bellanca & Pote, 2013; O'Driscoll et al., 2012; Park & Chitiyo, 2011). Furthermore, the suggested inverse relationship between experience and attitude towards students with disabilities may also be modified by the fact that teachers with less experience have been more recently educated, meaning that they have learned the most recent and updated research on working with students with disabilities, which could help to improve their attitudes towards these students (Bell et al., 2011).

Research on the effects of teachers' background factors on their recognition of public stigma and behavior is somewhat less prevalent. The direct relationship between special education certification and recognition of public stigma was revealed in a study conducted by Bell, Long, Garvan, and Bussing (2010). Teachers were surveyed on their recognition of public stigma of students with ADHD and findings conveyed that those holding special education certifications indicated higher stigma recognition.

Although there is presently no research on the effects of teachers' backgrounds on behavioral attempts to address stigma in the classroom, there are studies that explore the relationship between teacher background and other teacher behaviors such as their likelihood to refer students for treatment, application of strategies to facilitate inclusion, and behavioral intentions for implementing interventions with students with disabilities (Lee, 2014; Segall, 2011; Segall & Campbell, 2012). Specifically, studies have found that cultural background predicts teachers' likelihood to refer students with disabilities for treatment, in that teachers from Asian backgrounds were less likely to make referrals than those from other cultural backgrounds, possibly as a result of higher levels of teachers' personal disability stigma (Lee, 2014). Teachers with special education certifications and with more contact with students with disabilities have been found more likely to employ strategies to facilitate effective inclusion (Segall, 2011; Segall & Campbell, 2012). In addition, more contact with students with disabilities and training on working with these students has been found to predict teachers' behavioral interventions for implementing interventions (Segall, 2011).

1.3.2 Personal Attitudes as Predictors of Teachers' Behavior

Teachers' positive personal attitudes towards students with disabilities have been found to predict their behavior in the classroom. In particular, abundant research has provided evidence that teachers with more positive attitudes towards students with disabilities more effectively select types of interventions, implement interventions, successfully facilitate inclusion, maintain positive relationship with parents, and behave more positively towards students, which in turn decreases student stigma, prevents self-stigma, and improves student achievement (Bell et al., 2011; Chung et al., 2015; Fellner, 2015; Lequia, 2015; Park & Chitiyo, 2011; Segall, 2011). Furthermore, an observation based study conducted by McAuliffe, Hubbard, and Romano (2009) found that teachers' positive attitudes toward students were associated with reductions in the teacher's negative behavior towards those children. However, there is another study looking at teacher attitudes and use of empirically supported interventions through survey data that did not find a link between the two factors (Segall, 2011). The difference in the results of these two studies may lie in the divergent methods of data collection. Specifically, teachers in the first study may have demonstrated greater improvement in behavior corresponding with more positive attitudes towards students as a result of the in vivo nature of the observations taking place with their actual students, whereas the teachers in the second study may have experienced difficulty answering survey items about hypothetical students. Therefore, further research is required to effectively define the relation between teachers' personal attitudes and their behavior.

1.3.3 Recognition of Public Stigma as a Predictor of Teacher Behavior

The relationship between teachers' recognition of public stigma and their behavior in the classroom is only circumstantial in the existing literature (Bell et al., 2011; Lee, 2014; Segall, 2011). This lack of solid connection may be due in part to the fact that research suggests the majority of teachers are unable to recognize stigma associated with disabilities, although holding a special education certification does increase the probability of having this ability (Bell et al., 2011; Lalvani, 2015). The circumstantial relation that may be drawn from the literature links the attainment of a special education certification with both the ability to recognize public stigma and the use of more effective strategies for inclusion in the classroom (Bell et al., 2011; Segall, 2011). Although the ability to recognize public stigma is not explicitly facilitating the relationship between special education certification and teacher behavior, it does at least correlate with both. The interactions between the teacher factors discussed above are important to understand in order to guide teachers' use of effective strategies to reduce stigma in the classroom.

1.3.4 Barriers to Implementing Efforts to Reduce Stigma

Considering factors that may be preventing teachers from implementing efforts to reduce stigma of students with disabilities is necessary in developing supports for teachers for this purpose. Based on research, one of the most commonly reported barriers to implementing efforts to reduce stigma is lack of training, which decreases understanding of how to implement strategies and feelings of competency in this practice (Bell et al., 2011; Cramer, 2015; Segall, 2011; Weisman et al., 2016; Yu et al., 2016). Studies surveying teachers about their training found that seventy-seven to ninety-nine percent of teachers report a desire for more training on working with students with disabilities (Bell et al., 2011). Another frequently cited barrier is lack of administrative support for using resources to reduce stigma (Lee, 2014; Segall, 2011; Segall & Campbell, 2012; Weisman et al., 2016; Yu et al., 2016). This may also preclude teachers from obtaining the necessary in-service training and resources to implement such interventions. Other regularly noted barriers include lack of time or resources, difficulties with logistics, overabundance of responsibilities, programs that are difficult to sustain, difficulties with student engagement and behavior, and lack of teacher motivation (Dorsey et al., 2016; Lee, 2014; Weisman et al., 2016; Yu et al., 2016). By understanding these barriers, supports may be developed to encourage and enable teachers to employ evidence based strategies to reduce stigma in their classes.

1.4 Empirically-Based Practices to Increase Acceptance in the Classroom

Research provides evidence of the critical nature of implementing empirically-based practices to increase acceptance of students with disabilities in the classroom

(Fellner, 2015; Katz et al., 2012; Murman et al., 2014; Segall & Campbell, 2012; Staniland & Byrne, 2013; Weisman et al., 2016). These practices should be preventative, multi-tiered, and promote inclusion, understanding, solidarity, social acceptance, and respect for all people (Chen & Schwartz, 2012; Dorsey et al., 2016; Fellner, 2015; Katz et al., 2012). Teachers should protect students with disabilities from teasing and bullying both because of their responsibility to create a safe, educational environment, as well as the research support for the greater relative effectiveness of acceptance efforts run by teachers in school for children at a young age (Bellanca & Pote, 2013; McAuliffe, Hubbard, & Romano, 2009; Segall & Campbell, 2012; Staniland & Byrne, 2013; Ventieri et al., 2011; Weisman et al., 2016). The literature supports three primary methods of increasing acceptance in the classroom: education, social contact, and advocacy or protest (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Ferrari, 2016). Each of these strategies may take on various forms, an understanding of which enables schools to suggest the most appropriate for use by their teachers.

1.4.1 Education

By providing students with factual information and challenging stereotypes about disabilities, the associated characteristics and treatment, and how to interact with peers with disabilities, teachers may reduce stigma and increase acceptance of diversity in their classroom (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Lequia, 2015; Mann & Himelein, 2008). Research consistently supports the use of educational methods to increase acceptance by disconfirming false assumptions, improving attitudes, increasing understanding and empathy, and reducing discriminatory behavior (Bellanca & Pote, 2013; Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Ferrari, 2016; Mann & Himelein, 2008; Murman et al., 2014; Staniland & Byrne, 2013; Ventieri et al., 2011). Empirically supported educational strategies include explicit educational programs, programs integrated into the curriculum, videotapes, books, and theater productions (Dunn, 2016; Gaffney & Wilkins, 2016; Gillespie-Lynch et al., 2015; Katz et al., 2012; Murman et al., 2014; Rand Corporation, 2014; Ventieri et al., 2011).

1.4.1.1 Explicit Educational Programs

Some educational programs explicitly address stigma by providing descriptive, explanatory, and directive information to openly teach students about how the mind works, individual strengths and challenges, disabilities, and how to relate to peers with disabilities (Corrigan & Penn, 1999; Dunn et al., 2012; Katz et al., 2012; Staniland & Byrne, 2013). Studies on a variety of such programs have provided evidence of their effectiveness in reducing stigma in the classroom (Corrigan & Penn, 1999; Dorsey et al., 2016; Dunn et al., 2012; Esters et al., 1998; Gillespie-Lynch et al., 2015; Katz et al., 2012; Mehta, Clement, Marcus, Stona, Bexborodovs, Evans-Lacko, Palacios, Docherty, Barley, Rose, Koschorke, Shidhaye, Henderson, & Thornicroft, 2015; Meyer & Ostosky, 2016; Staniland & Byrne, 2013; Ventieri et al., 2011; Wahl et al., 2011; Weisman et al., 2016; Yu et al., 2016). For instance, a study on the Understanding Our Peers anti-stigma educational program conducted by Staniland and Byrne (2013) revealed resulting improvements in students' knowledge and attitudes. This program involved teaching students descriptive, explanatory, and directive information about autism over a six-session course in a middle school. Using a pre-post test experimental design, measures of the experimental group's knowledge and stigma were compared to those in the control group. Findings determined that the anti-stigma program significantly improved knowledge and attitudes towards peers with autism both immediately following the intervention and at a six month follow up.

Several studies have found empirical support for the explicit educational Special Friends program (Dorsey et al., 2016; Meyer & Ostosky, 2016; Yu et al., 2016). This program is a six-week intervention implemented in kindergarten classes that explicitly addresses acceptance of students with disabilities through discussions, storybook readings, and group activities with peers with disabilities. One study on this program utilized an experimental design in which classrooms were randomly assigned to receive either the Special Friends intervention or a matched science curriculum. Based on analysis of teacher reports, it was found that students who participated in the anti-stigma educational program displayed greater increases in acceptance of peers with disabilities than those involved in the matched science curriculum (Dorsey et al., 2016).

Another study conducted by Ventieri, Clarke, and Hay (2011) provided evidence for the effectiveness of a two session educational intervention focusing on reducing stigma of individuals with mental illness. Employing an experimental design involving random assignment to either an intervention group or control group, fifth and sixth grade students' knowledge, social distance, and attitudes towards peers with mental illness were compared before, one week following, and four months following the intervention. Findings revealed significant improvements for the intervention group on all measures at both follow up time points as compared to the control group.

The effectiveness of an explicit educational program called Breaking the Silence was revealed in a study conducted by Wahl, Susin, Kaplan, Lax, and Zatina (2011). Breaking the Silence is a curriculum that offers lesson plans, as well as games, stories, poems, and posters to teach students characteristics of mental illness, treatments, and how to recognize and combat stigma (Wahl et al., 2011; Weisman et al., 2016). In this study, middle school classrooms were randomly assigned to the intervention group, who received three lessons of Breaking the Silence taught by their classroom teacher, or the control group, who received class instruction as usual. Findings conveyed improvements in knowledge, attitudes and willingness to interact with peers with mental illness immediately following the intervention and at a six week follow up for the intervention group and no changes for the control group. Thus explicit educational programs as a group are consistently and thoroughly supported by the literature base.

1.4.1.2 Programs Integrated Into Curriculum

Research also supports the effectiveness of integrating anti-stigma education into the classroom curriculum (Dunn, 2016; Eisenman & Tascione, 2002; NASP, 2010; Ventieri et al., 2011; Watson, Otey, Westbrook, Gardner, Lamb, Corrigan, & Fenton, 2004; Weisman et al., 2016). This may be accomplished by teaching about disability as a form of diversity in a social studies curriculum, educating students on the science behind disabilities in a biology class, or embedding anti-stigma lessons into a language arts curriculum, to name a few possibilities from the literature.

The effectiveness of a science based curriculum to increase acceptance of students with disabilities was revealed in a study conducted by Watson, Otey, Westbrook, Gardner, Lamb, Corrigan, and Fenton (2004). The mental illness anti-stigma material was integrated into a middle school science curriculum and students were surveyed about their knowledge and attitudes pre- and post-intervention. Results indicated that the embedded curriculum effectively increased students' knowledge about and positive attitudes towards individuals with mental illnesses.

Another study conducted by Weisman, Kia-Keating, Lippincott, Taylor, and Zheng (2016) presented the effectiveness of mental health acceptance education embedded in a sixth grade language arts curriculum. The embedded curriculum involves reading literature and plays about mental illness, learning about stigmatizing language and how to avoid using it, and presenting posters written about mental illnesses. Findings revealed that students who participated in this curriculum displayed increases in knowledge and decreases in stigma towards students with mental illness.

Integrating education about disabilities into the curriculum has also been found to decrease feelings of self-stigma in students with disabilities. For example, a study conducted by Eisenman and Tascione (2002) explored the effects of a high school English curriculum focused on disability education and awareness. In addition to explicitly discussing students' own disabilities with them throughout the course of the year, which many students had never experienced in school, students were assigned a series of writing pieces including argumentative essays, research reports, and personal writing pieces. Based on qualitative analysis of the students' writing pieces, interviews with the students, and teacher journals, it was determined that this intervention helped the students with disabilities positively redefine their self-conceptions and improve their sense of self-determination.

1.4.1.3 Videos

Educational programs involving the use of videos to increase acceptance through information about disabilities, directive guidance on interacting with peers with disabilities, or explanations about how to combat stigma have also been supported in the literature (Esters et al., 1998; Gillespie-Lynch et al., 2015; Mehta et al., 2015; Murman et al., 2014; Silton & Fogel, 2012). For example, Silton and Fogel (2012) conducted a study on the effectiveness of videos to increase acceptance of students with autism. Fourth, fifth, and sixth grade students watched videos with descriptive and explanatory information, peer strategies, and material about individual strengths. The results showed that the students' behavioral intentions towards peers with autism were improved after viewing the video.

Studies have also been completed to provide evidence for the effectiveness of programs involving both educational and video components (Esters et al., 1998; Mehta et al., 2015). One such study conducted by Esters, Cooker, and Ittenbach (1998) involved education about disabilities, stigma, and treatment, as well as an associated video. High school students were randomly assigned to either the intervention or control group and their stigma was measured before, immediately after, and twelve weeks after the intervention. Findings indicated that students in the intervention group displayed significant decreases in stigma both immediately after and at the twelve week follow up measurement.

1.4.1.4 Books

The literature also supports utilizing books to increase children's acceptance of peers with disabilities (Cameron & Rutland, 2006; Dorsey et al., 2016; Gaffney & Wilkins, 2016; Meyer & Ostosky, 2016; Yu et al., 2016). Specifically, it is recommended that books for this purpose have characters with disabilities portrayed in a positive light, present explicit plots and character development, show friendship with typical peers, have high quality illustrations, and provide accurate portrayals of disabilities (Gaffney & Wilkins, 2016).

The effect of books on acceptance of students with disabilities was revealed in a study conducted by Cameron and Rutland (2006). Elementary school aged students were given books to read in school about friendships between children with and without disabilities. The students' attitudes towards peers with disabilities were measured before and after reading a series of these books. Results indicated that the students' attitudes towards peers with disabilities were significantly more positive after reading the books as compared to before.

Additionally, in an alternate study conducted on the Special Friends program discussed above which combines explicit education, books, and social contact methods, teachers reported that the books that were openly about children with disabilities were the most effective component of the program (Yu et al., 2016).

1.4.1.5 Theater Productions

Studies have supported the effectiveness of various theater productions about individuals with disabilities in increasing acceptance of peers with disabilities (Essler, Arthur, & Stickley, 2006; Pitre, Stewart, Adams, Bedard, & Landry, 2007; Rand Corporation, 2014; Roberts, Somers, Dawe, Passy, Mays, Carr, Shiers, & Smith, 2007; Ventieri et al., 2011). Such productions may use puppets or live actors and may focus on specific disabilities, general information about disabilities, combatting stereotypes, or teaching about treatments (Rand Corporation, 2014). For example, the positive effect of the play Walk In Our Shoes was presented in a study conducted by Wong, Cerully, Collins, and Roth (2014). Walk In Our Shoes followed the lives of four high school students dealing with various disabilities and the resulting stigma. Based on pre- and post-survey responses of middle school students who attended the play, the production was found to improve participants' behavioral intentions, knowledge, and emotional responses to peers with disabilities.

Another study conducted by Roberts, Somers, Dawe, Passy, Mays, Carr, Shiers, and Smith (2007) revealed the positive effect of the On the Edge theater production. On the Edge was an interactive drama production that traveled between schools with the aims of increasing students' knowledge of disabilities, reducing stigma and discrimination, and improving awareness of treatments. Middle school students who attended the play completed surveys before and at three follow up time points. Results indicated that the production effectively improved audience members' knowledge, beliefs, and attitudes towards individuals with disabilities one week, one month, and six months following the production.

The effectiveness of a series of puppet shows designed to reduce stigma was supported in a study conducted by Pitre, Stewart, Adams, Bedard, and Landry (2007).

The puppet shows portrayed individuals with various disabilities, challenged stereotypes, and engaged children. Using an experimental design in which third grade children were randomly assigned to either the intervention group who attended the puppet shows or a control group with received typical class instruction, the attitudes of students before and after viewing the show were compared. Findings showed that students who attended the shows had significantly more positive attitudes towards children with disabilities after the intervention as compared to those in the control group.

In summation, education based practices to address disability stigma in the classroom have been consistently supported in the literature across a wide range of types of practices, student age groups, and study methodology. This research has found support for the effectiveness of these varied educational practices to increase acceptance of students with disabilities through provision of accurate information in order to challenge myths or stereotypes about these disabilities.

1.4.1.6 Educational Methods Requiring Further Investigation

Literature also recommends varied other educational methods, although empirical support is limited (Gillespie-Lynch et al., 2015; NASP, 2010). For instance, disseminating positive messages and awareness to parents and the community via newsletters, flyers, or brochures is seen as an effective method of reducing stigma of students with disabilities (NASP, 2010). Additionally, online training courses are suggested to successfully increase knowledge and decrease stigma towards individuals with disabilities (Gillespie-Lynch et al., 2015). However, experimental studies focusing on these methods are yet lacking in the literature.

1.4.2 Social Contact

Another widely accepted method of increasing acceptance of students with disabilities is through social contact with people with disabilities (Corrigan & Penn, 1999; Mann & Himelein, 2008). The literature provides evidence for the effectiveness of social contact in reducing stigma by challenging stereotypes and attitudes, increasing knowledge and empathy, reducing anxiety, decreasing prejudice, and altering behavior (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Ferrari, 2016; Mann & Himelein, 2008; Mehta et al., 2015; Murman et al., 2014; Park & Chitiyo, 2011; Staniland & Byrne, 2013). Some research even suggests that social contact has the potential to increase acceptance more than any other method and maintain this change over longer periods of time (Corrigan & Shapiro, 2010; Ferrari, 2016; Mann & Himelein, 2008; Staniland & Byrne, 2013). Specific strategies within the method of social contact include the use of direct contact, indirect or vicarious contact, or combining social contact with educational programs (Corrigan et al., 2010; Dorsey et al., 2016; Dunn, 2016; Ferrari, 2016; Meyer & Ostosky, 2016; Murman et al., 2014; Ventieri et al., 2011; Weisman et al., 2016).

1.4.2.1 Direct Social Contact

Direct contact involves in person interactions with individuals with disabilities to improve attitudes and increase acceptance of these individuals (Bellanca & Pote, 2013; Dunn, 2016; Lequia, 2015; Mann & Himelein, 2008; Murman et al., 2014). This type of contact is widely supported in the literature, regardless of the structure, length, or ages of the individuals (Amsel & Fichten, 1998; Bellanca & Pote, 2013; Corrigan et al., 2010;

Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Desforges, Lord, Ramsey, Mason, Van Leeuwen, West, & Lepper, 1991; Dunn, 2016; Ferrari, 2016; Ginsburg-Block & Fantuzzo, 1997; Ginsburg-Block, Rohrbeck, & Fantuzzo, 2006; Lequia, 2015; Mann & Himelein, 2008; Matteo & You, 2012; Mehta et al., 2015; Murman et al., 2014; Putnam, Markovchick, Johnson, & Johnson, 1996). For instance, studies have found support for the effectiveness of shadowing based social contact with individuals with disabilities, open class discussions with peers with disabilities about their symptoms and quality of life, cooperative interactions with students with disabilities, and contact with adults with disabilities (Corrigan et al., 2010; Dunn, 2016; Ferrari, 2016; Mann & Himelein, 2008; Murman et al., 2014; Putnam et al., 1996). However, research has found that this social contact is most effective if it entails high quality exposure, meaning that it involves one on one interactions that incorporate disconfirmation of negative stereotypes, partners of equal status, explicit peer roles, a common goal, partner cooperation, both individualized and interdependent evaluations, and support by a source of authority (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Ginsburg-Block et al., 2006; Lequia, 2015; Mann & Himelein, 2008; Murman et al., 2014; Putnam et al., 1996).

One study that supports the value of direct social contact in increasing acceptance of peers with disabilities was conducted by Amsel and Fichten (1998). Students were asked about their contact with peers with disabilities and about their thoughts and attitudes towards individuals with disabilities. Findings revealed that students who had experienced more social contact with peers with disabilities displayed more positive attitudes and beliefs toward individuals with disabilities than students who had not participated in such social contact.

Further support for the effectiveness of direct social interactions to increase acceptance of individuals with mental illness was provided in a study conducted by Deforges, Lord, Ramsey, Mason, Van Leewen, West, and Lepper (1991). In this randomized control trial, students were randomly assigned to a cooperative contact, non-cooperative contact, or no contact condition. All students were surveyed about their attitudes and acceptance of individuals with mental illness before and after the intervention. The results indicated that the students who interacted with individuals with mental illness in either the cooperative or non-cooperative conditions reported improved attitudes and increased acceptance of individuals with mental illness following the intervention, while those in the control condition demonstrated no change.

The utility of direct social contact with adults with disabilities was revealed in a study conducted by Matteo and You (2012). Adults with disabilities were asked to join an introductory psychology class to speak about their disabilities and interact with the students. Based on pre- and post-survey measure results, the students displayed reductions in reported social distancing from individuals with disabilities following the intervention.

The value of specifically goal oriented social contact was highlighted in a study conducted by Putnam, Markovchick, Johnson, and Johnson (1996). Fifth to eighth grade classes were randomly assigned to either a cooperative learning condition, involving pairing of special education students with general education students for academic tasks, or a competitive learning condition, in which students completed tasks independently. All students were surveyed at the start of the school year and after eight months of the intervention. Results indicated that students in the cooperative condition demonstrated greater increases in peer acceptance than students in the competitive condition.

Furthermore, support for the effectiveness of social contact over other methods in reducing stigma was provided in a systematic review of the literature conducted by Mehta and collogues (2015). After searching six databases and reviewing studies conducted from 1980 to 2013, eighty studies were collected and analyzed. The findings concluded that social contact was the most strongly evidence based method of reducing stigma immediately post intervention, as compared to education or theater based interventions.

Also noteworthy, research shows that the presence of a one on one educational assistant or paraprofessional interferes with this process of direct social contact (Katz et al., 2012; Lequia, 2015). The literature suggests the use of co-teaching, consulting teachers, or class wide educational assistants rather than paraprofessionals to support individual students in order to encourage direct social contact between students with and without disabilities. In particular, the role of class wide instructors encourages interactions between students, whereas that of paraprofessionals tends to limit such contact. Evidence from a ethnographic study conducted by Eisenman, Pleet, Wandry, and McGinley (2011) on special education in an inclusive high school also suggests that having class or school-wide professionals known as “learning support coaches,” rather than special education teachers or individual paraprofessionals may decrease stigmatizing attitudes in the school. In sum, the evidence for the effectiveness of facilitating direct social contact between typically developing students and individuals with disabilities in order to reduce stigma is expansive and decisive.

1.4.2.2 Indirect or Vicarious Social Contact

The literature also provides evidence of the value of indirect or vicarious social contact in increasing acceptance of individuals with disabilities (Ferrari, 2016; Mann & Himelein, 2008; Reinke, Corrigan, Leonhard, Lundin, & Kubiak, 2004; Weisman et al., 2016). This type of contact may take on the forms of videotaped narratives about experiences with disabilities, written narratives by people with disabilities, descriptions about personal relationships with individuals with disabilities, or discussions of well known figures with disabilities, among others (Dunn, 2016; Ferrari, 2016; Mann & Himelein, 2008; Reinke et al., 2004; Weisman et al., 2016). For example, a study conducted by Ferrari (2016) revealed the effectiveness of using celebrities as narratives to reduce stigma of mental illness. In this pre-post test randomized control trial, classes were randomly assigned to either the experimental group, in which celebrities' self-disclosed disorders were discussed, or to the control group, in which mental diagnoses were taught in a traditional manner. Results indicated that students in the experimental group experienced significant reductions in their stigma of mental illness and of seeking treatment following the intervention as compared to the control group.

Another study, which was conducted by Mann and Himelein (2008), presented support for the utility of videotaped narratives to reduce stigma of individuals with disabilities. Classes were randomly assigned to either an experimental condition, which involved watching three videotaped narratives of same aged peers recently diagnosed with mental disabilities, or to a control condition, which involved class instruction as usual. Stigma was measured before and after the intervention in both groups. Whereas the control group showed no changes, the experimental group displayed significant decreases in stigma following the viewing of the videotapes.

The effectiveness of direct, or in vivo, contact was compared to that of indirect, or videotaped, contact in reducing stigma in a study conducted by Reinke, Corrigan, Leonhard, Lundin, and Kubiak (2004). Using a randomized control trial design, students were assigned to either in vivo contact, videotaped contact, or no contact conditions. Students were surveyed about their attitudes towards individuals with disabilities pre- and post-intervention. The findings revealed that students who participated in either direct or indirect contact displayed equivalently significant improvements in their attitudes towards individuals with disabilities, as compared to those in the no contact condition. Therefore, social contact has stable research support regardless of the form of contact.

1.4.2.3 Combination of Education and Social Contact

Some research has suggested that the combination of educational and social contact methods is the most effective strategy to increase acceptance of individuals with disabilities in the classroom (Dorsey et al., 2016; Mann & Himelein, 2008; Meyer & Ostosky, 2016; Schulze, Richter-Werling, Matschinger, & Angermeyer, 2003; Staniland & Byrne, 2013; Ventieri et al., 2011; Yu et al., 2016). Studies on this combined strategy include the use of different types of education, such as books and explicit educational programs, as well as different kinds of social contact, such as direct contact, videotaped contact, and written narratives (Dorsey et al., 2016; Mann & Himelein, 2008; Meyer &

Ostosky, 2016; Schulze et al., 2003; Yu et al., 2016).

The utility of this combination was revealed in studies on the Special Friends program discussed above, which combined explicit education, books, and social contact to effectively increase students' acceptance of peers with disabilities in the classroom (Dorsey et al., 2016; Meyer & Ostosky, 2016; Yu et al., 2016).

Another study that conveyed the effectiveness of combining education and social contact was conducted by Schulze, Richter-Werling, Matschinger, and Angermeyer (2003). Students were assigned to either the experimental group, in which they learned about specific disabilities and interacted with peers with these disabilities, or the control group, in which they received class instruction as usual. Pre- and post-intervention survey responses on stereotypes, social distance, and attitudes towards individuals with disabilities from each group were compared. Results indicated significant reductions in negative stereotypes, decreases in social distance, and improvements in attitudes towards individuals with disabilities experienced by the students in the experimental condition, whereas there were no changes in the control group. Although further studies on the combination of education and social contact would be advantageous, the existing research suggests strong positive effects of the combination of these intervention practices.

1.4.3 Advocacy or Protest

The final empirically supported method of reducing stigma of people with disabilities is through advocacy or protest activities (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Cramer, 2015; Ferrari, 2016; Murman et al., 2014). Some examples of strategies of advocacy or protest include student clubs or organizations to increase awareness or acceptance of disabilities, school-wide movements to increase acceptance, or organized protests of stigma or discrimination within the community or through publications (Corrigan & Shapiro, 2010; Cramer, 2015; Murman et al., 2014). Although the research on these methods is more limited than that for education and social contact, especially for use with children, and these types of programs themselves are less common, the predominance of research supports the value of these methods for contesting stereotypes and reducing discriminatory behavior by highlighting the injustices of stigma (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010).

The effectiveness of student run clubs was highlighted in a study on the Let's Erase the Stigma (LETS) organization that was conducted by Murman, Buckingham, Fontilea, Villanueva, Leventhal, and Hinshaw (2014). LETS was run as a semester long youth directed high school club that was both discussion and community action based with the aim of combating disability stigma. The LETS guidebook provided ideas of topics, club activities, and fundraising programs and allowed students to select or develop activities under the guidance of a faculty member. In a quasi-experimental study, students selected to participate in the club were compared to non-participants on measures of attitudes, social distance, anti-stigma actions, and knowledge of disabilities. The results indicated that students who participated in the LETS club demonstrated significant improvements in attitudes, reductions in social distance, increases in anti-stigma actions, and expansions of knowledge following the semester long involvement in the organization. Thus, evidence for the value of advocacy and protest programs is present and growing in the current field.

1.4.4 School-Wide Initiatives

Practices to increase acceptance of students with disabilities may also be implemented at the school-wide level through anti-stigma or anti-bullying campaigns, organizations, or behavior support systems. School wide campaigns may contest stigma of individuals with disabilities by focusing on increasing acceptance of behavioral or emotional difficulties, mental health issues, or seeking professional help (Anti-Defamation League, 2017; Bear, Witcomb, Elias, & Blank, 2015; Best Buddies International, 2017; MHA, 2017; Ministry of Education, 2012; Pacer Center, Inc., 2016; Southern Poverty Law Center, 2017; The Department of Safe Schools, 2017). Research has found that these types of large-scale advocacy campaigns are effective in decreasing stereotypes (Corrigan & Penn, 1999). Many school-based campaigns also work through the provision of factual information about disabilities to decrease stigma through the improvement of accurate understandings of disabilities (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Lequia, 2015; Mann & Himelein, 2008). For instance, the #OK2TALK initiative changes the dialogue about mental illness in the school, home, and community, while also providing prevention and early intervention resources in schools (Geisler, Heidlberg, & Van Velsor, 2014; MHA, 2017). Similarly, the It's Ok to Get Help! campaign implements education and awareness methods to decrease the stigma of seeking professional help for disabilities or mental health issues (MHA, 2017). Other school-wide campaigns focus more generally on improving peer acceptance or decreasing bullying on a broader scale. The No Place for Hate initiative, for example, aims to create unified, inclusive school settings by empowering students, teachers, and parents to stand against bias and bullying (Anti-Defamation League, 2017). Another school-wide campaign to increase acceptance is the Teaching Tolerance operation, which provides classroom and school-wide resources for this purpose (Southern Poverty Law Center, 2017; The Department of Safe Schools, 2017; The School District of Palm Beach County, 2017). Additionally, schools may endorse national or international awareness campaigns, such as the National Bullying Prevention Month, which provides education to prevent bullying, and Pink Shirt Day, an international unified movement to take a stand against bullying (Ministry of Education, 2012; Pacer Center, Inc., 2016; The School District of Palm Beach County, 2017; Thompson, 2017).

School based organizations focusing on increasing acceptance are also effective in reducing stigma, as types of empirically-based advocacy or protest methods (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Cramer, 2015; Ferrari, 2016; Murman et al., 2014). Several of these groups focus specifically on decreasing disability stigma, and may also work through the incorporation research based education or social contact practices (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Lequia, 2015; Mann & Himelein, 2008; Park & Chitiyo, 2011; Staniland & Byrne, 2013). For instance, the Best Buddies program promotes inclusion and acceptance of students with intellectual disabilities by pairing them with typically developing peers to facilitate shared activities, experiences, and social participation (Best Buddies International, 2017; Hardman & Clark, 2006). MPower for Teens, a high school level student organization, reduces stigma of mental health issues by providing education on these issues, involving specialists in the field in discussions and projects, and facilitating community service initiatives to benefit individuals with mental health issues (MHA, 2017). Alternatively, student led organizations may focus on contesting bullying in general. The Safe School Ambassadors (SSA) program, for example, recruits students in grades four to twelve who have been identified as confident, motivated, and socially aware leaders to combat social exclusion, bullying, and peer mistreatment in their schools (The Department of Safe Schools, 2017; The School District of Palm Beach County, 2017).

Behavioral support systems may also increase acceptance of all students by improving school climate to create socially safe learning environments (Bear, 2010; Bear et al., 2015; Emmer & Sabornie, 2015; Harrison & Thomas, 2014). The School-wide Positive Behavior Support (SwPBS) system in particular supports social, academic, and behavioral competence through the implementation of school-wide targeted interventions. SwPBS emphasizes the importance of data based decision making, systems change, and empirically-based practices (Bear, 2010; Bear et al., 2015; Emmer & Sabornie, 2015; Harrison & Thomas, 2014; The Department of Safe Schools, 2017; The School District of Palm Beach County, 2017). Likewise, the Social Emotional Learning (SEL) approach works towards students' long-term social and emotional capabilities through the employment of explicit social emotional education, promotion of positive school climate, and provision of opportunities for contributory service (Bear, 2010; Bear et al., 2015; Emmer & Sabornie, 2015; Harrison & Thomas, 2014). Although these behavioral support systems have much broader and wide reaching aims, research shows that effective implementation increases acceptance of all students (Bear, 2010; Bear et al., 2015; Emmer & Sabornie, 2015; Harrison & Thomas, 2014). Considering these research based school-wide initiatives, it is evident that there are many practices to increase acceptance of students with disabilities that may take place outside the classroom in addition to those within.

1.4.5 Ineffective Practices

Identifying interventions that are not effective in increasing acceptance of individuals with disabilities or those that may actually increase disability stigma is vital to the process of accurately understanding how to address stigma in the classroom. Some of these ineffective methods include disability simulations, interventions severely emphasizing the differences between individuals with and without disabilities, contact with individuals who are not representative of those with disabilities, or merely instructing the suppression of stereotypes (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Dunn, 2016; Gillespie-Lynch et al., 2015; Kunda & Oleson, 1995; MacRae, Bondenhausen, Milne, & Jetten, 1994; Nario-Redmond, Gospodinov, & Cobb, 2017; Staniland & Byrne, 2013; Swaim & Morgan, 2001; Wegner & Erber, 1992). Disability simulations involve exercises that are meant to raise consciousness about the experiences of individuals with disabilities. These may include the use of blindfolds or goggles to simulate vision impairment, wheelchairs to mimic physical disabilities, or manipulated text to imitate dyslexia. Research shows that these practices present inaccurate representations, lack integrity, and distort the realities of disabilities, often leading to worsened attitudes towards individuals with disabilities (Dunn, 2016; Nario-Redmond et al. 2017). This effect was found in a study conducted by Nario-Redmond, Gospodinov, and Cobb (2017), which involved the random assignment of students to conditions involving dyslexia, hearing, or mobility simulations. Students were surveyed before and after the intervention on their mood, disability stereotypes, and attitudes. Results indicated that regardless of the simulation condition, the students felt more confused, helpless, and vulnerable, reported increased negative disability stereotypes, and showed no improvement in attitudes towards individuals with disabilities following the intervention.

Research has also found that interventions primarily presenting information about the tremendous differences between individuals with and without disabilities do not increase acceptance (Gillespie-Lynch et al., 2015; Staniland & Byrne, 2013; Swaim & Morgan, 2001). The literature suggests that the positive content of educational methods is critical. The impact of interventions emphasizing how different individuals with disabilities are from typically developing individuals was conveyed in a study conducted by Swaim and Morgan (2001). In this study, third and sixth grade students were randomly assigned to view either a video of a typically developing child or one of two videos about a child with autism, both of which had voice-overs with differing information about the child. The first focused on similarities between the videotaped child and viewers, whereas the second highlighted differences. Following the intervention, all participants completed surveys about their attitudes and behavioral intentions towards peers with disabilities. Results indicated that both attitudes and behavioral intentions were highest in students who had viewed the video about the typically developing peer, followed by those who heard about the similarities between themselves and children with autism, and lowest for those who were told primarily about how children with autism were different from themselves. These findings provide evidence for the importance of providing positive information and emphasizing similarities rather than differences in order to increase acceptance of individuals with disabilities.

Another ineffective method of attempting to address stigma of disabilities is the facilitation of interactions with individuals who are especially unrepresentative of their disability. Research shows that this may lead to the conception that this individual is the exception, thereby imposing no effect on disability stigma in general (Corrigan & Penn, 1999; Kunda & Oleson, 1995). For instance, a study conducted by Kunda and Oleson (1995) examined the effect of unrepresentative individuals on participants' stereotypes of the group as a whole. Participants read vignettes about individuals who were or were not representative of their population and answered questions about how this affected their stereotypes of this population. Findings showed that stereotypes were completely unchanged for participants who read about the unrepresentative individual, as they eliminated the possibility of generalizing the information about this individual to the group in general.

Finally, the literature provides evidence that attempting to increase acceptance of individuals with disabilities by purely instructing students to suppress their conceived prejudices or stereotypes about these individuals actually increases disability stigma (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; MacRae et al., 1994; Wegner & Erber, 1992). Although this practice may be temptingly simple and straightforward, instructing students to engage in this process without providing education to increase their accurate understanding of disabilities, social contact opportunities to improve their attitudes towards peers with disabilities, or other empirically-based methodology will be detrimental to their stigma of disabilities. To explain how this practice of instructing stigma suppression results in an incongruous increase in stigma, Wegner and Erber (1992) wrote that, “It seems that the very attempt to keep unwanted thoughts out of mind makes them all the more insistent," (p. 903). A study conducted by Macrae, Bodenhausen, Milne, and Jetten (1994) demonstrated this phenomenon. Participants were presented with an illustration of an individual and asked to write about them. Those in the control condition were given no further directions, whereas those in the experimental condition were instructed to suppress stereotypes towards the illustrated individual. Participants were then asked to write another description of a similar individual, choose a seat in a meeting room when told where the photographed individual would be sitting, and select adjective descriptors of the individual. Those who had been instructed to suppress stereotypes wrote more negative descriptions, selected seats further from the individual, and endorsed more stigmatizing adjectives. Therefore, in addition to the employment of specifically empirically-based practices, it is imperative for teachers to actively avoid implementing ineffective practices such as those discussed here when aiming to increase acceptance of students with disabilities in their classrooms.

1.5 Limitations of Measures in Current Literature

Measures for the constructs of personal stigma, perceptions of public stigma, employment of empirically-based practices to address disability stigma, and barriers to addressing disability stigma are lacking in the current field of research. Furthermore, many of the measures that have been developed use other methods of data collection rather than surveys, address different types of stigma or practices, were created for dissimilar respondent groups, or focus on specific disabilities.

1.5.1 Measures of Personal Attitudes

Public stigma measures present in the literature are not specifically focused on gathering survey data from teachers regarding their personal attitudes towards students with disabilities. Some existing measures instead employ different methods of data collection rather than survey, such as interviews (Crisp et al., 2000) or qualitative surveys in which respondents select descriptive adjectives that may characterize individuals with disabilities (Ballanca & Pote, 2013). Alternatively, previously developed measures may focus on other types of stigma. For example, the Personal Stigma for Seeking Career Counseling scale gathers information about stigma towards counseling rather than stigma towards individuals with disabilities in general (Ludwikowski et al., 2009). Several existing measures for personal stigma were developed for diverse respondent groups that are not relevant to the current study, including children (Campbell et al., 2004), adolescents (Weisman et al., 2016), or parents (Ohan et al., 2013; Rosenbaum, Armstrong, & King, 1987). Finally, some measures focus on personal stigma towards individuals with particular disabilities, such as the Placement and Services Survey (PASS), which gathers data on respondents' attitudes towards students identified with various specific disabilities including autism and intellectual disabilities (Segall, 2011).

1.5.2 Measures of Perceptions of Public Stigma

The existing measures used to study perceptions of public stigma have similar limitations. In particular, some such measures employ methods of data collection apart from surveys, including written responses to open-ended questions, as in the Teacher Impression Journals used in a study conducted by Yu, Ostrosky, Meyet, Favazza, Mouzourou, and van Luling (2016). Some measures examine different types of public stigma, such as that for seeking counseling or psychological support (Ludwikowski et al., 2009; Vogel et al., 2013). There are also measures in the literature that were developed to assess perceptions of public stigma through surveying respondent groups aside from teachers, such as individuals who experience disabilities themselves (Sirey et al., 2001). Finally, some measures of public stigma focus on specific disabilities, including the ADHD Stigma Questionnaire (ASQ; Bell et al., 2011; Kellison, Bussing, Bell, & Garvan, 2010).

1.5.3 Measures of Practices to Address Disability Stigma

Measures of teachers' practices to address disability stigma in the classroom do not exist in the literature. There are some studies that have collected data on teachers' practices for similar purposes, such as to enhance inclusion of students with disabilities or implement behavioral or academic interventions (Cramer, 2015; McAuliffe et al., 2009; Segall, 2011; Yu et al., 2016). However, many of these studies utilize alternative methodology for data collection, including observation or written responses to open-ended questions (Cramer, 2015; McAuliffe et al., 2009; Yu et al., 2016).

1.5.4 Measures of Barriers to Addressing Disability Stigma

Previously developed measures of barriers to teachers' employment of practices in the classroom have either utilized data collection methods apart from surveys or examined practices for purposes distinctive from addressing stigma. Specifically, some studies have collected data on barriers through observation (Cramer, 2015) or brief summary ratings of practice acceptability or feasibility (Weisman et al., 2016). Other measures in the literature focus on barriers to implementing interventions for other purposes such successful inclusion (Segall, 2011) or behavioral support for students with disabilities (McGoey, Rispoli, Venesky, Schaffner, McGuirk, & Marshall, 2014). Thus far, measures for the intended constructs are severely limited.

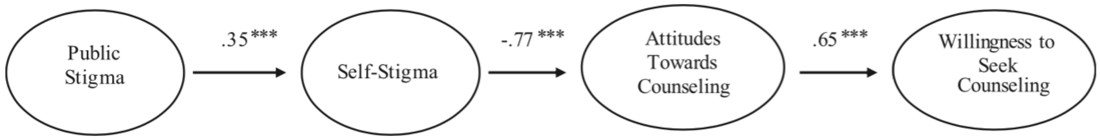

Figure 1

Relations Between Public Stigma, Self-Stigma, Attitudes Toward Treatment, and Willingness to Seek Treatment

Chapter 2

CURRENT STUDY

Abundant research exists in the literature on the adverse effects of stigma on individuals with disabilities in terms of long term outcomes in social, emotional, academic, and professional development (Bell et al., 2011; Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Fellner, 2015; Katz et al., 2012; Lee, 2014; Ludwikowski et al., 2009; Mann & Himelein, 2008; Segall & Campbell, 2012). In addition, the research on empirically-based methods to reduce this stigma in the classroom through strategies of education, social contact, and advocacy or protest is copious and informative (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Cramer, 2015; Dunn, 2016; Ferrari, 2016; Mann & Himelein, 2008; Murman et al., 2014; Ventieri et al., 2011). However, teachers widely fail to address this stigma in the classroom through empirically-based means (Segall, 2011; Weisman et al., 2016; Yu et al., 2016). Understanding what causes this disconnect could guide the work of educational institutions, administrators, and school psychologists in providing the appropriate support for teachers to successfully implement strategies for this purpose.

An examination of the literature on teacher backgrounds and perspectives reveals that various factors may be at play that hinder or dissuade teachers from employing strategies to increase acceptance in their classes. Limited literature on the relation between teacher backgrounds and their personal attitudes towards students with disabilities has been established (Bell et al., 2011; Bellanca & Pote, 2013; Brown, 2008; Chung et al., 2015; O'Driscoll et al., 2012; Park & Chitiyo, 2011). Further, there is some research suggesting a connection between teachers' backgrounds with their recognition of public stigma and behavior in the classroom and between teacher attitudes or recognition of public stigma with their behaviors (Chung et al., 2015; Lequia, 2015; O'Driscoll et al., 2012; Park & Chitiyo, 2011). Yet the behaviors examined in the current literature base include only teachers' employment of interventions for students with disabilities, appropriate inclusion of these students, and effective referral of students with disabilities for additional services, not their use of strategies to increase acceptance of students with disabilities. Additionally, a complete set of relationships between these factors and teachers' behaviors is lacking. Prior studies have called for research to further explore the connections between these factors in order to inform teacher training and professional development on disabilities and associated stigma (Bell et al., 2011; Lalvani, 2015; Lee, 2014; Park & Chitiyo, 2011). Finally, research on barriers teachers experience in increasing acceptance in the classroom is outdated and not specific to disability acceptance in particular, rather to implementing interventions with students for other purposes (Bell et al., 2011; Cramer, 2015; Dorsey et al., 2016; Lee, 2014; Segall, 2011; Segall & Campbell, 2012; Weisman et al., 2016; Yu et al., 2016).

The current study aimed to fill this gap in the literature by linking teachers' backgrounds, personal attitudes towards students with disabilities, awareness of public stigma, and use of empirically-based strategies to increase acceptance of students with disabilities in the classroom. Potential barriers experienced by teachers in terms of logistics, training, or support were also examined to further explain the foundations of the research to practice disconnect. To address these matters, six research questions were explored: 1) To what extent do teachers report employment of empirically-based practices for addressing stigma in the classroom? 2) What is the association between teachers' backgrounds, personal attitudes, and perceptions of public stigma? 3) How do teachers' backgrounds affect their attempts to address stigma in the classroom? 4) In what way do teachers' personal attitudes or perceptions of public stigma influence their attempts to address stigma in the classroom? 5) What barriers do teachers most often report prevent their implementation of empirically-based practices to address stigma? 6) What is the overall relationship between teachers' background factors, personal attitudes, perceptions of public stigma, and their attempts to address stigma in the classroom? These research questions were designed to be incremental, particularly questions two, three, four, and six, enabling for the exploration of the variables of interest independently and in relation to one another.

2.1 Research Question 1: Employment of Empirically-Based Practices

The frequency of teachers' use of empirically-based practices to increase acceptance of students with disabilities in the classroom is known to be scarce (Cramer, 2015; Segall, 2011; Weisman et al., 2016; Yu et al., 2016). However, measures corresponding to the most updated research on strategies to reduce stigma are lacking. In order to fully understand the present classroom conditions teachers establish, it was imperative to gather an accurate estimate of their use of empirically-based practices.

It was predicted that all teachers would report using at least one method of attempting to address stigma in the classroom in the past year, although not all would report an empirically-based practice. This research question was answered by analyzing frequency tables generated from teachers' reports of their use over the past year of strategies to increase acceptance in their classrooms.

2.2 Research Question 2: Association Between Teachers' Backgrounds, Personal Attitudes, and Perceptions of Public Stigma

Existing literature presents a variety of research on the effect of teachers' backgrounds on their personal attitudes towards students with disabilities (Bell et al., 2011; Bellanca & Pote, 2013; Brown, 2008; Chung et al., 2015; Lequia, 2015; O'Driscoll et al., 2012; Park & Chitiyo, 2011) and some research on how these background factors predict teachers' awareness of public stigma towards these students (Bell et al., 2010). In order to more thoroughly understand these influences, the relationships between teachers' reported demographic factors, personal attitudes, and awareness of public stigma were examined.

It was hypothesized that teachers who were female, younger, had more education, held special education certifications, worked at the elementary school level, had personal or professional experiences with individuals with disabilities, and had more recently graduated would have less personal stigma and would more readily recognize stigma in others. To answer this research question, correlations and subsequent multiple regression analyses were conducted to look at the association of teachers' backgrounds and their personal and perceived stigma, using data from measures on demographics, personal attitudes, and perceptions of public stigma.

2.3 Research Question 3: Association Between Teachers' Backgrounds and Attempts to Address Stigma

The relation between teachers' background factors and their behavior in the classroom has been conveyed in the literature (Lee, 2014; Segall, 2011; Segall & Campbell, 2012). However, studies have not explored the effect of background factors specifically on teachers' behaviors to address stigma in the classroom. Understanding this association could provide further information about teachers' tendencies to employ these empirically-based practices for this purpose.

Based on the literature, it was predicted that teachers who were female, younger, had more education, held special education certifications, worked at the elementary school level, had personal or professional experiences with individuals with disabilities, and had more recently graduated would report using more empirically-based practices to contest stigma. This research question was answered with the analysis of correlations and subsequent multiple regression analysis to examine which background factors predicted teachers' attempts to address stigma in the classroom with empirically-based practices, based on their responses to items on demographics and their attempts to address stigma over the past year.

2.4 Research Question 4: Association Between Teachers' Personal Attitudes, Perceptions of Public Stigma, and Attempts to Address Stigma

Existing research suggests a correlation between teachers' personal attitudes towards students with disabilities, their recognition of public stigma, and their behavior in the classroom (Bell et al., 2011; Chung et al., 2015; Fellner, 2015; Lalvani, 2015; Lee, 2014; Lequia, 2015; Park & Chitiyo, 2011; Segall, 2011). However, the teacher behaviors examined in this literature are not specifically focused on attempts to increase acceptance of students with disabilities. Therefore, the particulars of this association were uncertain.

It was hypothesized that teachers with less personal stigma and those who more readily recognize stigma among students would report using more empirically-based practices to contest stigma. Using teachers' responses to measures of their personal attitudes, recognition of public stigma, and attempts to increase acceptance in the classroom, correlations and subsequent multiple regression analyses were conducted to explore how well personal stigma or perceptions of public stigma predicted teachers' attempts to address stigma in the classroom with empirically-based practices.

2.5 Research Question 5: Barriers to Implementation

Commonly reported barriers to implementing efforts to increase acceptance in the classroom include lack of training, administrative support, time, or resources, difficulties with logistics, overabundance of responsibilities, programs that are difficult to sustain, difficulties with student engagement and behavior, and lack of teacher motivation (Bell et al., 2011; Cramer, 2015; Dorsey et al., 2016; Lee, 2014; Segall, 2011; Segall & Campbell, 2012; Weisman et al., 2016; Yu et al., 2016). The previous research on this topic was not related to increasing acceptance of students with disabilities in particular and may be somewhat outdated. For these reasons, gaining an understanding of the most frequently reported barriers could enable recommendations to be made in supporting teachers in implementing empirically-based practices to address stigma of these students.

Based on the literature, it was predicted that the most commonly reported barriers to implementing empirically-based practices to increase acceptance of students with disabilities would be lack of training, administrative support, and time. This research question was answered through descriptive analysis of teachers' responses to items on their experienced barriers to addressing stigma.

2.6 Research Question 6: Overall Relationship Between Teachers' Backgrounds, Personal Attitudes, Perceptions of Public Stigma, and Attempts to Address Stigma

Prior research lends information on portions of this overall relationship (Bell et al., 2011; Bellanca & Pote, 2013; Brown, 2008; Chung et al., 2015; Fellner, 2015; Lalvani, 2015; Lee, 2014; Lequia, 2015; O'Driscoll et al., 2012; Park & Chitiyo, 2011; Segall, 2011; Segall & Campbell, 2012). However, research on the complete associations between these factors was lacking. The relative importance of each predictive factor, including teachers' backgrounds, personal attitudes, and perception of public stigma, in predicting teachers' attempts to address stigma was also unknown.

It was hypothesized that teachers who were female, younger, had more education, held special education certifications, worked at the elementary school level, had personal or professional experiences with individuals with disabilities, and had more recently graduated would have less personal stigma, would more readily recognize stigma in others, and would employ more empirically-based practices to increase acceptance of students with disabilities in the classroom. Further, teachers with less personal stigma and those with who more readily recognized it in others were predicted to utilize more empirically-based practices for this purpose. Finally, it was predicted that personal attitudes and awareness of public stigma would mediate the relationship between teachers' background factors and use of empirically-based practices. For this analysis, only the predictive factors found to have significant associations with use of empirically-based practices based on results from research questions two through four were examined. To answer this research question, path analyses were conducted to look at the relative importance of the associations between teachers' backgrounds, personal attitudes, perceived stigma, and use of empirically-based practices to increase acceptance in the classroom.

Chapter 3

METHODS

3.1 Participants

One hundred and forty-two teachers were used to conduct a pilot study on the survey measures, including 61 from the elementary level and 81 from the secondary level. Subsequently, 330 different teachers, including 169 from the elementary level and 161 from the secondary level, were surveyed about their personal perceptions of students with disabilities, awareness of public perceptions, attempts to address stigma, barriers to addressing stigma, and background information to conduct the analyses necessary to answer the research questions for this study. Based on an a priori power analysis completed using G*Power 3.1 software with overall power set to 0.80 and an anticipation of a medium effect size (Cohen's [1988] f = .25), a sample size of at least ninety six participants was required to answer the research questions (Faul, Erdfelder, Buchner, & Lang, 2009). The intended sample size was larger to ensure more accurate results.

The participants were recruited through a large school district in south Florida, with the approval of the appropriate district officials. Current demographic information on the teaching workforce was obtained and effort was made to approximate these demographics in the participant sample in order to increase the external validity of the findings. The demographics of the participants are presented in Table 1 and with the results. The eligibility criteria for the participants included individuals who currently work in schools as classroom teachers at the elementary, middle, or high school level. Consent forms were presented as an access step to the survey measure. The consent procedures were followed as required for research with human subjects by the University of Delaware Institutional Review Board and the school district Department of Research and Evaluation.

3.2 Measures

The survey measure was primarily adapted from several existing and empirically supported measures. The five-part questionnaire focused on teachers' personal attitudes towards students with disabilities, recognition of public stigma, attempts to address stigma, barriers to addressing stigma in the classroom, and background information (see Appendix A).

In the first section of the survey examining teachers' personal attitudes, participants were asked to read a vignette describing behaviors and test scores of a fictional special education student who would be in their class the following year. Following the vignette, they were asked to respond to questions about their feelings towards the fictional student. Both the vignette and subsequent questions were adapted from a section of the Placement and Services Survey (PASS), which was adapted and tested in a study conducted by Segall (2011). This particular section of the PASS was previously adapted from the Parental Attitudes toward Children with Handicaps (PATCH) scale (Rosenbaum et al., 1987). The PASS includes several vignettes about students with different diagnostic labels and students without a diagnostic label. Based on the findings from the study, there was no difference between responses for the various diagnostic labels. Therefore, the vignette has been altered to describe the fictional student as “a special education student with an IEP,” to generalize the responses. The questions were drawn from a section in the PASS focusing on teacher attitudes towards the fictional student. Research supports the analysis of responses to this section by construct (Rosenbaum et al., 1987; Segall, 2011). Demographics of the samples used for this testing were geographically, racially, and professional representative, with one study involving teachers and another sampling parents. Reliability was found to be adequate with an overall coefficient alpha of 0.88 (Rosenbaum et al., 1987). The validity of measured attitudes was evaluated by analysis of responses based on respondents’ previous contact with individuals with disabilities, which is known to improve attitudes towards such individuals. It was found that participants who personally knew someone with a disability had significantly higher measured attitudes than those who did not (28.9 versus 26.6; Rosenbaum et al., 1987). Three of the six constructs were included in the present survey: affective attitudes (e.g., I would be pleased if Robby was a student in my classroom), cognitive attitudes (e.g., Robby will want to do many things for himself), and behavioral intentions (e.g., I would encourage other students in my class to interact with Robby). These include a total of sixteen questions. The responses for all items were given on a six-point Likert scale ranging from “strongly disagree” to “strongly agree,” as on the original PASS measure.

The second section of the survey gathered information about respondents’ views of public perceptions, or their recognition of public stigma. Items for this section were adapted from the ADHD Stigma Questionnaire (ASQ). The psychometric properties of the ASQ were evaluated in a study conducted by Kellison, Bussing, Bell, and Garvan (2010; Bell, Long, Garvan, & Bussing, 2011). Although this study involved sampling of adolescent respondents, other demographics such as gender and racial background were more representative. Confirmatory factor analysis supported a three factor structure, including disclosure concerns, negative self image, and concern with public attitudes (goodness-of-fit index = 0.96; root mean square error of approximation = 0.06). Internal consistency reliability was found to be adequate for both the overall measure ($\alpha = 0.92$) and for each construct (disclosure concerns: $\alpha = 0.83$; negative self-image: $\alpha = 0.80$; concern with public attitudes: $\alpha = 0.84$). The test-retest reliability was found to be adequate with a correlation of 0.71 when given at two-week intervals. Construct validity was also determined to be supported by related constructs such as clinical maladjustment, depression, self-esteem, and emotional symptoms. For the current study, the thirteen items in the factor of concern with public attitudes from the ASQ were selected. Items were adjusted to ask about "children" rather than "people" and about "disabilities" rather than "ADHD." Also, one item asking about jobs was removed because of its irrelevance to children in schools, leaving twelve items. The response options for these questions were given on a four-point Likert scale from "strongly disagree" to "strongly agree," as they were given on the original ASQ.

Teachers were asked about their attempts to address stigma in the third section, which was developed for this study. The respondents were then provided with a list of empirically-based practices and asked to indicate for each if they had used it in the past year, how effective they thought it would be on a four-point Likert scale from "not effective" to "very effective," and if they would use it if they had "more time, training, resources, etc." Twenty-three empirically-based practices identified in the literature as sufficiently research supported were included, as well as an opportunity for respondents to write in additional practices. Respondents were also asked to indicate any school-wide campaigns to address disability stigma and their involvement in these campaigns.

In the fourth section, respondents were asked about their perceived barriers to addressing stigma. Items for this section were adapted from the Barriers to Implementing Evidence-Based Interventions in the Classroom survey (McGoey et al., 2014). In a study conducted by McGoey and colleagues (2014) involving a sample of classroom teachers varied in training and experience, this survey was found to be adequately reliable, with a Cronbach alpha of 0.90. All nineteen items from the original survey were included, although six items were slightly altered to refocus on interventions for reducing stigma of students with disabilities. For instance, "lack of training on children with behaviors problems" was changed to "lack of training on stigma of children with disabilities." Additionally, instructional wording was modified to improve respondents' understanding. Two items were added pertaining to this study in particular: "Stigma is already being addressed through a school-wide campaign," and "Overwhelmed or exhausted from teaching duties." Responses were given on a seven-point Likert scale ranging from "not at all" to "extremely," as on the original survey.

The fifth section of the survey gathered information about participants' background and demographics. Respondents were asked questions about the name of their school, gender, age, ethnicity, highest degree earned, year of graduation, special education certification, teacher title, years of teaching experience, current position, experience with individuals with disabilities, and the special education structure of their school.

3.3 Procedure

Institutional review board approval was obtained prior to data collection. Permission was then obtained from the governing body of the school district to recruit their members for this study. Information about the study and invitations to participate were distributed through email to the members of the participating school district. The email invited potential participants to use an included link to participate in the survey via the online survey software Qualtrics or to contact the researchers with any questions. Consent forms were included in the online survey as an access step to the survey measure.

In the pilot study, respondents were asked to complete each survey measure involved in the study. Responses were used to analyze the scales through statistical tests run on SPSS and the Bond & Fox Winsteps software to ensure reliability and select the most appropriate items. Once the survey measure was readied, a second phase of data collection was completed following the same procedures as the first. Following this second phase of data collection, analyses were conducted through a series of statistical tests run on the SPSS and Mplus software to examine the reliability and factor structure of the scale and to answer the research questions.

3.4 Data Analysis

Analysis and development of the survey measures was completed as part of a pilot study prior to the primary research. For this analysis, a data set including responses to all of the scales from 142 teachers was examined. Internal consistency reliability analysis was performed using Cronbach's alpha on SPSS. Additionally, item and Rasch analysis was conducted on the Bond & Fox Winsteps software by analyzing the sample's responses to see if the survey items fit together. The outcomes of these analyses are presented in the following section, both in the text and tables. Based on these analyses, the most appropriate items were selected to be retained for the final scales to be used in answering the research questions. Specifically, items were excluded from the final measures if they decreased the internal consistency reliability of their measure as observed through low item-total correlations or demonstrated exceptionally low Z-value statistics as determined through Rasch analysis.

Following the complete data collection of 330 participants' responses to the survey measures, further analysis on the scales was completed. For each scale, internal consistency reliability was measured using Cronbach's alpha on SPSS software. Subsequently, Mplus software was used to conduct exploratory factor analysis (EFA) in order to explore the factor structure of each scale. To determine how many factors to retain, eigenvalues, scree plot, parallel analysis (PA), and minimum average parcels (MAP) were examined. Data was then analyzed for each of the four scales using confirmatory factor analysis (CFA) on Mplus software to test the proposed model of the scales. The goodness of fit was evaluated using various measures including chi-square values, the root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), weighted root mean square residual (WRMR), the

Tucker-Lewis index (TLI), and the comparative fit index (CFI). For chi-square values, non-significant values or chi-square to degrees of freedom ratios of less than three to one suggest a good fitting model (Kline, 2010). For RMSEA and SRMR, smaller values of 0.05 or less indicate a good fitting model and values up to 0.08 suggest reasonable errors of approximation (Browne & Cudeck, 1989). For WRMR, values of .95 or higher indicate good fit (Yu, 2002). TLI and CFI range between .00 and 1.0, with larger values reflecting better fit and values of .90 or greater providing evidence of good fitting models (Bentler, 1990; Hu & Bentler, 1999).

The demographic characteristics of the participants used in the pilot study were compared to those of the respondents used to answer the research questions to ensure consistency and generalizability. Prior to addressing the research questions, differences in responses from elementary as compared to secondary teachers were examined. Data was analyzed by level, as significant differences were apparent. To answer the research questions, frequency, descriptive, correlational, and multiple regression analyses were run on SPSS and path analysis was run on Mplus. To answer the first question on attempts to address stigma in the classroom, frequency tables were run to examine how commonly empirically-based practices were used and which were most usually implemented. The last research question on barriers to implementing empirically-based practices to reduce stigma was answered using descriptive analysis. This was conducted with participants' responses to the fourth scale.

To answer the second, third, and fourth research questions on various associations between teachers' backgrounds, personal attitudes, recognition of public stigma, and attempts to address stigma in the classroom, correlations and multiple regression analyses were conducted. First, the items from the scales on personal attitudes and recognition of public stigma, which were rated on six and four-point Likert scales, respectively, were recoded where necessary and then collapsed to variables labeled “PersStig” and “PubStig.” The total quantity of attempts to address stigma indicated in the third scale was computed for each respondent and labeled “Attempts.” Next, correlations were run using SPSS between background demographic factors, “PersStig,” and “PubStig” to gather information for the second research question. Significant correlations were further explored through multiple regression analysis conducted on SPSS and statistically significant differences and their effect sizes were analyzed. Correlations were then examined between teachers’ background demographic factors and “Attempts” to answer the third research question. Again, significant correlations were further examined through multiple regression analysis and statistically significant differences and their effect sizes were analyzed. To answer the fourth research question, correlations were run between “PersStig,” “PubStig,” and “Attempts.” As in the analyses of the other research questions, significant correlations were further studied through multiple regression analysis and statistically significant differences and their effect sizes were analyzed.

Following the exploration of the individual associations between teachers’ backgrounds, personal attitudes, recognition of public stigma, and attempts to address stigma in the classroom, path analysis was conducted utilizing the factors determined to be significant in the previous analysis in order to explore the relative importance of each factor in predicting teachers’ attempts to address stigma. The path analysis was completed on the Mplus software to examine the relationships between the observed variables. In this analysis, teachers' background functioned as an independent variable, personal attitude and perception of public stigma as mediating variables, and attempts to address stigma as a dependent variable. Model fit statistics including chi-square values, the root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), the Tucker-Lewis index (TLI), the comparative fit index (CFI), the Akaike information criterion (AIC), the Bayes information criterion (BIC), and the sample-size adjusted BIC (SSBIC) were analyzed to determine the fit of the models. For chi-square values, non-significant values or chi-square to degrees of freedom ratios of less than three to one suggest a good fitting model (Kline, 2010). For RMSEA and SRMR, smaller values of 0.05 or less indicate a good fitting model and values up to 0.08 suggest reasonable errors of approximation (Browne & Cudeck, 1989). For WRMR, values of .95 or higher indicate good fit (Yu, 2002). TLI and CFI range between .00 and 1.0, with larger values reflecting better fit and values of .90 or greater providing evidence of good fitting models (Bentler, 1990; Hu & Bentler, 1999). For AIC, BIC, and SSBIC, lower values indicate a better fit (Akaike, 1974; Schwartz, 1978).

Table 1

Demographic Characteristics of Participants and Teaching Workforce

Characteristic	Pilot Study Participants		Research Study Participants		Teaching Workforce [a]	
	n	% [b]	n	% [b]	n (in thousands)	% [b]
Total	142	100	330	100	3,385	100
Gender						
Female	116	82	269	82	2,584	76
Male	25	18	59	18	802	24
Other	1	1	2	1	0	0
Age						
20-39	59	42	135	41	1,497	44
40-59	63	44	162	49	1,632	48
60 or more	12	8	30	9	256	8
Did not provide	9	6	3	1	0	0
Ethnicity/Race						
White	108	76	268	81	2,773	82
Black or African American	12	9	31	9	231	7
American or Alaska Native	1	1	1	0	17	1
Asian or Asian American	1	1	3	1	61	8
Multiracial	9	6	13	4	35	1
Other	11	8	14	4	0	0
Highest Degree						
High School diploma	0	0	1	0	0	0
Associate’s degree	1	1	1	0	128	4
Bachelor’s degree	64	45	172	52	1,350	40
Master’s degree	69	49	136	41	1,614	48
Specialist’s degree	3	2	9	3	257	8
Doctorate degree	5	3	11	3	37	1
Year of Graduation [c]						
Before 1980	4	3	13	4		
1980-1989	10	7	23	7		
1990-1999	21	15	62	19		
2000-2009	48	34	93	28		
2010-2017	52	37	138	42		
Did not provide	7	5	1	0		

Years of Teaching Experience						
1-9	47	33	123	37	1,433	43
10-20	60	42	125	38	1,232	36
More than 20	35	25	82	25	720	21
Grades Taught						
Elementary	61	43	169	51	1,726	51
Secondary	81	57	161	49	1,659	49
Teacher Title [c]						
General Education Teacher	106	75	236	72		
Special Education Teacher	18	13	45	14		
Specialist	10	7	24	7		
Other	8	5	25	8		

[a] The figures provided for the "Teaching Workforce" were located in a report published by the National Center for Education Statistics (NCES, 2016).
[b] Percentages are rounded to the nearest number and therefore may not add to 100.
[c] These figures were not provided in the NCES report.

Chapter 4

RESULTS

4.1 Pilot Study

The initial data collected were utilized to conduct analysis and development of the four survey measures to determine which items to retain in each scale to most accurately measure the targeted factors.

4.1.1 Descriptive Statistics

Descriptive statistics for the pilot study participants are presented in Table 1. The response rate was 9.5% of the teachers who were invited to participate in the study through email. Of the 142 participants who completed the survey measures during the initial phase of data collection, 82% were female and 18% were male. Most respondents were between the ages of 40 and 59 and the average age of participants was 43 years. Seventy six percent of participants identified their ethnicity or race as White, 9% as Black or African American, 1% each as American Indian or Alaska Native and Asian or Asian American, 6% as Multiracial, and 8% as other. Of the 142 participants, 49% reported having earned a master's degree, 45% earned bachelor's degrees, 3% earned doctorate degrees, 2% earned specialist degrees, and 1% earned associate degrees as their highest degree. The majority of respondents had earned their most recent degree between the years 2000 and 2017. Thirty three percent of participants had 1 to 9 years of teaching experience, 42% had 10 to 20 years, and 25% had over 20 years. Slightly more than half of the participants indicated that they taught secondary school rather than elementary school. Finally, 75% of the respondents were general education teachers, whereas only 13% were special education teachers, 7% were specialists, including literacy or math teachers, fine arts teachers, or teachers who also served in other roles, and 5% were other school faculty, such as media instructors.

The participants' demographics were compared to that of a representative national sample of the teaching workforce gathered by the National Center for Education Statistics (NCES) to examine the potential external validity of the results (NCES, 2016). The descriptive statistics of this national sample are presented alongside those for the current study's participants in Table 1. The participants of this pilot study were found to be similar to those of the national teaching workforce in gender, age, ethnicity or race, highest degree earned, years of teaching experience, and grades taught, as quantities of all characteristics were within 11 percentage points for the two samples.

4.1.2 Internal Consistency Reliability

Internal consistency coefficients for each of the four scales were calculated to determine the reliability of the measures. Internal consistency coefficients, or Cronbach's alpha, were utilized to evaluate the consistency of results across items in each of the scales. George and Mallery (2005) provide the following rules of thumb for Cronbach's alpha scores: > .9 = Excellent, > .8 = Good, > .7 = Acceptable, > .6 = Questionable, > .5 = Poor, and < .5 = Unacceptable. Item-total correlations, which measure the correlation between an item and the sum of the remaining items from a scale, were also analyzed to assess the construct validity of the measures. If a small item-total correlation is found, this might suggest an item is not measuring the same construct measured by the remaining items and that if the item were removed, the internal reliability of the scale may be improved. The alpha coefficients and item-total correlations for each scale and factor therein are shown in Table 2.

For the analysis of the first scale, Part 1: Personal Attitudes, all sixteen items were examined, including items in the constructs of Affective Attitudes, Cognitive Attitudes, and Behavioral Intentions. Each item on the test was rated on a six-point Likert scale, with response options ranging from “strongly disagree” to “strongly agree.” The internal consistency reliability analysis revealed that the Cronbach’s alpha of the first scale was .779, which is in the acceptable range (George & Mallery, 2005). Many items correlated well with the test as a whole; however, those from the construct of Cognitive Attitudes including items 6 (“Robby will expect lots of attention from adults.”), 7 (“Robby will want to do many things for himself.”), 8 (“Robby will be able to do many things for himself.”), 9 (“Robby will be able to make new friends.”), and 10 (“Robby will enjoy playing with other students.”) had item-total correlations of only .262, .227, .310, .303, and .187, respectively. If these items were all eliminated, the internal consistency coefficient would increase to .843, which is in the good range (George & Mallery, 2005). The internal consistency reliability of each of the factors was also assessed. The Affective Attitudes construct, which included items 1 through 5, was found to have an internal consistency coefficient of .757 in the acceptable range (George & Mallery, 2005). All items were well correlated with the factor as a whole. For the factor of Cognitive Attitudes, which included items 6 through 10, the internal consistency coefficient was found to be .628, which is in the questionable range (George & Mallery, 2005). Two items in this factor did not correlate well with the factor as a whole. These included items 6 (“Robby will expect lots of attention from adults.”) and 7 (“Robby will want to do many things for himself.”), which had item-total correlations of .126 and .198, respectively. If these items were removed from this factor, the internal consistency of Cognitive Attitudes would increase to .770, which is in the acceptable range (George & Mallery, 2005). The internal consistency coefficient for the Behavioral Intentions construct, which included items 11 through 16, was found to be .775, which is in the acceptable range (George & Mallery, 2005). All items were correlated well with the factor as a whole.

In the analysis of the second scale, Part 2: View of Public Perceptions, all twelve items were used. Each item on the test was rated on four-point Likert scales ranging from “strongly disagree” to “strongly agree.” The internal consistency coefficient of this scale was found to be .912, which is in the excellent range (George & Mallery, 2005). All items correlated fairly well with the test as a whole. The item with the lowest item-total correlations in this scale was item 5 (“After learning they have disabilities, children worry about others discriminating against them.”), which had an item-total correlation of .488. The internal consistency would decrease if this item were deleted.

The seventy-two items of the third scale, Part 3: Attempts to Address Stigma, including the items in the subscales of Use of Practices, Perceived Effectiveness of practices, and Likelihood to Use if Additional Resources are provided, were included in the internal consistency reliability analysis of this scale. Items in the Use of Practices and

Likelihood to Use if Additional Resources subscales were dichotomous items with responses of "yes" and "no," whereas items on in the Perceived Effectiveness subscale were rated on four-point Likert scales, with response options ranging from "not effective" to "very effective." The internal consistency reliability analysis revealed that the Cronbach's alpha of this scale overall, including all three subscales was .963, in the excellent range (George & Mallery, 2005). Most items correlated fairly well with the test as a whole, although items from the Use of Practices subscale tended to have lower item-total correlations. Item 11 ("Used in past year?: Plays or puppet shows about disabilities.") had a particularly low item-total correlation of.167. The internal consistency would not change if this item were deleted. The Use of Practices subscale, which included items 1 through 24, was found to have an internal consistency coefficient of .884, which is in the good range (George & Mallery, 2005). Again, most items were well correlated with the subscale as a whole, with the exception of item 11 ("Used in past year?: Plays or puppet shows about disabilities."), which had a correlation with the subscale of .217. However, if this item were deleted, the internal consistency of the Use of Practices subscale would not change. For the Perceived Effectiveness subscale, which included items 25 to 48, the internal consistency coefficient was found to be .964, which is in the excellent range (George & Mallery, 2005). All items in this subscale correlated well with the subscale as a whole. The item-total correlation of item 48 ("Do you think this is/would be effective?: Other (please list)") was the lowest, with a correlation coefficient of .564. However, deletion of this item would not change the internal consistency of the subscale. The internal consistency coefficient for the Likelihood to

Use if Additional Resources subscale, which included items 49 to 72, was found to be .968, in the excellent range. Although all items were correlated well, item 72 ("Would use if more time, training, resources, etc.?: Other (please list)") was the least correlated, with an item-total correlation of .577 with the subscale as a whole. If item 72 were removed, the internal consistency of this subscale would not change.

For the analysis of the fourth scale, Part 4: Barriers to Addressing Stigma, the twenty-one items were examined. Each item was rated on seven-point Likert scales ranging from "not at all" to "extremely." The Cronbach's alpha for the scale was .941, which is in the excellent range (George & Mallery, 2005). Most items showed acceptable item-total correlations, with the exceptions of items 1 ("Stigma is already being addressed through a school-wide campaign.") and 7 ("Comfort level in working with children with disabilities."), which had item-total correlations of .078 and .387, respectively. The internal consistency would increase to .949 if these items were deleted.

4.1.3 Item and Rasch Analysis

Rasch analysis was used to determine if the items in the scales were measuring their intended constructs. To examine how well the survey items fit together, the sample's responses were analyzed. The Infit Z-value statistic was utilized to determine the model fit for people and items. Z-values between -2.0 and 2.0 are acceptable (Bond & Fox, 2015).

For Part 1: Personal Attitudes, the Z-values are shown in Table 3. Fourteen of the sixteen items fell with in the acceptable range. Items 4 ("I would be embarrassed if Robby had a birthday party in my classroom.") and 5 ("I would feel upset when I see

Robby.") were found to have Z-values of 2.8 and 2.7, respectively, and were therefore outside of the acceptable range. When examining Z-values for each individual factor of the first scale, it was determined that all items of the factor of Affective Attitudes fell in the acceptable range. In the factor of Cognitive Attitudes, items 6 ("Robby will expect lots of attention from adults."), 7 ("Robby will want to do many things for himself."), 8 ("Robby will be able to do many things for himself."), and 10 ("Robby will enjoy playing with other students.") fell outside of the acceptable range with Z-values of 4.5, 2.2, -2.5, and -4.3, respectively. For the factor of Behavioral Intentions, item 13 ("I would try and stay away from Robby if he were a student in my school.") displayed a Z-value of 2.2 and was therefore not in the acceptable range. Items 6 and 10 are most problematic, as they are farthest from the pathway, and were considered for removal.

Z-values for six of the twelve items on the second scale, Part 2: View of Public Perceptions, were in the acceptable range, as displayed in Table 4. Items 3 ("Most children with disabilities are rejected when others find out."), 6 ("Most people are uncomfortable around a child with a disability."), 7 ("People don't want a child with a disability around their children once they know that person has a disability."), 8 ("Some people act as though it's the child's fault that they have a disability."), 10 ("The good points of children with disabilities tend to be ignored."), and 11 ("People seem afraid of a child with a disability once they learn they have a disability.") fell outside the acceptable range with Z-values of -2.9, -3.1, -2.2, 3.9, 3.9, and -2.6, respectively. Items 8 and 10 fall farthest outside the pathway; therefore, it was considered whether these items should be included in the final scale.

On the third scale, Part 3: Attempts to Address Stigma, Z-values for fifty-four of the seventy-two items fell in the acceptable range. The Z-values for all items are shown in Table 5. The items that fell outside this range were items 3 ("Used in past year?: Discussing myths and facts about disabilities"), 5 ("Used in past year?: Providing typically developing students with strategies and skills to work with students with disabilities."), 6 ("Used in past year?: Embedding mental health awareness into curriculum (i.e. teach about disability as form of diversity in social studies, read and discuss literature about disabilities in language arts, etc.)."), 10 ("Used in past year?: Fictional books involving characters with disabilities."), 13 ("Used in past year?: Facilitate meaningful social contact between students with and without disabilities."), 14 ("Used in past year?: Facilitate peer support methods in the classroom between students with and without disabilities."), 15 ("Used in past year?: Ensure that assistants in the classroom are viewed as support for whole class, not individual students."), 18 ("Used in past year?: Openly share about personal experience with an individual with a disability."), 27 ("Do you think this is/would be effective?: Discussing myths and facts about disabilities."), 28 ("Do you think this is/would be effective?: Teaching about strengths and difficulties of students with disabilities."), 30 ("Do you think this is/would be effective?: Embedding mental health awareness into curriculum (i.e. teach about disability as form of diversity in social studies, read and discuss literature about disabilities in language arts, etc.)."), 33 ("Do you think this is/would be effective?: Non-fiction books on disabilities."), 46 ("Do you think this is/would be effective?: Involve students in advocacy campaigns for disability."), 48 ("Do you think this is/would be effective?: Other (please list)."), 55 ("Would use if more time, training, resources, etc.?: Videos on disabilities."), 57 ("Would use if more time, training, resources, etc.?: Non-fiction books on disabilities."), 64 ("Would use if more time, training, resources, etc.?: Reading first person narratives by individuals with disabilities."), and 71 ("Would use if more time, training, resources, etc.?: Facilitate a week dedicated to anti-stigma."), which had Z-values of 2.9, 2.9, 2.6, 3.3, 3.3, 3.2, 2.9, 3.0, -2.1, -3.5, -2.2, -2.7, -2.8, 6.9, -2.1, -2.1, -3.1, and -2.9, respectively. In evaluating the Z-values for each factor of this scale, all items of the factor of Use of Practices fell in the acceptable range. In the factor of Perceived Effectiveness, eighteen of the twenty-four items fell in the acceptable range. Those outside the acceptable range included items 28 ("Do you think this is/would be effective?: Teaching about strengths and difficulties of students with disabilities."), 35 ("Do you think this is/would be effective?: Plays or puppet shows about disabilities."), 41 ("Do you think this is/would be effective?: Watching video taped first person narratives by individuals with disabilities."), 43 ("Do you think this is/would be effective?: Discuss celebrities known to have disabilities."), 46 ("Do you think this is/would be effective?: Involve students in advocacy campaigns for disability."), and 48 ("Do you think this is/would be effective?: Other (please list).") with Z-values of -3.3, 3.2, -3.1, 2.3, -3.7, and 8.2. For the factor of Likelihood to Use if Additional Resources, twenty-two of the twenty-four items were in the acceptable range; however, items 56 ("Would use if more time, training, resources, etc.?: Discussions about videos on disabilities.") and 72 ("Would use if more time, training, resources, etc.?: Other (please list).") fell outside of this range with Z-values of -2.8 and 3.5. Overall, item 48 was farthest outside of the pathway, both for the scale in its entirety and for the Use of Practices factor, and was considered for deletion.

For Part 4: Barriers to Addressing Stigma, the Z-values are shown in Table 6. Eleven of the twenty-one items had Z-values that fell inside the acceptable range. Items 1 ("Stigma is already being addressed through a school-wide campaign."), 3 ("Lack of training on evidence-based interventions."), 4 ("Lack of training on research procedures."), 5 ("Lack of training on reading and understanding research."), 6 ("Lack of time to investigate intervention possibilities."), 7 (Comfort level in working with children with disabilities."), 8 ("Lack of time to analyze stigma."), 12 ("Class size."), 13 ("Severity of stigma."), and 16 ("Ineffectiveness of previous interventions suggested.") fell outside this range with Z-values of 8.8, -2.3, -3.8, -2.9, -2.1, 5.7, -2.1, 3.4, -3.3, and -4.0, respectively. Items 1 and 7 are farthest from the pathway and were considered for removal.

4.1.4 Item Selection

The results from the internal consistency reliability and Rasch analyses were considered in determining which items from each scale would be retained to be used in the second phase of data collection to answer the research questions. The original survey measure used in the pilot study is shown in Appendix A and the final survey measure utilized in the research study is displayed in Appendix B.

Part 1: Personal Attitudes had the lowest internal consistency reliability alpha level, although it was within the acceptable range. It was determined that items from the factor of Cognitive Attitudes, items 6 through 10, were most problematic. Three of these items, 6, 7, and 10, had particularly low item-total correlations with the scale as a whole. Additionally, the internal consistency of the Cognitive Attitudes factor was in the questionable range and two of the items, 6 and 7, had very low item-total correlations within the factor. The Rasch analysis on this factor demonstrated that the Z-values for four of the five items, 6, 7, 8, and 10, fell outside of the acceptable range. The items in the Cognitive Attitudes factor were also disproportionately highly endorsed, based on the item difficulty and mean measure analysis. If the five items from this factor were deleted, it was determined that the Cronbach's alpha for the scale would increase to the good range and the Z-values would be improved. Based on these findings, the five items in the Cognitive Attitudes factor on the first scale were removed.

Results indicated that the internal consistency reliability for Part 2: View of Public Perceptions was in the excellent range. There were a few items with Z-values outside of the acceptable range. However, the item-total correlations were all in the acceptable range and it was determined that the internal consistency would decrease if any item were removed. Therefore, it was decided that all items in this scale would be retained.

For Part 3: Attempts to Address Stigma, the internal consistency reliability was found to be in the excellent range. The internal consistency reliability for the Use of Practices subscale was in the good range, and for the Perceived Effectiveness and Likelihood to Use if Additional Resources subscales, it was in the excellent range. Although there was an item in the Use of Practices subscale with questionable item-total correlations with the scale as a whole and with this subscale, the internal consistency reliability would not change if this item were removed. The Rasch analysis revealed that the Z-values for the item “Other (please list).” in the subscales of Perceived Effectiveness and Likelihood to Use if Additional Resources fell farthest from the acceptable range. Based on the results from these analyses and the literature on empirically-based practices to address stigma, it was determined that all of the listed items would be retained for the second phase of data collection as they could all yield valuable, unique information and were not a detriment to the internal consistency or summary statistics of the scale. However, it was decided that the items “Other (please list).” would be analyzed as separate, descriptive items as they did not fit the same pathways as the remaining items.

Part 4: Barriers to Addressing Stigma had an internal consistency reliability alpha in the excellent range. Two items, 1 and 7, were found to have notably lower item-total correlations than the remaining items. The Z-values of these same items fell farthest outside the acceptable range, based on the Rasch analysis. If these items were removed, the internal consistency reliability would improve further. Additionally, the face validity of these items as compared to the remaining items on the scale was questionable. Therefore, it was determined that items 1 and 7 would be removed from the scale for the second phase of data collection.

4.2 Research Study

The data collected from the second phase of surveys were further analyzed for internal consistency reliability and factor analysis of the scales. This data set was then utilized to answer the research questions through frequency tables, correlations, multiple regression analysis, and path analysis conducted on SPSS and Mplus.

4.2.1 Descriptive Statistics

For the research study participants, descriptive statistics are presented in Table 1. There were 330 teachers who participated in the research study, with a response rate of 11% of the teachers who were invited to participate in the study through email. Of the participants who completed the survey measures during this phase of data collection, 82% were female and 18% were male. The ages of most of the participants were between 40 and 59 and the average participant age was 42 years. In terms of ethnicity or race, 81% of participants identified as White, 9% as Black or African American, 1% as Asian or Asian American, 4% as Multiracial, and 4% as other. Fifty two percent of the participants reported that they had earned a bachelor's degrees, 41% earned master's degrees, 3% earned specialist degrees, and 3% earned doctorate degrees as their highest degree. The graduation year of participants' most recent degree was between the years 2000 and 2017 for most participants. Of the 330 participants, 37% reported having 1 to 9 years of teaching experience, 38% had 10 to 20 years, and 25% had over 20 years. Slightly more than half of the participants indicated that they teach elementary school rather than secondary school. The roles of the participants included 72% general education teachers, 14% special education teachers, 7% specialists, including reading or math teachers, fine arts teachers, speech language teachers, "ELL" teachers, or teachers who also served in other roles, and 8% other school faculty, such as media teachers.

The demographics of the participants in the research study were compared to the representative national sample of the teaching workforce gathered by the NCES to assess the potential external validity of the results (NCES, 2016). Table 1 presents the demographics of the research study participants, in addition to the pilot study participants and the national sample. The participants of this research study were found to be similar to those of the national teaching workforce in gender, age, ethnicity or race, highest degree earned, years of teaching experience, and grades taught, as the quantities of each of the characteristics were within 12 percent points of each other for each sample. Additionally, the pilot study participants were within 8 percentage points of those from the research study for each of these characteristics.

4.2.2 Internal Consistency Reliability

The data collected in the second phase of surveys was analyzed to further examine the internal consistency reliability of each of the four measures. Internal consistency coefficients, or Cronbach's alpha, were used to evaluate the consistency of results across items in each of the scales and item-total correlations were analyzed to assess the construct validity of the measures, as in the pilot study. The same ranges were utilized to determine the acceptableness of the Cronbach's alpha scores (George & Mallery, 2005). Table 7 presents the alpha coefficients and item-total correlations for each scale and factor.

The eleven items of the first scale, Part 1: Personal Attitudes, including items in the constructs of Affective Attitudes and Behavioral Intentions were included in the internal consistency reliability analysis of this scale. Each item on the scale was rated on a six-point Likert scale, with response options ranging from "strongly disagree" to "strongly agree." The internal consistency reliability analysis revealed that the Cronbach's alpha of the first scale was .851, which is in the good range (George &

Mallery, 2005). Items correlated well with the test as a whole and the internal consistency reliability of the scale would decrease if any item were removed. The internal consistency reliability of each of the factors was also assessed. For the Affective Attitudes construct, which included items 1 through 5, the internal consistency coefficient was found to be .704, which is in the acceptable range (George & Mallery, 2005). The internal consistency coefficient for the Behavioral Intentions construct, which included items 6 through 11 (items 11 through 16 on the original measure), was found to be .796, which is in the acceptable range (George & Mallery, 2005). All items were correlated well with their respective factors.

The analysis of the second scale, Part 2: View of Public Perceptions, included all twelve items of the scale. Each item was rated on four-point Likert scales ranging from "strongly disagree" to "strongly agree." The internal consistency coefficient of this scale was found to be .891, which is in the good range (George & Mallery, 2005). All items correlated well with the test as a whole and the internal consistency would decrease if any item were deleted.

For the third scale, Part 3: Attempts to Address Stigma, each of the 69 items on the subscales of Use of Practices, Perceived Effectiveness of practices, and Likelihood to Use if Additional Resources are provided, were included in the internal consistency reliability analysis. Items on Use of Practices and Likelihood to Use if Additional Resources were dichotomous items with responses of "yes" and "no," whereas items on Perceived Effectiveness were rated on four-point Likert scales, with response options ranging from "not effective" to "very effective." The internal consistency reliability analysis revealed that the Cronbach's alpha of this scale overall, including all three subscales was .870, in the good range (George & Mallery, 2005). Although the item-total correlations of some items were low for the scale as a whole, all items correlated well with their individual subscales. This is acceptable for this analysis, as the items will only be analyzed individually or summed into their subscales, rather than summed into the scale as a whole. The Use of Practices subscale, which included items 1 through 23, was found to have an internal consistency coefficient of .883, which is in the good range (George & Mallery, 2005). The items were well correlated with the subscale as a whole and the internal consistency of the Use of Practices subscale would decrease if any item were deleted. For the Perceived Effectiveness subscale, which included items 24 to 46, the internal consistency coefficient was found to be .960, which is in the excellent range (George & Mallery, 2005). All items in this subscale correlated well with the subscale as a whole and deletion of any item would not increase the internal consistency of the subscale. The internal consistency coefficient for the Likelihood to Use if Additional Resources subscale, which included items 46 to 69, was found to be .960, in the excellent range (George & Mallery, 2005). Again, all items were correlated well with the subscale and the internal consistency would decrease if any item were deleted.

The nineteen items of the fourth scale, Part 4: Barriers to Addressing Stigma were included in the internal consistency reliability analysis of this measure. Each item was rated on seven-point Likert scales ranging from "not at all" to "extremely." The Cronbach's alpha for the scale was .953, which is in the excellent range (George &

Mallery, 2005). All items showed acceptable item-total correlations and the internal consistency would decrease if any items were deleted.

4.2.3 Factor Analysis

To investigate the factor structure of each of the four scales, EFA and then CFA were conducted on the Mplus software. EFA was conducted first in order to identify integral constructs in the scales, as research has shown that it is more effective in uncovering first-order factors than CFA (Gorsuch, 2003; MacCallum, 1986; MacCallum, Roznowski, & Nowrwitz, 1992). Therefore, EFA was utilized initially because of the uncertainty of the factor structure of some of the scales. Subsequently, CFA was employed to further test the factors identified in the EFA due to its strength in assessing emergent structural evidence (Goldberg & Velicer, 2006).

For the EFA, full-information maximum likelihood estimation was used to uncover underlying factors (Jöreskog, 1969, 1977). To estimate communalities, the observed covariance matrix was examined (Gorsuch, 2003). The assumption was made that retained factors were correlated due to both theoretical and empirical reasoning. Accordingly, Promax rotation was used (Tataryn, Wood, & Gorsuch, 1999). Determining the number of factors to retain in an EFA is a critical decision (Fabrigar et al., 1999; Tabachnick & Fidell, 2007). In this analysis, several rules were employed to make this decision, including eigenvalues greater than 1.0 (Kaiser, 1960), scree test (Cattell, 1966), Glorfeld's (1995) parallel analysis (PA; Horn, 1965), and minimum average parcels (MAP; Velicer, 1976). Although the most commonly used rule is that of eigenvalues, research shows that PA and MAP are the strongest methods for determining the number of factors to retain and that the scree test is valuable as well (Buja & Eyuboglu, 1992; Glorfeld, 1995; Verlicer et al., 1976, Zwick & Velicer, 1986).

CFA was then conducted to further evaluate the model as it provides a more rigorous inspection of the scales' factorial structures (Bryne, 2012; Schmitt, 2011). Full-information maximum likelihood estimation was employed to uncover underlying constructs (Jöreskog, 1969, 1977). Communalities were estimated from the observed covariance matrix (Gorsuch, 2003). Numerous measures of fit exist to evaluate the quality of the models. As they were developed within different theoretical frameworks and focus on diverse aspects of fit, multiple measures of fit were considered including RMSEA, SRMR, TLI, and CFI (Bentler, 1990; Browne & Cudeck, 1993; Hu & Bentler, 1995; Jöreskog, & Sörbom, 1996; Tanaka, 1993; Tucker & Lewis, 1973).

4.2.3.1 Factor Analysis of Part 1: Personal Attitudes

For the EFA of the first measure, Part 1: Personal Attitudes, one- through six-factor solutions were rotated. Kaiser's eigenvalue criterion, the scree test, and PA all suggested that two factors be retained. MAP pointed to one factor. Both the one and two-factor solutions satisfied requirements for simple structure in that all variables showed appreciable factor loadings and each variable loaded on only one factor (Thurstone, 1947). Based on these results, the two-factor solution was accepted. The two factors were interpreted according to the magnitude of their salient pattern coefficients within the rotated pattern matrix. All coefficients greater than or equal to .32 were considered appreciable. The first factor was characterized by high loadings on the first nine items in the scale and was named Affective Attitudes and Negative Behavioral Intentions. The second factor was defined by appreciable loadings on the final two items on the scale and was named Positive Behavioral Intentions. The correlation between the two retained factors was examined and the coefficient was moderate in magnitude (r=.52). This finding indicates that the two dimensions are associated and share common variance.

CFA was run to further examine the two-factor model suggested in the EFA results. This model was compared to three alternative models: a single factor model, the theoretically proposed two factor model, in which items 1 through 5 made up the factor Affective Attitudes and items 6 through 11 made up the factor Behavioral Intentions, and a hierarchical two-factor model, based on the model suggested through the EFA. The measures of fit for each of the models are presented in Table 8. All of the indices most supported the retention of one of the two-factor models suggested by the EFA. As the criterion for these two models were similar, the correlations between the factors were moderate in magnitude, and the presence of a higher order factor was theoretically based, the hierarchical two-factor model was accepted. Although these results differ slightly from theoretical expectations, the presence of a higher order factor, which was named Personal Attitudes, was predicted. Factor loadings linking each item to its respective factor are displayed in Figure 2. These revealed that all of the loadings were large ($\geq$ .83).

4.2.3.2 Factor Analysis of Part 2: View of Public Perceptions

EFA of the second measure, Part 2: View of Public Perceptions, was conducted to rotate one- through six-factor solutions. Kaiser's eigenvalue criterion and the scree test suggested that two factors be retained, whereas PA and MAP pointed to a one-factor model. As PA and MAP are known to be the most accurate criteria for determining the quantity of factors to retain, the one-factor model was accepted (Buja & Eyuboglu, 1992; Glorfeld, 1995; Verlicer et al., 1976, Zwick & Velicer, 1986). This solution satisfied requirements for simple structure in that all variables showed appreciable factor loadings and each variable loaded on only one factor. All coefficients were greater than or equal to .47 and were all considered appreciable. The sole factor, which was characterized by high loadings all items in the scale, was named View of Public Perceptions.

CFA was run to further examine the one-factor model suggested in the EFA results. The measures of fit are presented in Table 9. Most of the criterion considered suggested the retention of the one-factor model suggested by the EFA, with the exceptions of chi-square value and RMSEA. These results aligned with the theoretical expectation that the twelve items in this scale make up a single factor of View of Public Perceptions. Factor loadings linking each item to the sole factor are displayed in Figure 3. These revealed that all of the loadings were large ($\geq .73$).

4.2.3.3 Factor Analysis of Part 3: Attempts to Address Stigma

For the EFA of the third measure, Part 3: Attempts to Address Stigma, one- through six-factor solutions were rotated. Kaiser's eigenvalue criterion, the scree test, PA, and MAP suggested that a multitude of factors be retained: fourteen, six, five, and nine, respectively. However, when the items were examined based on their salient pattern coefficients within the rotated pattern matrix, only the theoretically based three-factor solution satisfied the requirements for simple structure in that all variables showed appreciable factor loadings and each variable loaded on only one factor. Based on these findings and the interpretation of the theoretical framework, the three-factor solution was accepted. The three factors were interpreted according to the magnitude and meaning of their salient pattern coefficients within the rotated pattern matrix. All coefficients greater than or equal to .39 were considered appreciable. The first factor was characterized by high loadings on the first twenty-three items in the scale and was named Use of Practices. The second factor was defined by appreciable loadings on the items 24 to 46 on the scale and was named Perceived Effectiveness. The third factor was characterized by appreciable loadings on items 47 to 69 and was named Likelihood to Use if Additional Resources. The correlation between the three retained factors was examined and the coefficients were small in magnitude (r=.24, .19, .41). This finding indicates that the dimensions are somewhat associated with one another.

CFA was run to further examine the three-factor model suggested in the EFA results and by the theoretical framework. This model was compared to two alternative models: a single factor model and a hierarchical three-factor model. The measures of fit for each of the models are presented in Table 10. All of the indices most supported the retention of either of the three-factor models. As the values for these two models were similar and the correlations between the factors was small in magnitude, the first order three-factor model was accepted. This model aligned with the theoretical expectation that the first third of the items in the scale made up the factor of Use of Practices, the second third made up the factor of Perceived Effectiveness, and the final third made up the factor of Likelihood to Use if Additional Resources. Factor loadings linking each item to its respective factor are displayed in Figure 4. These revealed that all of the loadings were large ($\geq$ .88).

4.2.3.4 Factor Analysis of Part 4: Barriers to Addressing Stigma

EFA of the fourth measure, Part 4: Barriers to Addressing Stigma, was conducted to rotate one- through six-factor solutions. Kaiser's eigenvalue criterion and MAP suggested that three factors be retained. The scree test and PA pointed to two factors. Both the two and three-factor solutions satisfied requirements for simple structure in that all variables showed appreciable factor loadings and each variable loaded on only one factor, although coefficients were more appreciable in the three-factor model. Based on these results considered with the meaning of the items, the three-factor solution was accepted. The three factors were interpreted according to the magnitude and meaning of their salient pattern coefficients within the rotated pattern matrix. All coefficients greater than or equal to .49 were considered appreciable. The first factor was characterized by high loadings on items 1 to 4 in the scale and was labeled Lack of Training. The second factor was defined by appreciable loadings on items 5 to 9 on the scale and was named Lack of Resources. The third factor was characterized by appreciable loadings on items 10 to 19 and was designated Other Barriers. The correlation between the three retained factors was examined and the coefficients were moderate to large in magnitude (r = .58, .59, .60). This finding indicates that the dimensions are associated and share common variance.

CFA was run to further examine the three-factor model suggested in the EFA results. This model was compared to two alternative models: a single factor model and a hierarchical three-factor model. The measures of fit for each of the models are presented in Table 11. All of the indices most supported the retention of one of the three-factor models suggested by the EFA. As the criterion for these two models were similar, the correlations between the factors were moderate to large in magnitude, and the presence of an overall factor was theoretically based, the hierarchical three-factor model was accepted. These results differ from theoretical expectations in that only one overarching factor, which was named Barriers, was predicted. Factor loadings linking each item to its respective factor are displayed in Figure 5. These revealed that all of the loadings were large ($\geq$ .90).

4.2.4 Differences Between Elementary and Secondary Teachers' Responses

Discrepancies between the responses of elementary and secondary teachers were analyzed through to determine whether these groups should be examined separately. Data were analyzed using a one-way between-subjects multivariate analysis of variance (MANOVA) and follow up t-tests. Dependent variables for the MANOVA included all demographic characteristics and survey research items. The multivariate effect showed that responses to demographic and research items were significantly affected by the teachers' level of elementary versus secondary (Wilks' Lambda = .249, F = 3.811, df [144, 182], p = .001).

The following t-tests found significant differences in teachers' demographic results of gender, special education certification, teacher title, type of classroom, presence of students with IEPs in current classes, presence of self-contained classrooms in the schools, and predominance of integrated versus self-contained classrooms. For gender, there were more female elementary teachers and more male secondary teachers (t = -4.92, df [260], p = .001). The effect size was medium (Cohen's, 1988, d = 0.54) and represents a moderate difference between the two groups. For special education certification, more elementary teachers hold this certification than secondary teachers ($t = 2.23$, df [320], $p = .026$), and the effect size was small ($d = 0.25$). For teacher title, more elementary teachers hold titles of special education teacher, specialist, or other and less hold the title of general education teacher than secondary teachers ($t = -4.32$, df [297], $p = .001$), and the effect size was medium ($d = 0.48$). For type of classroom, more elementary teachers work in special education or inclusive classrooms and less in general education classrooms than secondary teachers ($t = -4.35$, df 321], $p = .001$), and the effect size was medium ($d = 0.48$). For presence of students with IEPs in current classes, less elementary teachers currently have students with IEPs in their classes than secondary teachers ($t = -3.86$, df [210], $p = .001$), and the effect size was small to medium ($d = 0.43$). For presence of self-contained classrooms in the schools, elementary teachers reported less self-contained classrooms than secondary teachers ($t = -6.25$, df [302], $p = .001$), and the effect size was medium to large ($d = 0.69$). For predominance of integrated versus self-contained classrooms, elementary teachers reported more integrated classrooms as compared to self-contained classrooms than secondary teachers ($t = 3.32$, df [291], $p = .001$), and the effect size was small to medium ($d = 0.37$).

Statistically significant differences between elementary and secondary teachers were also found in research items including overall personal attitudes, reported use of nine of the listed empirically-based practices, perceived effectiveness of fifteen of the listed empirically-based practices, reported intentions of use with additional resources of twenty of the listed empirically-based practices, presence of six of the listed school-wide campaigns, reported involvement with school-wide campaigns, and endorsement of one of the barriers to implementing empirically-based practices in the classroom. Personal attitudes of elementary teachers were significantly more positive than those of secondary teachers (t = 2.96, df [324], p = .003, d = 0.33). For significant differences in the use of empirically-based practices items, there was more reported use by elementary teachers as compared to secondary teachers (discussing strengths and weaknesses: t = 3.62, df [327], p = .001, d = 0.40; discussing strategies to use with individuals with disabilities: t = 2.77, df [328], p = .006, d = 0.31; videos about disabilities: t = 2.09, df [321], p = .037, d = 0.23; nonfiction books about disabilities: t = 8.69, df [251], p = .001, d = 0.96; fictional books about individuals with disabilities: t = 10.33, df [302], p = .001, d = 1.14; plays or puppet shows about disabilities: t = 3.05, df [250], p = .003, d = 0.34; social contact: t = 2.51, df [324], p = .013, d = 0.28; ensure assistants in classroom are viewed as support for whole class: t = 2.32, df [328], p = .021, d = 0.26; reading first person narratives written by individuals with disabilities: t = 3.59, df [302], p = .001, d = 0.40). For significant differences in perceived effectiveness of the listed empirically-based practices, elementary teachers indicated that they felt the practices would be more effective than secondary teachers (discussing strengths and weaknesses: t = -3.45, df [327], p = .001, d = 0.38; discussing strategies to use with individuals with disabilities: t = -2.57, df [328], p = .011, d = 0.28; videos about disabilities: t = -2.82, df [328], p = .005, d = 0.31; discussing videos about disabilities: t = -2.47, df [328], p = .014, d = 0.27; nonfiction books about disabilities: t = -5.16, df [317], p = .001, d = 0.57; fictional books about individuals with disabilities: t = -7.15, df [310], p = .001, d = 0.79; plays or puppet shows about disabilities: t = -6.47, df [328], p = .001, d = 0.71; social contact: t = -2.36, df [328], p = .019, d = 0.26; peer support for students with disabilities: t = -2.26, df [328], p = .027, d = 0.25; ensure assistants in classroom are viewed as support for whole class: t = -2.82, df [320], p = .005, d = 0.31; reading first person narratives written by individuals with disabilities: t = -3.32, df [313], p = .001, d = 0.37; watching first person video narratives of individuals with disabilities: t = -2.54, df [328], p = .012, d = 0.28; teacher sharing of personal experiences with disabilities: t = -2.98, df [313], p = .003, d = 0.33; discussing celebrities with disabilities: t = -3.71, df [318], p = .001, d = 0.41; week dedicated to anti-stigma: t = -2.06, df [320], p = .041, d = 0.23). For significant differences in reported intentions of use with additional resources of the listed empirically-based practices, elementary teachers more commonly indicated intentions to use empirically-based practices than secondary teachers (packaged curriculum: t = 2.07, df [319], p = .039, d = 0.23; develop lessons: t = 2.68, df [300], p = .008, d = 0.30; discussing strengths and weaknesses: t = 3.11, df [293], p = .002, d = 0.34; embedding instruction about disabilities into the curriculum: t = 2.73, df [307], p = .007, d = 0.30; videos about disabilities: t = 2.19, df [321], p = .029, d = 0.24; discussing videos about disabilities: t = 2.43, df [320], p = .015, d = 0.27; nonfiction books about disabilities: t = 5.75, df [289], p = .001, d = 0.63; fictional books about individuals with disabilities: t = 6.66, df [266], p = .001, d = 0.73; plays or puppet shows about disabilities: t = 4.62, df [323], p = .001, d = 0.51; question and answer session with individual with disability: t = 2.31, df [315], p = .022, d = 0.25; peer support for students with disabilities: t = 2.40, df [296], p = .017, d = 0.26; ensure assistants in classroom are viewed as support for whole class: t = 3.63, df

[288], p = .001, d = 0.40; reading first person narratives written by individuals with disabilities: t = 4.60, df [305], p = .001, d = 0.51; watching first person video narratives of individuals with disabilities: t = 2.58, df [318], p = .010, d = 0.28; teacher sharing of personal experiences with disabilities: t = 2.85, df [309], p = .005, d = 0.31; discussing celebrities with disabilities: t = 2.68, df [313], p = .008, d = 0.30; club to support those with disabilities: t = 2.05, df [324], p = .041, d = 0.23; club to increase awareness about disabilities: advocacy efforts: t = 2.89, df [323], p = .023, d = 0.32; week dedicated to anti-stigma: t = 2.38, df [317], p = .018, d = 0.26). For significant differences in presence of listed school-wide campaigns, more elementary teachers reported the presence of School-Wide Positive Behavior Support and Social Emotional Learning, whereas more secondary teachers reported the presence of OK2Talk, Best Buddies, Teaching Tolerance, and Safe School Ambassadors (School-Wide Positive Behavior Support: t = -2.08, df [321], p = .038, d = 0.23; Social Emotional Learning: t = -2.73, df [305], p = .007, d = 0.30; Ok2Talk: t = 2.27, df [160], p = .025, d = 0.25; Best Buddies: t = 8.08, df [216], p = .001, d = 0.89; Teaching Tolerance: t = 2.81, df [283], p = .005, d = 0.31; Safe School Ambassadors: t = 3.68, df [299], p = .001, d = 0.41). For significant differences in reported involvement with school-wide campaigns, elementary teachers reported more involvement than secondary teachers (t = 3.15, df [328], p = .002, d = 0.35). For endorsement of the barriers to implementing empirically-based practices in the classroom, elementary teachers reported that class size was significantly less of a barrier than secondary teachers (t = 3.68, df [328], p = .001, d = 0.41).

Due to these significant differences between elementary and secondary teachers' responses, data from each level was examined independently for the remaining analyses.

4.2.5 Frequency and Descriptive Analyses

Frequency and descriptive analyses conducted in SPSS were examined to answer the research questions on rates of implementation of empirically-based practices in the classroom and reported barriers to employing such practices.

4.2.5.1 Employment of Empirically-Based Practices

Frequencies of reported employment of empirically-based practices for increasing acceptance in the classroom are displayed in Table 12, both by teacher level and combined totals. Of the 330 teachers, 297 (90%) reported using at least one method of attempting to address stigma in the prior year. Nearly all of these indicated use of at least one empirically-based practice (293, 89%). The non-empirically-based practices include those written in as responses to the "other" item that do not align with any empirically-based practice or include enough information to make a determination, such as "bullying," "provide information in students' home language with disability if home language is other than English," and "setting goals for an activity, day, or period of time."

On average, teachers used 6.70 empirically-based practices from the twenty-three listed on the survey measure. The most commonly implemented practices overall included facilitating meaningful contact between students with and without disabilities (201, 61%) and facilitating peer support methods in the classroom between students with and without disabilities (196, 59%). Conversely, the least commonly implemented practices included plays or puppet shows (22, 7%), watching video taped first person narratives (21, 8%), and organization of clubs to increase awareness of disabilities (29, 9%) or to support those with disabilities (32, 10%).

Reported use of empirically-based practices from each of the three primary types, education, social contact, and advocacy, was also examined. Overall, teachers most commonly implemented educational practices (269, 82%), followed by social contact practices (267, 81%), and then advocacy practices (83, 25%).

Teachers were also asked about school-wide practices to address stigma, as well as their involvement in these activities. The most commonly reported school-wide practices included School-Wide Positive Behavior Supports (227, 69%), Pink Shirt Day (192, 58%), National Bullying Prevention Month (175, 53%), Safe School Ambassadors (76, 23%), and Best Buddies (70, 21%). The majority of teachers (235, 71%) reported some involvement in some school-wide practice to address stigma or bullying. Correlational analysis revealed that the presence of school-wide practices was significantly associated with teachers' attempts to address stigma in their own classrooms ($r_{pb} = .169$, $p = .002$), such that teachers were more likely to implement attempts to address stigma in their classroom if there were school-wide practices in place as well. Furthermore, teachers' degree of involvement with such school-wide practices was significantly related to their use of empirically-based practices in their own classrooms ($r_{pb} = .342$, $p = .001$), in that teachers were more likely to implement attempts to address stigma in their own classrooms if they were more involved in school-wide practices.

4.2.5.1.1 Elementary Teachers

Ninety-three percent (157) of elementary teachers reportedly implemented at least one method of attempting to address stigma. Similarly, 92% (156) of elementary teachers used at least one empirically-based practice.

Elementary teachers used on average 7.77 empirically-based practices from the twenty-three listed. The most commonly implemented practices for elementary teachers included facilitating meaningful contact between students with and without disabilities (114, 68%) and facilitating peer support methods in the classroom between students with and without disabilities (106, 63%). The least commonly implemented practices included organization of clubs to increase awareness of disabilities (10, 6%) or to support those with disabilities (13, 8%), and watching video-taped first person narratives (16, 10%).

In terms of the types of empirically-based practices, elementary teachers most commonly implemented educational practices (152, 90%), followed by social contact practices (146, 86%), and then advocacy practices (44, 26%).

For elementary teachers, the most commonly reported school-wide practices to address stigma included School-Wide Positive Behavior Supports (125, 74%), Pink Shirt Day (104, 62%), and National Bullying Prevention Month (93, 55%). The majority of teachers (132, 78%) reported some involvement in some school-wide practice to address stigma or bullying. Correlational analysis revealed that the presence of school-wide practices was significantly associated with teachers' attempts to address stigma in their own classrooms (r_{pb} = .177, p = .021), such that teachers were more likely to implement attempts to address stigma in their classroom if there were school-wide practices in place as well. Teachers' degree of involvement with such school-wide practices was also significantly related to their use of empirically-based practices in their own classrooms (r_{pb} = .244, p = .001), in that teachers were more likely to implement attempts to address stigma in their own classrooms if they were more involved in school-wide practices.

4.2.5.1.2 Secondary Teachers

Eighty-seven percent (140) of secondary teachers used at least one method of attempting to address stigma, a slightly lower percent than elementary teachers. Comparably, 85% (137) of secondary teachers implemented at least one empirically-based practice.

Secondary teachers used 5.58 empirically-based practices of the twenty-three listed on average. Results showed a statistically significant difference between elementary and secondary teachers on reported quantity of implemented empirically-based practices to address disability stigma (t = 3.95, df [327], p = .001). The effect size was medium (d= .44). The most commonly implemented practices for secondary teachers included facilitating peer support methods in the classroom between students with and without disabilities (90, 56%) and facilitating meaningful contact between students with and without disabilities (87, 54%4). Conversely, the least commonly implemented practices for included plays or puppet shows (4, 3%), watching video-taped first person narratives (11, 7%), and non-fiction books on disabilities (11, 7%).

The most commonly implemented types of empirically-based practices by secondary teachers were social contact practices (121, 75%), followed by educational practices (117, 73%), and then advocacy practices (39, 24%).

For secondary teachers, the most commonly reported school-wide practices to address stigma included School-Wide Positive Behavior Supports (102, 63%), Pink Shirt Day (88, 55%), and National Bullying Prevention Month (82, 51%), Best Buddies (62, 39%), and Safe School Ambassadors (51, 32%). The majority of teachers (91, 57%) reported some involvement in some school-wide practice to address stigma or bullying. Correlational analysis revealed that the presence of school-wide practices was significantly associated with teachers' attempts to address stigma in their own classrooms (r_{pb} = .165, p = .037), such that teachers were more likely to implement attempts to address stigma in their classroom if there were school-wide practices in place as well. Furthermore, teachers' degree of involvement with such school-wide practices was significantly related to their use of empirically-based practices in their own classrooms (r_{pb} = .388, p = .001), in that teachers were more likely to implement attempts to address stigma in their own classrooms if they were more involved in school-wide practices.

4.2.5.2 Barriers to Implementing Empirically-Based Practices

Mean values of endorsed barriers to implementing empirically-based practices for increasing acceptance in the classroom are displayed in Table 13, both by teacher level and combined. Overall, the most highly endorsed barriers included lack of time to implement interventions (M = 4.87, SD = 1.92), lack of time to create interventions (M = 4.78, SD = 1.89), class size (M = 4.76, SD = 2.03), and lack of materials to use with students (M = 4.63, SD = 1.92). The least endorsed barriers included thinking interventions would not work (M = 2.95, SD = 1.86), lack of administrative support (M = 3.45, SD = 2.05), lack of communication/support from school psychologist (M = 3.55, SD = 1.91), and ineffectiveness of previous interventions suggested (M = 3.59, SD = 1.83).

Responses were also analyzed by the factors of Lack of Training, Lack of Resources, and Other Barriers, as indicated by the factor analysis. Overall, Lack of Resources was most highly endorsed (M = 4.67, SD = 1.75), followed by Lack of Training (M = 3.91, SD = 1.72), and then Other Barriers (M = 3.83, SD = 1.47).

4.2.5.2.1 Elementary Teachers

For elementary teachers, the most highly endorsed barriers to implementing empirically-based practices to address stigma included lack of time to implement interventions (M = 4.93, SD = 1.88), lack of time to create interventions (M = 4.86, SD = 1.83), lack of materials to use with students (M = 4.77, SD = 1.84), and lack to time to investigate intervention possibilities (M = 4.75, SD = 1.87). The least endorsed barriers included thinking interventions would not work (M = 2.82, SD = 1.78), lack of administrative support (M = 3.36, SD = 2.06), lack of communication/support from school psychologist (M = 3.37, SD = 1.79), and ineffectiveness of previous interventions suggested (M = 3.55, SD = 1.77).

Lack of Resources was the most highly endorsed factor by elementary teachers (M = 4.76, SD = 1.67), followed by Lack of Training (M = 3.88, SD = 1.61), and then Other Barriers (M = 3.71, SD = 1.43).

4.2.5.2.2 Secondary Teachers

For secondary teachers, the most highly endorsed barriers to implementing empirically-based practices to address stigma included class size (M = 5.17, SD = 1.93), lack of time to implement interventions (M = 4.80, SD = 1.96), and lack of time to create interventions (M = 4.68, SD = 1.96). The least endorsed barriers included thinking interventions would not work (M = 3.09, SD = 1.93), ineffectiveness of previous interventions suggested (M = 3.36, SD = 1.89), and lack of administrative support (M = 3.55, SD = 2.03).

Lack of Resources was the most highly endorsed factor by secondary teachers (M = 4.57, SD = 1.83), followed by Other Barriers (M = 3.95, SD = 1.51), and then Lack of Training (M = 3.93, SD = 1.83).

4.2.6 Relations Between Factors

The research questions on the associations between teachers' backgrounds, personal attitudes, recognition of public stigma, and attempts to address stigma in the classroom were answered through correlational, multiple regression, and path analyses.

4.2.6.1 Teachers' Backgrounds, Personal Attitudes, and Perceptions of Public Stigma

Correlational analysis of teachers' background factors with personal attitudes and perceptions of public stigma revealed several statistically significant relationships when examining all participants together, as well as by educational level. For the overall sample, teachers' gender (r_{pb} = .118, p = .032), highest degree (r_{pb} = -.112, p = .043), year of graduation (r = -.114, p = .039), special education certification (r_{pb} = .170, p = .002), teacher title (r_{pb} = .177, p = .001), level (r_{pb} = -.161, p = .003), and schools' integration practices (r_{pb} = .110, p = .046) were statistically significantly correlated with their personal attitudes and reflected small effect sizes. Teachers' type of classroom also had a statistically significant relationship with their personal attitudes and represented a medium effect size (r_{pb} = .214, p = .001). These relationships were such that teachers indicated more positive attitudes towards individuals with disabilities if they were female, had lower highest degrees, graduated earlier, held special education certifications, had the title of special education teacher, taught in special education classrooms and in elementary schools, and were in schools in which special education students were primarily integrated into general education classrooms. All other background factors were not found to have significant relationships with either teachers' personal attitudes or perceptions of public stigma, and personal attitudes and perceptions of public stigma were not significantly related to one another.

Multiple regression analysis was conducted to further examine the significant relationships between teachers' background factors and personal attitudes (see Table 14). The overall association between related background factors and personal attitudes was statistically significant, F (8, 320) = 4.06, p = .001. Of the background factors examined, none made statistically significant, unique contributions to the prediction of personal attitudes. The relative unique contributions of the background factors were assessed with examination of the squared semi-partial coefficients (sr^2) for all regression analyses (Meyers, Gamst, & Guarina, 2006; Tabachnick & Fidell, 2007). Relatively, type of classroom made the largest unique contribution, followed by highest degree, then year of graduation, then gender, then special education certification, level, and school's integration practices, and then teacher title.

4.2.6.1.1 Elementary Teachers

Analyses were also conducted by teacher level. For elementary teachers, teacher title (r_{pb} = .159, p = .039) and type of classroom (r_{pb} = .159, p = .038) had statistically significant relationships with their personal attitudes and reflected small effect sizes. Teachers' highest degree was also statistically significantly related to personal attitudes and represented a medium effect size (r_{pb} = -.217, p = .005). There was also a statistically significant relationship between teachers' personal attitudes and perception of public stigma and this represented a small effect size (r = -.154, p = .046). These relationships were such that teachers indicated more positive attitudes towards individuals with disabilities if they had lower highest degrees, the title of special education teacher, and taught in special education classrooms. Additionally, teachers were more aware of public stigma if their own attitudes towards individual with disabilities were more negative. All other background factors were not found to have significant relationships with either teachers' personal attitudes or perceptions of public stigma for elementary teachers.

Results from the multiple regression analysis conducted on the significant relationships between teachers' background factors, awareness of public stigma, and personal attitudes are shown in Table 15. The overall association between related background factors, awareness of public stigma, and personal attitudes was statistically significant, F (4, 164) = 4.57, p = .002. Of the background factors examined, only highest degree (p = .005) made a statistically significant, unique contribution to the prediction of personal attitudes. Relatively, highest degree made the largest unique contribution as evaluated through sr^2, followed by awareness of public stigma, then teacher title, and then type of classroom. Effect sizes were calculated using Cohen's (1988) f^2, where values of .02 represent a small effect, .15 a medium effect, and .35 a large effect. Results show that highest degree had a small effect size (f^2 = .05) and that this analyses' power was .71, meaning that there was a 71 percent probability of finding statistical significance if the obtained sample differences were present in the population (Faul et al., 2007).

4.2.6.1.2 Secondary Teachers

For secondary teachers, year of graduation (r = -.200, p = .011), special education certification (r_{pb} = .222, p = .005), and type of classroom (r_{pb} = .204, p = .010) were statistically significantly correlated with their personal attitudes and reflected medium effect sizes. Teachers' age (r = -.190, p = .016) and personal disability status (r_{pb} = .194, p = .014) were statistically significantly associated with their perception of public stigma and these represented medium effect sizes. These relationships were such that teachers indicated more positive attitudes towards individuals with disabilities if they were graduated earlier, held special education certifications, and taught in special education classrooms. Also, teachers were more aware of public stigma if they were younger and had a personal disability. All other background factors were not found to have significant relationships with either teachers' personal attitudes or perceptions of public stigma for secondary teachers, and personal attitudes and perceptions of public stigma were not significantly related to one another.

Multiple regression analysis was conducted on the significant relationships between teachers' background factors and personal attitudes (see Table 16). The overall association between related background factors and personal attitudes was statistically significant, F (3, 156) = 5.18, p = .002. Of the background factors examined, only year of graduation (p = .028) made a statistically significant, unique contribution to the prediction of personal attitudes. Relatively, year of graduation made the largest unique contribution, followed by type of classroom, and then special education certification. Results show that year of graduation had a small effect size (f^2 = .03) and that the power of this analysis was .42, which means that there was only a 42 percent probability of identifying statistical significance if it exists in the population.

An additional multiple regression analysis was completed to further examine the significant relationships between teachers' background factors and perceptions of public stigma (see Table 17). The overall association between related background factors and personal attitudes was statistically significant, F (2, 157) = 5.34, p = .006. Of the background factors examined, both age (p = .037) and personal disability status (p = .033) made statistically significant, unique contributions to the prediction of perceptions of public stigma. Relatively, personal disability status made a larger unique contribution, followed by age. Results show that both personal disability status (f^2 = .03) and age (f^2 = .03) had small effect sizes and that the power was .48.

4.2.6.2 Teachers' Backgrounds and Attempts to Address Stigma

To explore the relationships between teachers' background factors and their attempts to address stigma with empirically-based practices, correlational analyses were conducted. Several statistically significant relationships were revealed when examining all participants together, as well as by educational level. For the overall sample, teachers' age (r = .113, p = .042), special education certification (r_{pb} = .242, p = .001), teacher title

(r_{pb} = .285, p = .001), years working (r = .125, p = .023), level (r_{pb} = -.213, p = .001), type of classroom (r_{pb} = .319, p = .001), personal relationships with individuals with disabilities (r_{pb} = .197, p = .001), and schools' integration practices (r_{pb} = .155, p = .005) were statistically significantly correlated with their attempts to address stigma. The relationships of attempts to address stigma reflected small effect sizes with age, years working, and school integration practices, medium effect sizes with special education certification, teacher title, and level, and a large effect size with type of classroom. These relationships were such that teachers indicated more attempts to address stigma if they were older, had been teaching longer, held special education certifications, had the title of special education teacher, taught in special education classrooms and in elementary schools, had personal relationships with individuals with disabilities, and were in schools in which special education students were primarily integrated into general education classrooms. All other background factors were not found to have significant relationships with attempts to address stigma. Correlations were also examined between background factors and attempts to address stigma with both empirically-based practices and non-empirically-based practices, rather than just with empirically-based practices, and results for significant associations held constant.

Multiple regression analysis was conducted to further examine the significant relationships between teachers' background factors and attempts to address stigma (see Table 18). The overall association between related background factors and attempts to address stigma was statistically significant, F (8, 318) = 8.38, p = .001. Of the background factors examined, level (p = .021), type of classroom (p = .020), and personal relationships with individuals with disabilities (p = .007) made statistically significant, unique contributions to the prediction of attempts to address stigma. Relatively, personal relationships with individuals with disabilities made the largest unique contribution, followed by level and type of classroom, then teacher title and schools' integration practices, then special education certification, then age, and then years working. Results show that level, type of classroom, and personal relationships with individuals with disabilities all had small effect sizes ($f^2 \leq .02$) and that the power was less than or equal to .38.

4.2.6.2.1 Elementary Teachers

Analyses were also conducted by teacher level. For elementary teachers, age (r = .156, p = .044), teacher title (r_{pb} = .229, p = .003), type of classroom (r_{pb} = .312, p = .001), presence of current students with IEPs or 504 Plans (r_{pb} = .155, p = .044), history of teaching students with IEPs or 504 Plans (r_{pb} = .165, p = .032), and personal relationships with individuals with disabilities (r_{pb} = .170, p = .027) had statistically significant relationships with attempts to address stigma. The relationships of attempts to address stigma reflected small effect sizes with age, presence of current students with IEPs or 504 Plans, and history of teaching students with IEPs or 504 Plans, medium effect sizes with teacher title and personal relationships with individuals with disabilities, and a large effect size with type of classroom. These relationships were such that teachers indicated more attempts to address stigma if they were older, had the title of special education teacher, taught in special education classrooms, currently taught students with IEPs or 504 Plans, had a history of teaching students with IEPs or 504 Plans, and had personal relationships with individuals with disabilities. All other background factors were not found to have significant relationships with attempts to address stigma. Correlations were also examined between background factors and attempts to address stigma with both empirically-based practices and non-empirically-based practices and results for significant associations held constant.

Results from the multiple regression analysis conducted on the significant relationships between elementary teachers' background factors and attempts to address stigma are shown in Table 19. The overall association between related background factors and attempts to address stigma was statistically significant, F (6, 160) = 4.66, p = .001. Of the background factors examined, only type of classroom (p = .005) made a statistically significant, unique contribution to the prediction of attempts to address stigma. Relatively, type of classroom made the largest unique contribution, followed by age, then history of teaching students with IEPs or 504 Plans, then personal relationships with individuals with disabilities, then teacher title, and then current students with IEPs or 504 Plans. Results show that type of classroom had a small effect size (f^2 = .05) and that the power was .54.

4.2.6.2.2 Secondary Teachers

For secondary teachers, special education certification (r_{pb} = .310, p = .001), teacher title (r_{pb} = .291, p = .001), type of classroom (r_{pb} = .224, p = .004), personal relationships with individuals with disabilities (r_{pb} = .231, p = .003), schools' percent of special education students (r = .165, p = .036), and schools' integration practices (r_{pb} = .248, p = .002) were statistically significantly correlated with their attempts to address stigma. The relationships of attempts to address stigma reflected a small effect size with schools' percent of special education students, medium effect sizes with teacher title, type of classroom, personal relationships with individuals with disabilities, and schools' integration practices, and a large effect size with special education certification. These relationships were such that teachers indicated more attempts to address stigma if they held special education certifications, had the title of special education teacher, taught in special education classrooms, had personal relationships with individuals with disabilities, and were in schools with a higher percent of special education students and in which special education students were primarily integrated into general education classrooms. All other background factors were not found to have significant relationships with attempts to address stigma. Correlations were also examined between background factors and attempts to address stigma with both empirically-based practices and non-empirically-based practices and results for significant associations held constant.

Multiple regression analysis was conducted to further examine the significant relationships between secondary teachers' background factors and attempts to address stigma (see Table 20). The overall association between related background factors and attempts to address stigma was statistically significant, F (6, 154) = 7.20, p = .001. Of the background factors examined, personal relationships with individuals with disabilities (p = .003), schools' percent of special education students (p = .022), and schools' integration practices (p = .019) made statistically significant, unique contributions to the prediction of attempts to address stigma. Relatively, personal relationships with individuals with disabilities made the largest unique contribution, followed by schools' integration practices, then schools' percent of special education students, then special education certification, then teacher title, and then type of classroom. Results show that personal relationships with individuals with disabilities, schools' percent of special education students, and schools' integration practices all had small effect sizes ($f^2 \leq .05$) and that the power was less than or equal to .51.

4.2.6.3 Personal Attitudes, Perceptions of Public Stigma, and Attempts to Address Stigma

Correlational analysis of teachers' personal attitudes and perceptions of public stigma with attempts to address stigma revealed several statistically significant relationships. For the overall sample, teachers' personal attitudes were statistically significantly correlated with their attempts to address stigma ($r = .197$, $p = .001$) and this relationship reflected a medium effect size. This relationship was such that teachers who indicated more positive attitudes towards individuals with disabilities tended to implement more practices to attempt to address stigma in the classroom. Teachers' perception of public stigma was not found to have a significant relationship with attempts to address stigma. Correlations were also examined between personal attitudes, perceptions of public stigma, and attempts to address stigma with both empirically-based practices and non-empirically-based practices and results for significant associations held constant. As at least two potential predictors are required to conduct multiple regression analysis and only one potential predictor, personal attitudes, was found to be significantly related to the dependent variable, attempts to address stigma, multiple regression analysis was not conducted.

4.2.6.3.1 Elementary Teachers

Analyses were also conducted by teacher level. For elementary teachers, teachers' personal attitudes were statistically significantly correlated with their attempts to address stigma (r = .252, p = .001) and this relationship reflected a medium effect size. This relationship was such that teachers who indicated more positive attitudes towards individuals with disabilities tended to implement more practices to attempt to address stigma in the classroom. Teachers' perception of public stigma was not found to have a significant relationship with attempts to address stigma. Correlations were also examined between personal attitudes, perceptions of public stigma, and attempts to address stigma with both empirically-based practices and non-empirically-based practices and results for significant associations held constant. Again, as only one potential predictor, personal attitudes, was found to be significantly related to the dependent variable, attempts to address stigma, multiple regression analysis was not conducted.

4.2.6.3.2 Secondary Teachers

For secondary teachers, personal attitudes and perceptions of public stigma were not found to have statistically significant correlations with attempts to address stigma. These relationship were also examined between personal attitudes, perceptions of public stigma, and attempts to address stigma with both empirically-based practices and non-empirically-based practices and results held constant. Therefore, multiple regression analysis was not conducted.

4.2.6.4 Overall Relationship Between Factors

Path analyses were conducted to determine the overall predictive relationships between teachers' background factors, personal attitudes, perceptions of public stigma, and attempts to address stigma, for the overall sample, elementary teachers, and secondary teachers. Significant factors identified in the multiple regression analyses were included in the potential models.

For the overall sample, the hypothesized model involving the variables of level, type of classroom, personal relationships with individuals with disabilities, personal attitudes, and attempts to address stigma is depicted in Figure 6. Several alternate models were examined to determine the best fit: Model 1 was fully saturated, Model 2 removed the covariance between each of the predictive factors, and Model 3 implements indirect pathways between the factors of level, type of classroom, personal relationships with individuals with disabilities and attempts to address stigma with personal attitudes as the mediating variable. The goodness of fit indexes for each model are presented in Table 21. The data shows that Model 1, the fully saturated, unmediated model, was the best fit. Figure 7 indicates that type of classroom had a significant direct effect on attempts to address stigma ($\beta = 0.195$, $p = 0.005$). Personal relationships with individuals with disabilities also significantly influenced attempts to address stigma ($\beta = 0.417$, $p = 0.001$). However, level ($\beta = 0.007$, $p = 0.875$) and personal attitudes ($\beta = 0.063$, $p = 0.106$) did not appear to significantly affect attempts to address stigma. Effect sizes for these relationships were analyzed based on guidelines from Keith (2006): $\beta_{\text{standardized}} > .05$ = small effect size, $\beta_{\text{standardized}} > .10$ = medium effect size, and $\beta_{\text{standardized}} > .25$ =

large effect size. Therefore, the relationships of attempts to address stigma with type of classroom ($\beta_{standardized}$ = .26) and personal relationships with individuals with disabilities ($\beta_{standardized}$ = .39) had large effect sizes. For this model, approximately 35.5% of the variability of attempts to address stigma (R^2 =.355) may be explained by the predictive factors.

4.2.6.4.1 Elementary Teachers

The hypothesized model for the elementary sample, which involved the variables of highest degree earned, type of classroom, personal attitudes, and attempts to address stigma, is depicted in Figure 8. Several alternate models were examined to determine the best fit: Model 1 was fully saturated with personal attitudes mediating the relationship between the predictive factors and attempts to address stigma, Model 2 removed the indirect path of type of classroom on personal attitudes, Model 3 reinstated the pathways from Model 2 and further removed the direct path of highest degree on attempts to address stigma, Model 4 reinstated the pathways from Model 3 and fixed the covariance of highest degree with type of classroom, Model 5 included only direct pathways, and Model 6 included only indirect pathways. The goodness of fit indexes for each model are presented in Table 22. The data shows that Model 1, the fully saturated, mediated model, was the best fit. Figure 9 indicates that highest degree had a significant direct and indirect effect on attempts to address stigma with personal attitudes as the mediating variable (β = 0.193, p = 0.002 for direct effect; β = 0.091, p = 0.023 for indirect effect). However, type of classroom did not appear to significantly influence attempts to address stigma either directly or indirectly (β = 0.080, p = 0.374 for direct effect; β = 0.116, p = 0.127 for indirect effect). The direct relationships of attempts to address stigma with highest degree ($\beta_{\text{standardized}}$ = .19) had a medium to large effect size and that with personal attitudes had a large effect size ($\beta_{\text{standardized}}$ = .44). The indirect relationship of attempts to address stigma with highest degree ($\beta_{\text{standardized}}$ = .19) had a medium to large effect size. The direct relationship between personal attitudes and highest degree ($\beta_{\text{standardized}}$ = .21) had a large effect size. For this model, approximately 30.9% of the variability of attempts to address stigma (R^2 =.309) and 11.8% of the variability in personal attitudes (R^2 =.118) may be explained by the predictive factors.

4.2.6.4.2 Secondary Teachers

For the secondary sample, the hypothesized model including the variables of personal relationships with individuals with disabilities, schools' percent of special education students, schools' integration practices, and attempts to address stigma, is depicted in Figure 10. Several alternate models were examined to determine the best fit: Model 1 was fully saturated, Model 2 removed the covariance between each of the predictive factors, and Model 3 implemented indirect pathways between the factors of personal relationships with individuals with disabilities, schools' percent of special education students, schools' integration practices, and attempts to address stigma with personal attitudes as a mediating variable. The goodness of fit indexes for each model are presented in Table 23. The data shows that Model 1, the fully saturated, unmediated model, was the best fit. Figure 11 indicates that schools' percent of special education students had a significant direct effect on attempts to address stigma (β = 0.380, p = 0.003). Additionally, schools' integration practices significantly influenced attempts to address stigma ($\beta = 0.166$, $p = 0.041$). However, personal relationships with individuals with disabilities did not appear to significantly influence attempts to address stigma either ($\beta = -0.031$, $p = 0.543$). The relationships of attempts to address stigma with schools' integration practices ($\beta_{standardized} = .21$) had a medium to large effect size and that with schools' percent of special education students had a large effect size ($\beta_{standardized} = .38$). For this model, approximately 21.6% of the variability of attempts to address stigma ($R^2 = .216$) may be explained by the predictive factors.

4.2.7 Summary of Main Results

Analysis of the difference between elementary and secondary teachers' responses revealed statistically significant differences between groups on a number of demographic and experimental factors. Therefore, the remaining analyses were conducted for the samples of elementary teachers and secondary teachers specifically, as well as for the overall sample.

4.2.7.1 Overall Sample

Frequency analysis of employment of practices to address stigma for the overall sample indicated that 90% of teachers attempted to address stigma, with 89% using empirically-based practices. The most commonly implemented practices included facilitating meaningful contact between students with and without disabilities and facilitating peer support methods in the classroom between students with and without disabilities.

Based on descriptive analyses, the most highly endorsed barriers to implementing empirically-based practices to address stigma included lack of time to implement interventions, lack of time to create interventions, class size, and lack of materials to use with students.

Correlational analyses of the relationships between the experimental variables revealed that teachers' gender, highest degree, year of graduation, special education certification, teacher title, level, type of classroom, and schools' integration practices were significantly correlated with their personal attitudes. Additionally, teachers' age, special education certification, teacher title, years working, level, type of classroom, personal relationships with individuals with disabilities, schools' integration practices, and personal attitudes were significantly related to their attempts to address stigma.

Subsequent multiple regression analyses showed that, of the factors that correlated with personal attitude, there were no significant predictors. Of the factors that correlated with attempts to address stigma, level, type of classroom, and personal relationships with individuals with disabilities were determined to significantly contribute to the prediction of this factor.

Finally, the path analysis indicated that the best fitting model to predict attempts to address stigma for the overall sample was a fully saturated, unmediated model (see Figure 12). In this model, type of classroom and personal relationships with individuals with disabilities were found to significantly influence attempts to address stigma.

4.2.7.2 Elementary Sample

Frequency analysis of employment of practices to address stigma for the elementary sample indicated that 93% of teachers attempted to address stigma, with 92% using empirically-based practices. The most commonly implemented practices included facilitating meaningful contact between students with and without disabilities and facilitating peer support methods in the classroom between students with and without disabilities.

Based on descriptive analyses, the most highly endorsed barriers to implementing empirically-based practices to address stigma included lack of time to implement interventions, lack of time to create interventions, lack of materials to use with students, and lack to time to investigate intervention possibilities.

Correlational analyses of the relationships between the experimental variables revealed that teachers' title, type of classroom, highest degree, and perception of public stigma were significantly correlated with their personal attitudes. Additionally, teachers' age, teacher title, type of classroom, presence of current students with IEPs or 504 Plans, history of teaching students with IEPs or 504 Plans, personal relationships with individuals with disabilities, and personal attitudes were significantly related to their attempts to address stigma.

The following multiple regression analyses showed that, of the factors that correlated with personal attitude, only highest degree significantly predicted this factor. Of the factors that correlated with attempts to address stigma, only type of classroom was determined to significantly contribute to the prediction of this factor.

Finally, the path analysis indicated that the best fitting model to predict attempts to address stigma for the overall sample was a fully saturated, mediated model (see Figure 12). In this model, highest degree was found to significantly influence attempts to address stigma, both directly and indirectly with personal attitudes as the mediating variable.

4.2.7.3 Secondary Sample

Frequency analysis of employment of practices to address stigma for the secondary sample indicated that 87% of teachers attempted to address stigma, with 85% using empirically-based practices. The most commonly implemented practices included facilitating meaningful contact between students with and without disabilities and facilitating peer support methods in the classroom between students with and without disabilities.

Based on descriptive analyses, the most highly endorsed barriers to implementing empirically-based practices to address stigma included class size, lack of time to implement interventions, and lack of time to create interventions.

Correlational analyses of the relationships between the experimental variables revealed that teachers' year of graduation, special education certification, and type of classroom, and schools' integration practices were significantly correlated with their personal attitudes. Additionally, teachers' age and personal disability status were significantly associated with their perception of public stigma. Teachers' special education certification, teacher title, type of classroom, personal relationships with individuals with disabilities, schools' percent of special education students, and schools' integration practices were significantly related to their attempts to address stigma.

Subsequent multiple regression analyses showed that, of the factors that correlated with personal attitude, only year of graduation significantly predicted this factor. It was also determined that both age and personal disability status significantly predicted perception of public stigma. Of the factors that correlated with attempts to address stigma, personal relationships with individuals with disabilities, schools' percent of special education students, and schools' integration practices were determined to significantly contribute to the prediction of this factor.

Finally, the path analysis indicated that the best fitting model to predict attempts to address stigma for the overall sample was a fully saturated, unmediated model (see Figure 12). In this model, schools' percent of special education students and schools' integration practices were found to significantly influence attempts to address stigma.

Table 2

Correlation Coefficients and Item-Total Correlations, Pilot Study Results

Scale or Factor	Cronbach's Alpha	Item-total Correlations
Part 1: Personal Attitudes (16)[a]	.779	.187 - .534
Affective Attitudes (5)	.757	.421 - .634
Cognitive Attitudes (5)	.628	.126 - .627
Behavioral Intentions (6)	.775	.467 - .642
Part 2: View of Public Perceptions (12)	.912	.488 - .764
Part 3: Attempts to Address Stigma (72)	.963	.167 - .766
Use of Practices (24)	.884	.217 - .611
Perceived Effectiveness (24)	.964	.564 - .818
Likelihood to Use if Additional Resources (24)	.968	.577 - .824
Part 4: Barriers to Addressing Stigma (21)	.941	.078 - .756

[a] Number in the parentheses denote the number of items in the scale.

Table 3

Z-value Statistics for Part 1: Personal Attitudes, Scale and Factors

	Z-value Statistics			
		Factors		
Item	Scale	Affective Attitudes (5)[a]	Cognitive Attitudes (5)	Behavioral Intentions (6)
1	.1	.9		
2	-.8	.5		
3	.9	1.9		
4	**2.7**	1.4		
5	**2.8**	1.3		
6	1.9		**4.5**	
7	.8		**2.2**	
8	-.7		**-4.3**	
9	.3		-1.9	
10	.4		**-2.5**	
11	1.8			.7
12	.8			-.2
13	1.7			**2.2**
14	-.2			-.3
15	1.9			1.3
16	-1.3			-1.4

[a] Number in the parentheses denote the number of items in the scale.

Table 4

Z-value Statistics for Part 2: View of Public Perceptions

Item	Z-value Statistics
1	-.3
2	-.6
3	**-2.9**
4	-1.3
5	1.5
6	**-3.1**
7	**-2.2**
8	**3.9**
9	-.4
10	**3.9**
11	**-2.6**
12	1.5

Table 5

Z-value Statistics for Part 3: Attempts to Address Stigma, Scale and Subscales

Use of Practices (24)[a]			Perceived Effectiveness (24)			Likelihood to Use if Additional Resources (24)		
Item	Scale Z-value	Subscale Z-value	Item	Scale Z-value	Subscale Z-value	Item	Scale Z-value	Subscale Z-value
1	1.4	.6	25	-.1	1.1	49	-1.3	-.4
2	.4	-.9	26	.8	1.7	50	-1.0	1.7
3	**2.9**	-.6	27	**-2.1**	-1.5	51	-1.9	.1
4	1.5	-2.0	28	**-3.5**	**-3.3**	52	-1.6	-1.3
5	**2.9**	-1.0	29	.8	1.5	53	-1.7	.2
6	**2.6**	-.5	30	**-2.2**	-1.8	54	-1.5	.9
7	.2	.4	31	-1.2	-1.2	55	**-2.1**	-1.5
8	.5	.0	32	-1.6	-1.8	56	-2.0	**-2.8**
9	1.1	-.5	33	**-2.7**	-1.7	57	**-2.1**	-1.6
10	**3.3**	1.2	34	-1.8	-1.0	58	-1.3	1.5
11	.0	.1	35	1.9	**3.2**	59	-.5	1.9
12	2.0	.4	36	.7	.0	60	-1.8	.6
13	**3.3**	.4	37	-.2	-.2	61	-2.0	-.7
14	**3.2**	-.3	38	-.9	-1.1	62	-1.7	-.8
15	**2.9**	1.4	39	.6	1.7	63	-1.8	-.7
16	1.2	.3	40	-1.2	-1.5	64	**-3.1**	1.9
17	.7	-.5	41	-1.8	**-3.1**	65	-1.7	-.1
18	**3.0**	-.5	42	.6	.5	66	-2.0	-.9
19	1.5	.6	43	1.3	**2.3**	67	-1.6	-.6
20	.5	-.4	44	-.7	-.7	68	-1.0	.9
21	.4	-.6	45	-1.7	-1.9	69	-1.2	.4
22	.2	-.4	46	**-2.8**	**-3.7**	70	-1.7	.0
23	.8	.4	47	-1.8	-1.6	71	**-2.9**	-.6
24	.5	-.6	48	**6.9**	**8.2**	72	1.2	**3.5**

[a] Number in the parentheses denote the number of items in the scale.

Table 6

Z-value Statistics for Part 4: Barriers to Addressing Stigma

Item	Z-value Statistics
1	**8.8**
2	-1.0
3	**-2.3**
4	**-3.8**
5	**-2.9**
6	**-2.1**
7	**5.7**
8	**-2.1**
9	-1.7
10	-1.7
11	-1.9
12	**3.4**
13	**-3.3**
14	-.4
15	.8
16	**-4.0**
17	-1.2
18	-.1
19	1.9
20	-.3
21	2.0

Table 7

Correlation Coefficients and Item-Total Correlations, Research Study Results

Scale or Factor	Cronbach's Alpha	Item-total Correlations
Part 1: Personal Attitudes (11)[a]	.851	.469 - .685
Affective Attitudes (5)	.704	.405 - .523
Behavioral Intentions (6)	.796	.485 - .659
Part 2: View of Public Perceptions (12)	.891	.448 - .727
Part 3: Attempts to Address Stigma (69)	.870	-.054 - .588
Use of Practices (23)	.883	.371 - .587
Perceived Effectiveness (23)	.960	.618 - .767
Likelihood to Use if Additional Resources (23)	.960	.624 - .755
Part 4: Barriers to Addressing Stigma (19)	.953	.563 - .791

[a] Number in the parentheses denote the number of items in the scale.

Table 8

Measures of Fit for Part 1: Personal Attitudes

	Models			
Fit Statistics	One-Factor	Theorized Two-Factor	EFA Suggested Two-Factor	Hierarchical Two-Factor
χ^2	372.147*	365.200*	166.899*	166.899*
df	44	43	43	43
RMSEA	0.150	0.151	0.093	0.093
SRMR	0.078	0.079	0.053	0.053
CFI	0.777	0.781	0.916	0.916
TLI	0.721	0.720	0.892	0.892

Note. RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual, CFI = comparative fit index, and TLI = Tucker-Lewis index. * Indicates χ^2 are statistically significant at $p < .001$.

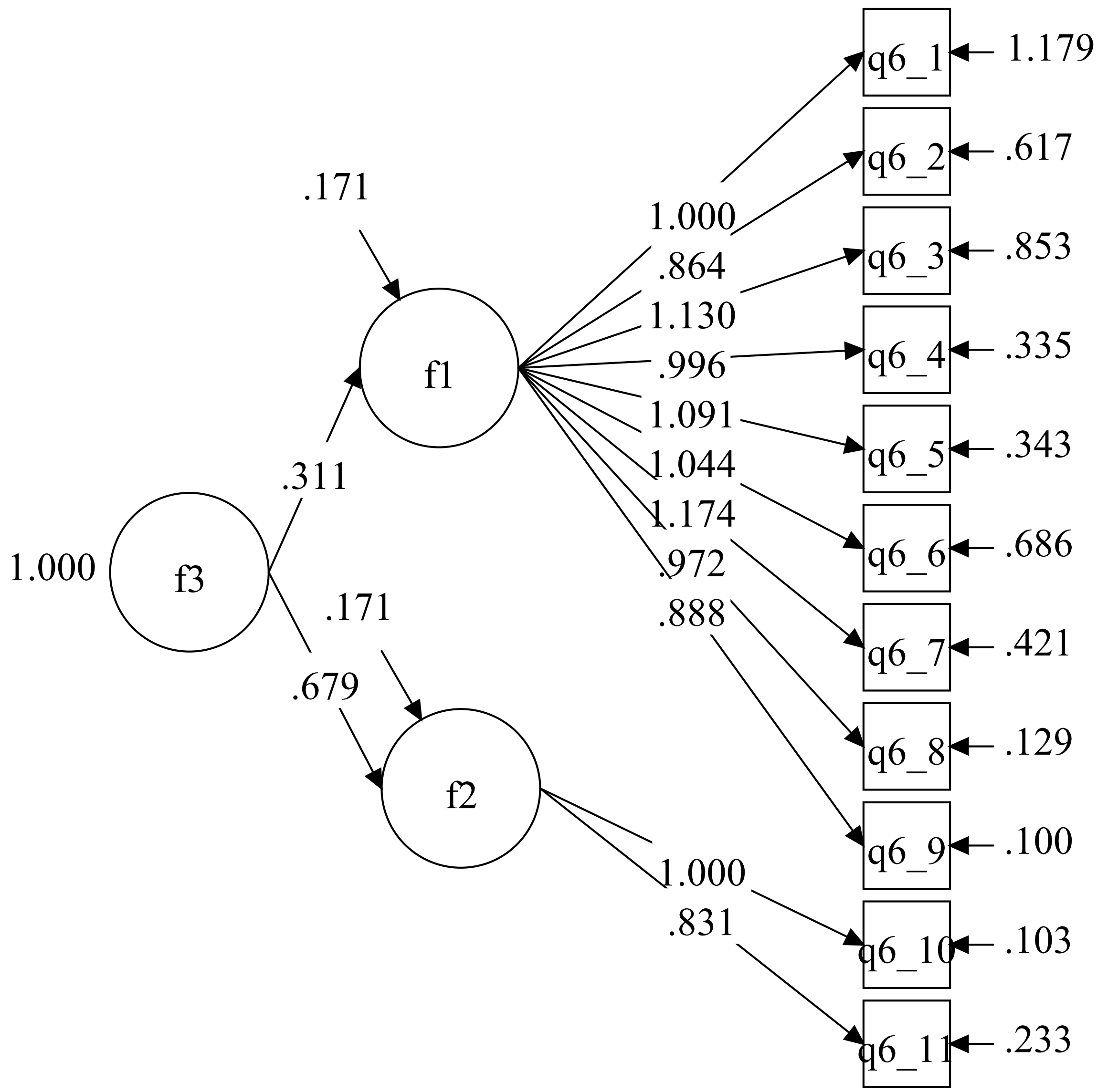

Figure 2

Hierarchical Two-Factor Model for Part 1: Personal Attitudes

Table 9

Measures of Fit for Part 2: View of Public Perceptions

	Model
Fit Statistics	One-Factor
χ^2	203.123*
df	54
RMSEA	0.091
SRMR	0.049
CFI	0.904
TLI	0.833

Note. RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual, CFI = comparative fit index, and TLI = Tucker-Lewis index. * Indicates χ^2 are statistically significant at $p < .001$.

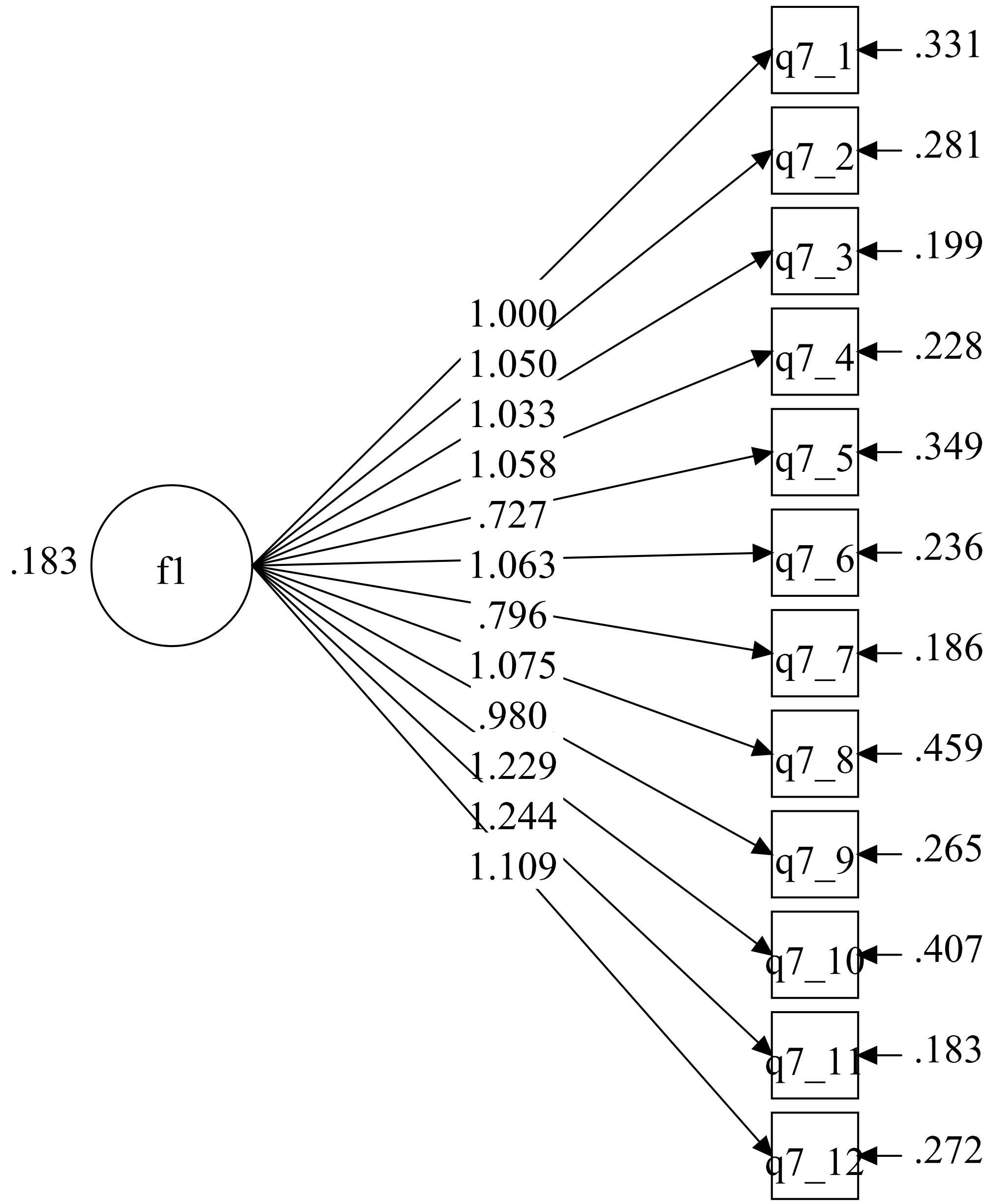

Figure 3

One-Factor Model for Part 2: View of Public Perceptions

Table 10

Measures of Fit for Part 3: Attempts to Address Stigma

	Models		
Fit Statistics	One-Factor	Theoretical Three-Factor	Hierarchical Three-Factor
χ^2	6500.613*	3058.707*	3030.963*
df	2277	2274	2275
RMSEA	0.075	0.032	0.032
WRMR	2.458	1.234	1.235
CFI	0.701	0.944	0.946
TLI	0.692	0.943	0.944

Note. RMSEA = root mean square error of approximation, WRMR = weighted root mean square residual, CFI = comparative fit index, and TLI = Tucker-Lewis index. * Indicates χ^2 are statistically significant at $p < .001$.

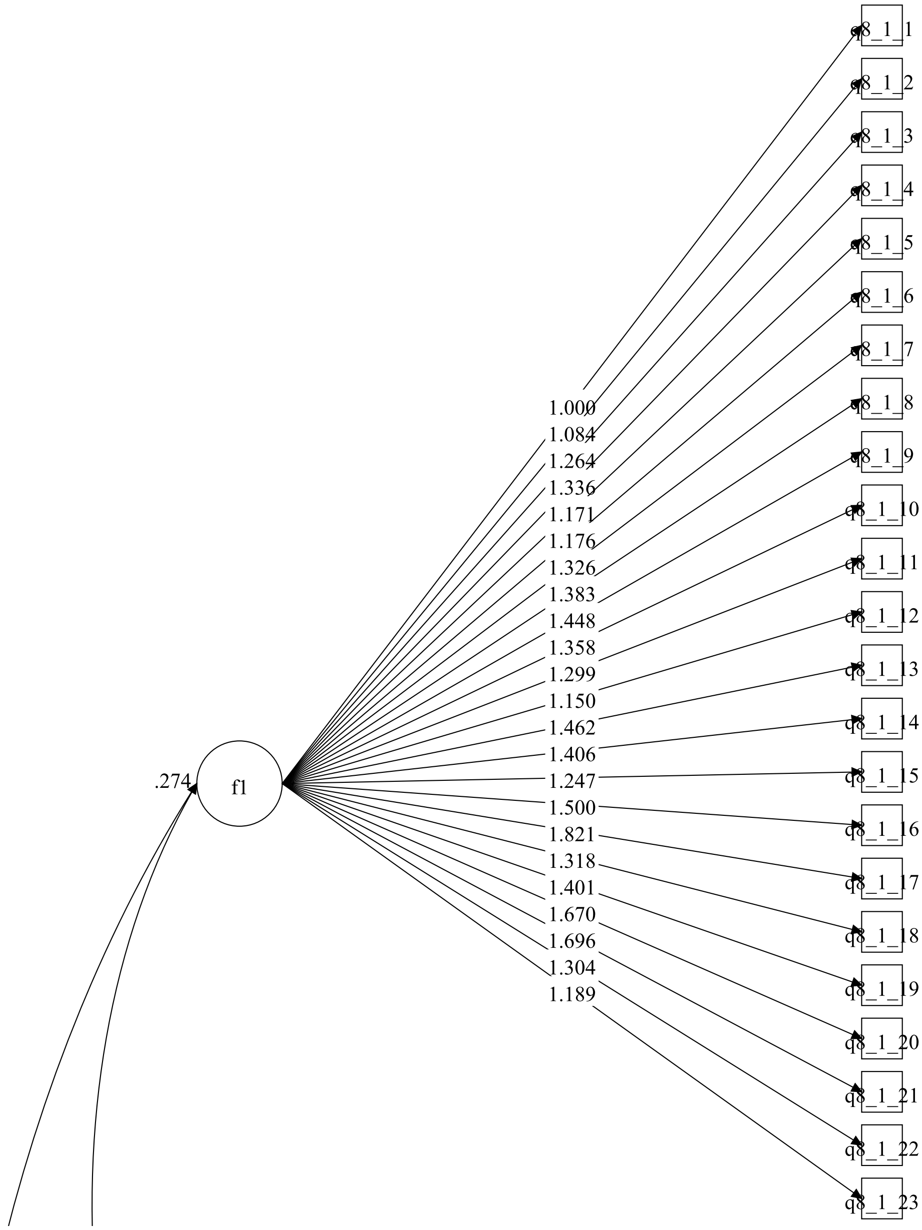

Figure 4

First Order Three-Factor Model for Part 3: Attempts to Address Stigma

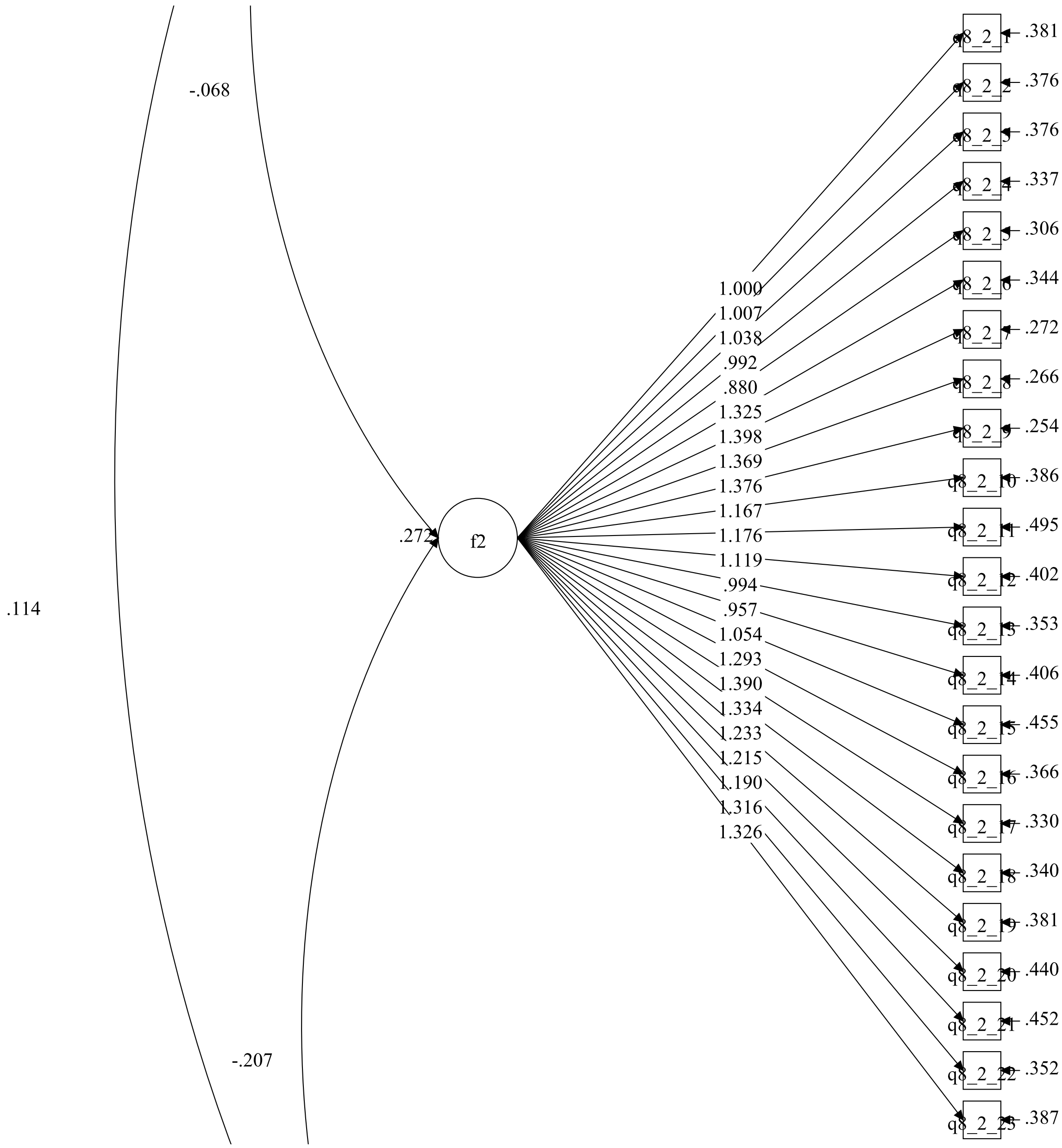

Figure 4, continued

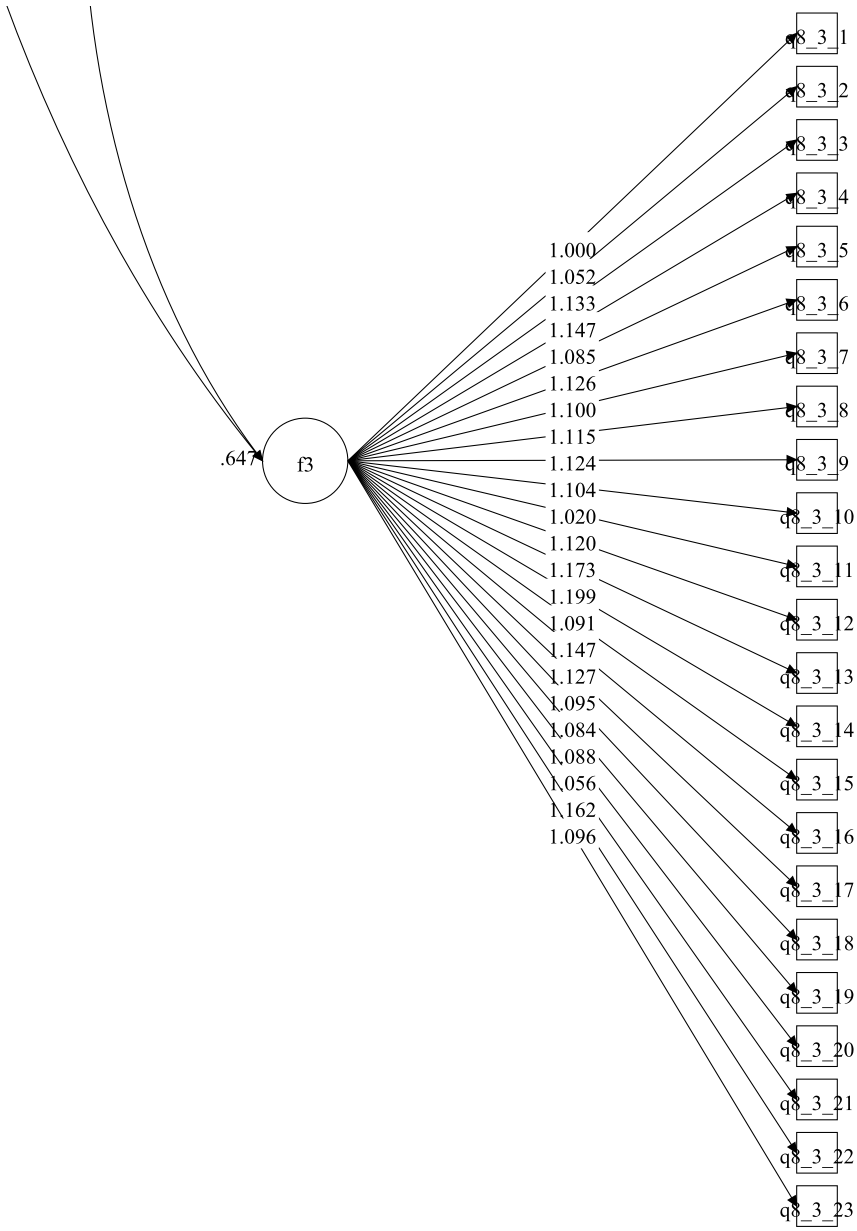

Figure 4, continued

Table 11

Measures of Fit for Part 4: Barriers to Addressing Stigma

Fit Statistics	Models		
	One-Factor	EFA Suggested Three-Factor	Hierarchical Three-Factor
χ^2	1814.495*	705.534*	705.652*
df	152	149	150
RMSEA	0.182	0.106	0.106
SRMR	0.091	0.050	0.050
CFI	0.691	0.897	0.897
TLI	0.653	0.881	0.882

Note. RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual, CFI = comparative fit index, and TLI = Tucker-Lewis index. * Indicates χ^2 are statistically significant at $p < .001$.

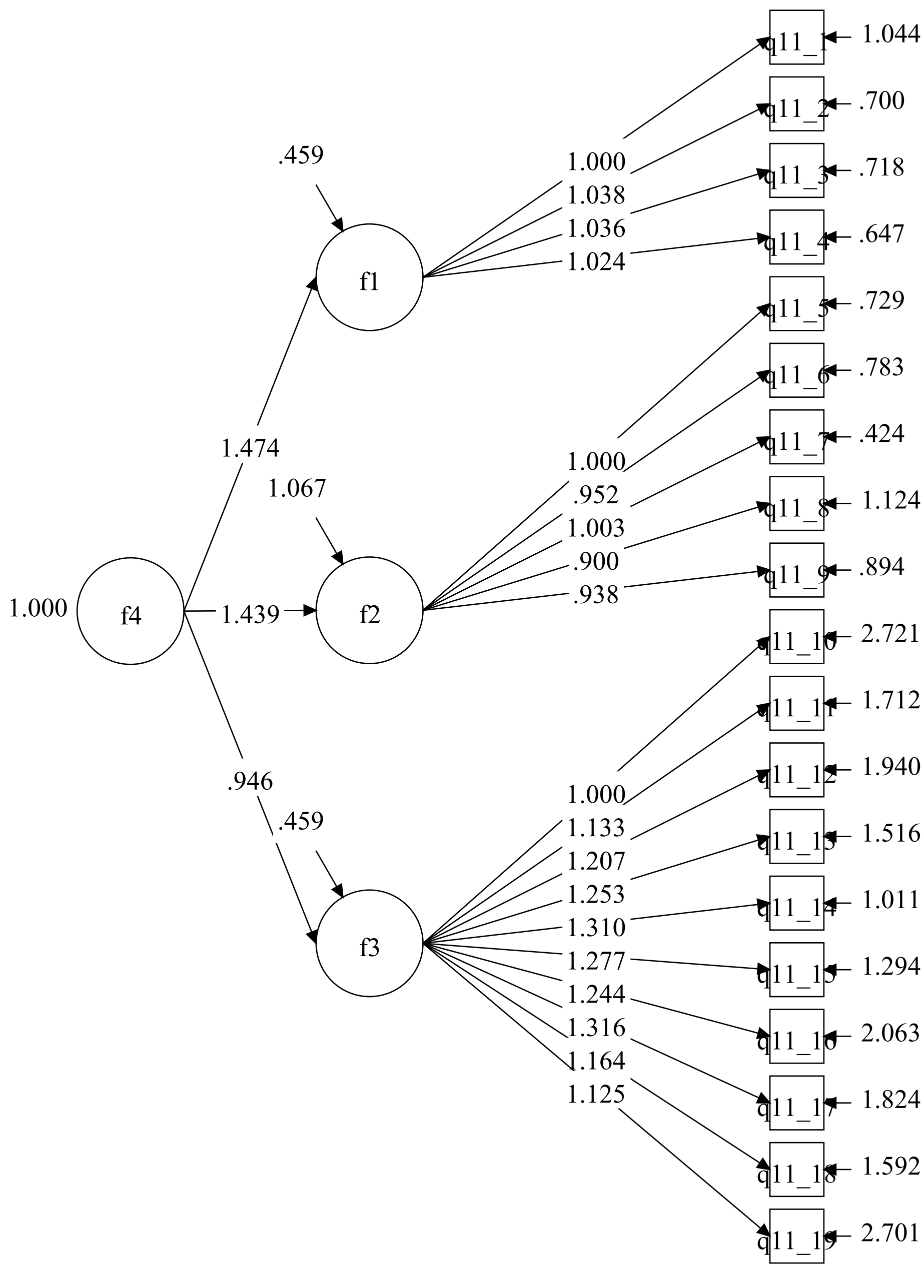

Figure 5

Hierarchical Three-Factor Model for Part 4: Barriers to Addressing Stigma

Table 12

Reported Use of Empirically-Based Practices for Addressing Stigma

Practices	Elementary Teachers		Secondary Teachers		Total	
	n	%	n	%	n	%
Total	169	100	161	100	330	100
Facilitate meaningful social contact between students with and without disabilities	114	68	87	54	201	61
Facilitate peer support methods in the classroom between students with and without disabilities	106	63	90	56	196	59
Providing typically developing students with strategies and skills to work with students with disabilities	98	58	69	43	167	51
Ensure that assistants in the classroom are viewed as support for whole class, not individual students	96	57	71	44	167	51
Teaching about strengths and difficulties of students with disabilities	95	56	59	37	154	47
Openly share about personal experience with an individual with a disability	76	45	64	40	140	42
Discussing myths and facts about disabilities	74	44	62	39	136	41
Fictional books involving characters with disabilities	104	62	22	14	126	38
Originally developed lesson(s) focusing on disabilities	66	39	52	32	118	36
Embedding mental health awareness into curriculum (i.e. teach about disability as form of diversity in social studies, read and discuss literature about disabilities in language arts, etc.)	57	34	50	31	107	32
Discuss celebrities known to have disabilities	51	30	42	26	93	28
Non-fiction books on disabilities	75	44	11	7	86	26
Discussions or Q & A with an individual with a disability	44	26	38	24	82	25
Packaged curriculum to educate students about disabilities	36	21	28	17	64	19
Reading first person narratives by	43	25	17	11	60	18

individuals with disabilities						
Videos on disabilities	38	23	22	14	60	18
Discussions about videos on disabilities	33	20	21	13	54	16
Involve students in advocacy campaigns for disability	23	14	23	14	46	14
Facilitate a week dedicated to anti-stigma	27	16	17	11	44	13
Organize or lead club to support those with disabilities	13	8	19	12	32	10
Organize or lead club to increase awareness about disabilities	10	6	19	12	29	9
Watching video taped first person narratives by individuals with disabilities	16	10	11	7	27	8
Plays or puppet shows about disabilities	18	11	4	3	22	7

Table 13

Barriers to Implementing Empirically-Based Practices for Addressing Stigma

	Elementary Teachers		Secondary Teachers		Total	
Barriers	Mean	SD	Mean	SD	Mean	SD
Factors						
Lack of Resources	4.76	1.67	4.57	1.83	4.67	1.75
Lack of Training	3.88	1.61	3.93	1.83	3.91	1.72
Other Barriers	3.71	1.43	3.95	1.51	3.83	1.47
Lack of time to implement intervention	4.93	1.88	4.80	1.96	4.87	1.92
Lack of time to create intervention	4.86	1.83	4.68	1.96	4.78	1.89
Class size	4.37	2.06	5.17	1.93	4.76	2.03
Lack of materials to use with students	4.77	1.84	4.48	1.99	4.63	1.92
Lack of time to investigate intervention possibilities	4.75	1.87	4.41	2.06	4.58	1.97
Lack of time to analyze stigma	4.51	1.82	4.48	2.00	4.50	1.91
Overwhelmed or exhausted from teaching duties	4.40	1.99	4.49	2.22	4.45	2.11
Demands to perform nonteaching duties	4.25	2.01	4.29	2.09	4.27	2.04
Lack of training on evidence-based interventions	3.99	1.84	4.19	1.93	4.09	1.88
Lack of training on stigma of children with disabilities	3.86	1.82	4.07	2.02	3.96	1.92
Lack of communication with parents	3.78	1.91	4.02	2.06	3.90	1.98
Lack of training on research procedures	3.95	1.78	3.82	1.99	3.89	1.89
Lack of training on reading and understanding research	3.72	1.74	3.66	1.97	3.69	1.85
Inability of students to benefit from regular instruction	3.59	1.85	3.76	1.91	3.67	1.88
Severity of stigma	3.60	1.83	3.73	1.89	3.66	1.86
Ineffectiveness of previous interventions suggested	3.55	1.77	3.36	1.89	3.59	1.83
Lack of communication/support from school psychologist	3.37	1.79	3.75	2.02	3.55	1.91
Lack of administrative support	3.36	2.06	3.55	2.03	3.45	2.05
Think intervention will not work	2.82	1.78	3.09	1.93	2.95	1.86

Table 14

Regression Analysis Summary for Background Factors Predicting Personal Attitudes, Overall Sample

Background Factors	*B*	SE *B*	β	*sr*^{2}	*f*^{2}
Gender	.061	.041	.083	.006	.007
Highest Degree	-.074	.042	-.096	.009	.009
Year of Graduation	-.004	.003	-.088	.007	.008
Special Education Certification	.039	.042	.062	.003	.003
Teacher Title	.035	.055	.046	.001	.001
Type of Classroom	.052	.027	.129	.010	.011
Level	-.067	.065	-.060	.003	.003
Schools' Integration Practices	.046	.045	.056	.003	.003
Constant	14.116	5.469			

Note: R^2 = .092 (*p* = .001), sr^2 = squared semi-partial coefficient, f^2 = Cohen's (1988) effect size statistic for multiple regression analyses. * *p* = .05, ** *p* = .01, *** *p* = .001.

Table 15

Regression Analysis Summary for Background Factors Predicting Personal Attitudes, Elementary Teachers

Background Factors	*B*	SE *B*	β	*sr*^{2}	*f*^{2}
Awareness of Public Stigma	-.135	.085	-.119	.014	.015
Highest Degree	-.163	.057	-.214**	.045	.050
Teacher Title	.081	.060	.115	.010	.011
Type of Classroom	.040	.031	.109	.009	.010
Constant	6.190	.282			

Note: R^2 = .100 (*p* = .002), sr^2 = squared semi-partial coefficient, f^2 = Cohen's (1988) effect size statistic for multiple regression analyses. * *p* = .05, ** *p* = .01, *** *p* = .001.

Table 16

Regression Analysis Summary for Background Factors Predicting Personal Attitudes, Secondary Teachers

Background Factors	*B*	SE *B*	β	sr^2	f^2
Year of Graduation	-.009	.004	-.172*	.029	.032
Special Education Certification	.093	.062	.130	.013	.015
Type of Classroom	.067	.042	.136	.015	.016
Constant	22.497	7.837			

Note: R^2 = .091 (p = .002), sr^2 = squared semi-partial coefficient, f^2 = Cohen's (1988) effect size statistic for multiple regression analyses. * p = .05, ** p = .01, *** p = .001.

Table 17

Regression Analysis Summary for Background Factors Predicting Perceptions of Public Stigma, Secondary Teachers

Background Factors	*B*	SE *B*	β	sr^2	f^2
Age	-.006	.003	-.164*	.026	.028
Personal Disability Status	.354	.165	.168*	.029	.031
Constant	2.350	.229			

Note: R^2 = .064 (p = .006), sr^2 = squared semi-partial coefficient, f^2 = Cohen's (1988) effect size statistic for multiple regression analyses. * p = .05, ** p = .01, *** p = .001.

Table 18

Regression Analysis Summary for Background Factors Predicting Attempts to Address Stigma, Overall Sample

Background Factors	*B*	SE *B*	β	sr^2	f^2
Age	.032	.036	.075	.002	.003
Special Education Certification	.387	.369	.066	.003	.004
Teacher Title	.824	.491	.115	.007	.009
Years Working	.002	.043	.004	.001	.001
Level	-1.302	.562	-.126*	.014	.017
Type of Classroom	.559	.240	.151*	.014	.017
Personal Relationship with Individuals with Disabilities	2.329	.852	.145**	.019	.023
Schools' Integration Practices	.638	.396	.084	.007	.008
Constant	-3.040	2.164			

Note: R^2 = .174 (p = .001), sr^2 = squared semi-partial coefficient, f^2 = Cohen's (1988) effect size statistic for multiple regression analyses. * p = .05, ** p = .01, *** p = .001.

Table 19

Regression Analysis Summary for Background Factors Predicting Attempts to Address Stigma, Elementary Sample

Background Factors	*B*	SE *B*	β	sr^2	f^2
Age	.060	.035	.131	.016	.019
Teacher Title	.518	.573	.077	.004	.005
Type of Classroom	.857	.301	.246**	.043	.051
Current Students with IEPs or 504 Plans	.396	1.301	.024	.001	.001
History of Students with IEPs or 504 Plans	4.928	3.655	.104	.009	.011
Personal Relationship with Individuals with Disabilities	1.276	1.247	.078	.006	.007
Constant	-10.580	7.072			

Note: R^2 = .149 (p = .001), sr^2 = squared semi-partial coefficient, f^2 = Cohen's (1988) effect size statistic for multiple regression analyses. * p = .05, ** p = .01, *** p = .001.

Table 20

Regression Analysis Summary for Background Factors Predicting Attempts to Address Stigma, Secondary Sample

Background Factors	*B*	SE *B*	β	sr^2	f^2
Special Education Certification	1.058	.544	.171	.019	.025
Teacher Title	1.433	.754	.188	.018	.023
Type of Classroom	-.178	.396	-.042	.001	.001
Personal Relationship with Individuals with Disabilities	3.304	1.103	.217**	.045	.058
Schools' Percent of Special Education	.043	.018	.168*	.027	.035
Schools' Integration Practices	1.177	.499	.173*	.028	.036
Constant	-7.665	2.446			

Note: R^2 = .219 (p = .001), sr^2 = squared semi-partial coefficient, f^2 = Cohen's (1988) effect size statistic for multiple regression analyses. * p = .05, ** p = .01, *** p = .001.

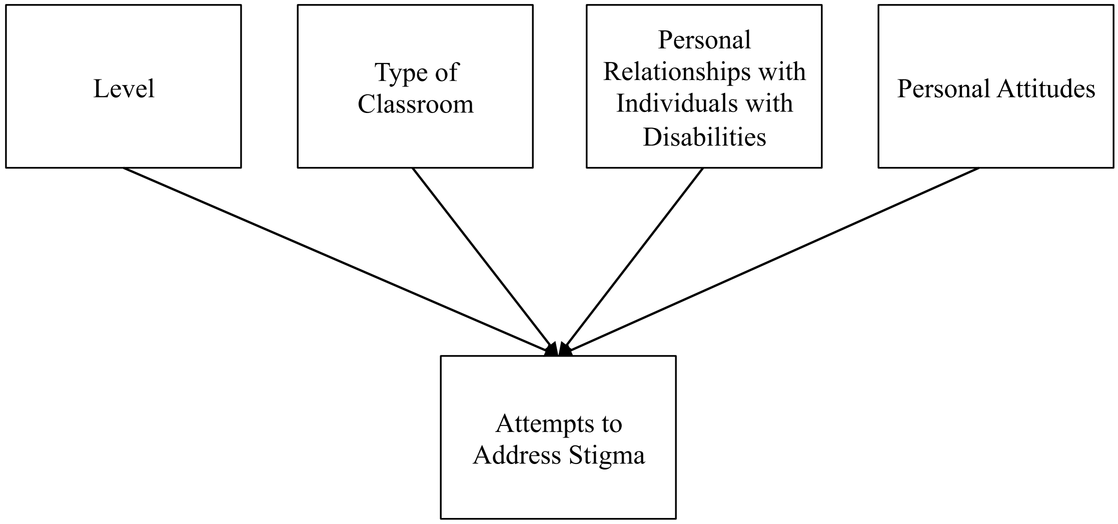

Figure 6

Hypothesized Model for Overall Sample

Table 21

Goodness of Fit Indexes for Overall Sample

	Models		
Fit Statistics	Model 1	Model 2	Model 3
χ^2	0.000*	169.897*	0.000*
df	0	6	0
RMSEA	0.000	0.288	0.000
SRMR	0.000	0.197	0.000
CFI	1.000	0.000	1.000
TLI	1.000	0.222	1.000
AIC	667.359	4374.507	1670.588
BIC	690.154	4427.694	1712.378
SSBIC	671.122	4383.286	1677.486

Note. RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual, CFI = comparative fit index, TLI = Tucker-Lewis index, AIC = Akaike information criterion, BIC = Bayes information criterion, SSBIC = Sample-Size Adjusted BIC. * Indicates χ^2 are statistically significant at $p < .001$.

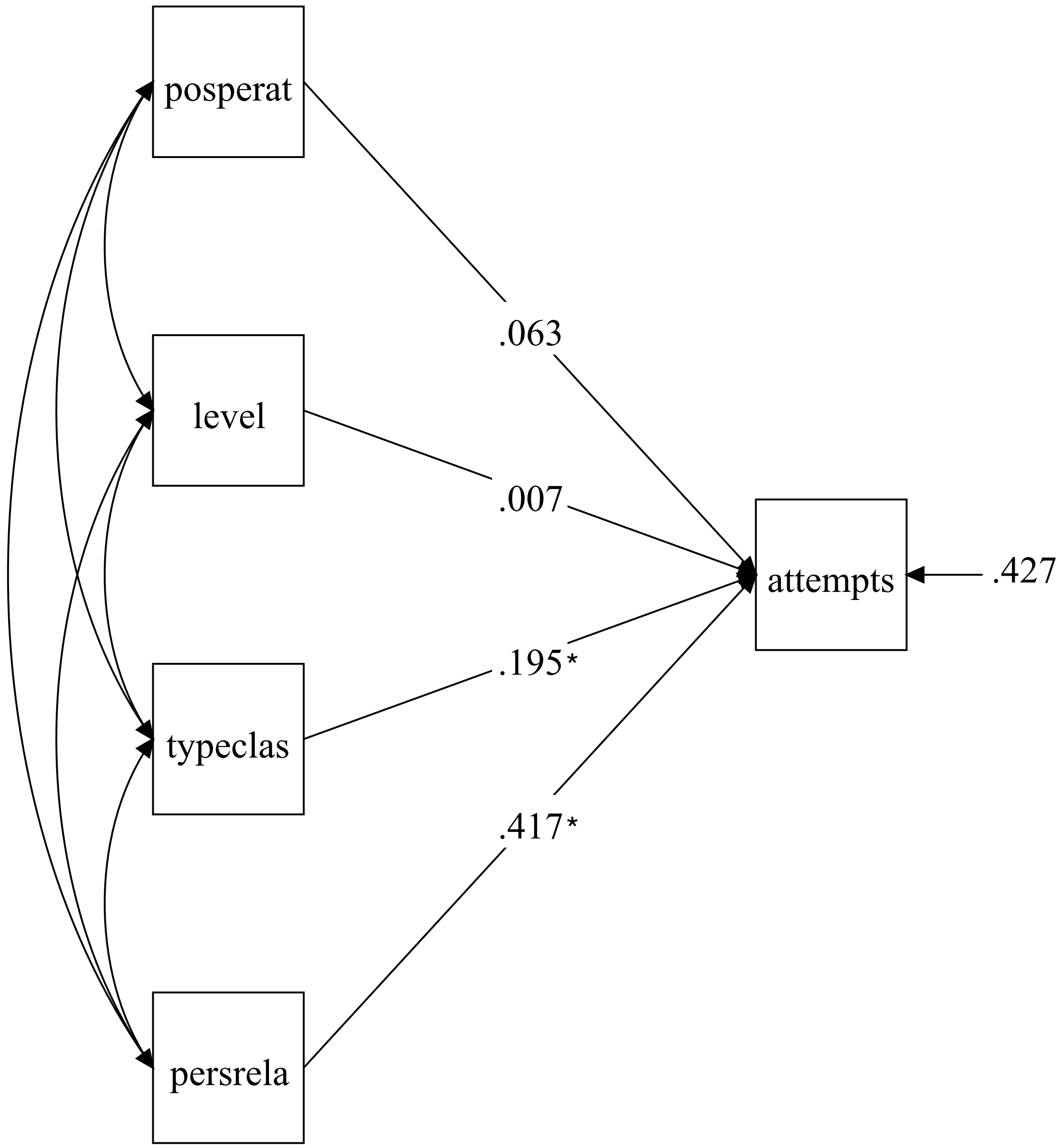

Figure 7

Results from Path Analysis for Overall Sample

Note. posperat = positive personal attitudes, level = elementary or secondary, typeclas = type of classroom, persrela = personal relationships with individuals with disabilities, and attempts = attempts to address stigma. * Indicates statistical significance at $p < .05$.

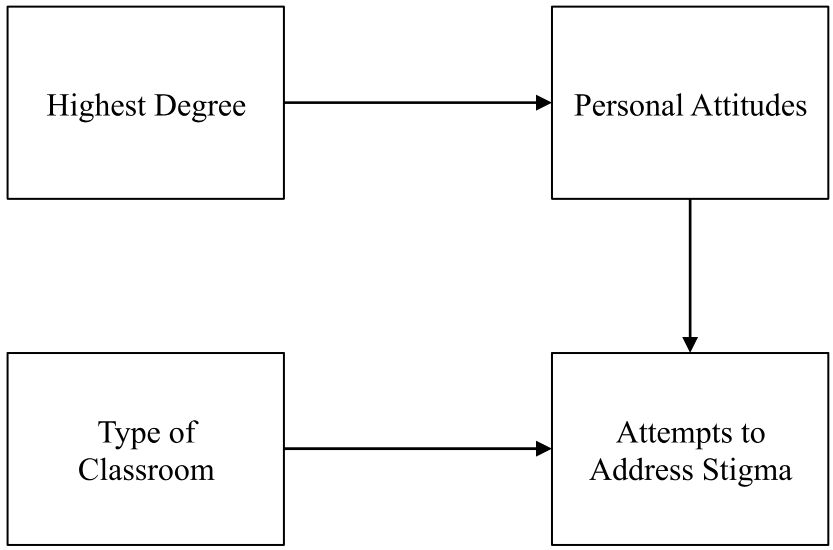

Figure 8

Hypothesized Model for Elementary Sample

Table 22

Goodness of Fit Indexes for Elementary Sample

	Models					
Fit Statistics	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
χ^2	0.000*	8.387	16.236*	31.261*	21.264*	10.557
df	0	1	2	3	2	2
RMSEA	0.000	0.209	0.205	0.236	0.239	0.159
SRMR	0.000	0.059	0.075	0.127	0.116	0.059
CFI	1.000	0.906	0.819	0.641	0.755	0.891
TLI	1.000	0.530	0.548	0.401	0.388	0.728
AIC	790.685	797.072	802.921	1784.260	807.949	797.242
BIC	818.854	822.111	824.831	1818.689	829.858	819.151
SSBIC	790.358	796.781	802.667	1783.860	807.694	796.987

Note. RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual, CFI = comparative fit index, TLI = Tucker-Lewis index, AIC = Akaike information criterion, BIC = Bayes information criterion, SSBIC = Sample-Size Adjusted BIC. * Indicates χ^2 are statistically significant at $p < .001$.

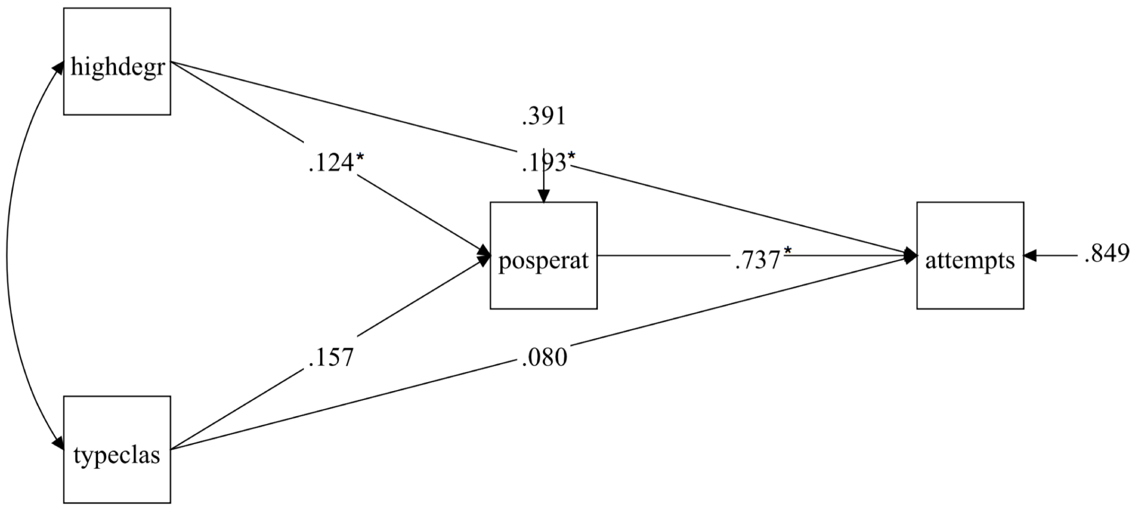

Figure 9

Results from Path Analysis for Elementary Sample

Note. highdegr = highest degree, typeclas = type of classroom, posperat = positive personal attitudes, and attempts = attempts to address stigma. * Indicates statistical significance at $p < .05$.

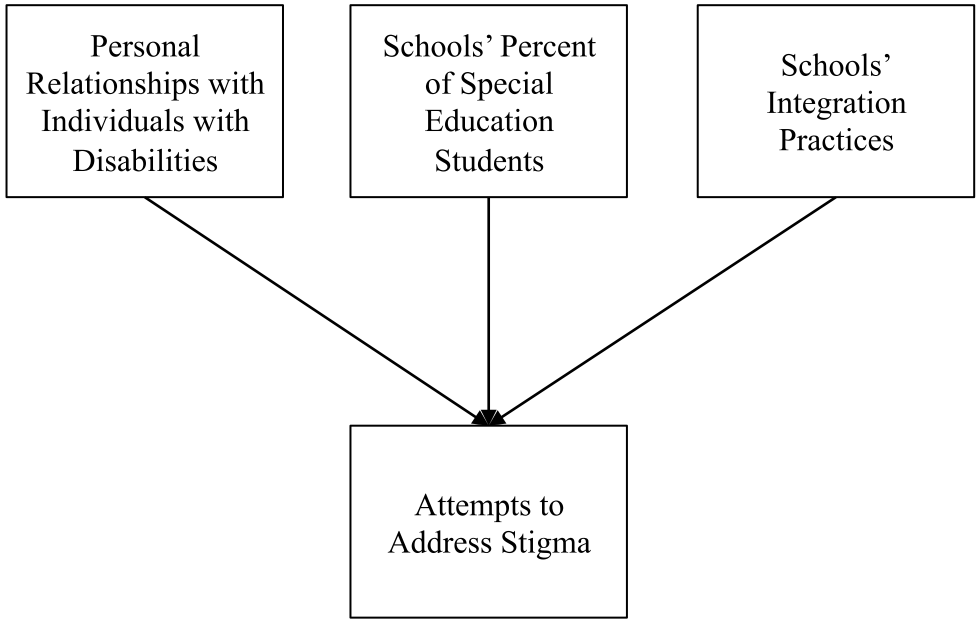

Figure 10

Hypothesized Model for Secondary Sample

Table 23

Goodness of Fit Indexes for Secondary Sample

	Models		
Fit Statistics	Model 1	Model 2	Model 3
χ^2	0.000*	47.437*	0.000*
df	0	3	0
RMSEA	0.000	0.303	0.000
SRMR	0.000	0.163	0.000
CFI	1.000	0.000	1.000
TLI	1.000	-0.230	1.000
AIC	377.829	1806.793	686.095
BIC	393.236	1840.689	719.900
SSBIC	377.408	1805.866	685.167

Note. RMSEA = root mean square error of approximation, SRMR = standardized root mean square residual, CFI = comparative fit index, TLI = Tucker-Lewis index, AIC = Akaike information criterion, BIC = Bayes information criterion, SSBIC = Sample-Size Adjusted BIC. * Indicates χ^2 are statistically significant at $p < .001$.

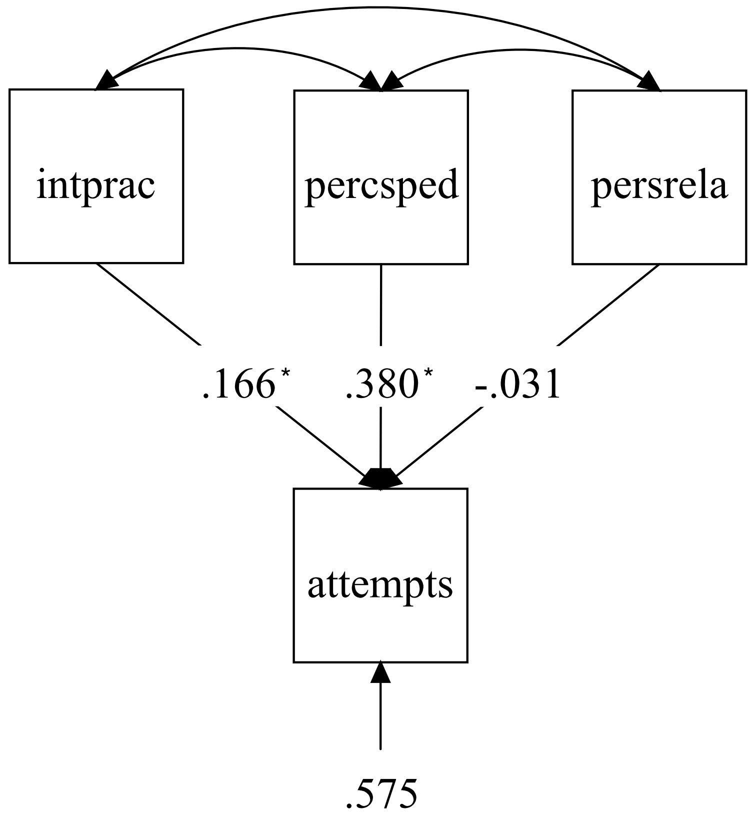

Figure 11

Results from Path Analysis for Secondary Sample

Note. persrela = personal relationships with individuals with disabilities, percsped = schools' percent of special education students, intprac = schools' integration practices, and attempts = attempts to address stigma. * Indicates statistical significance at $p < .05$.

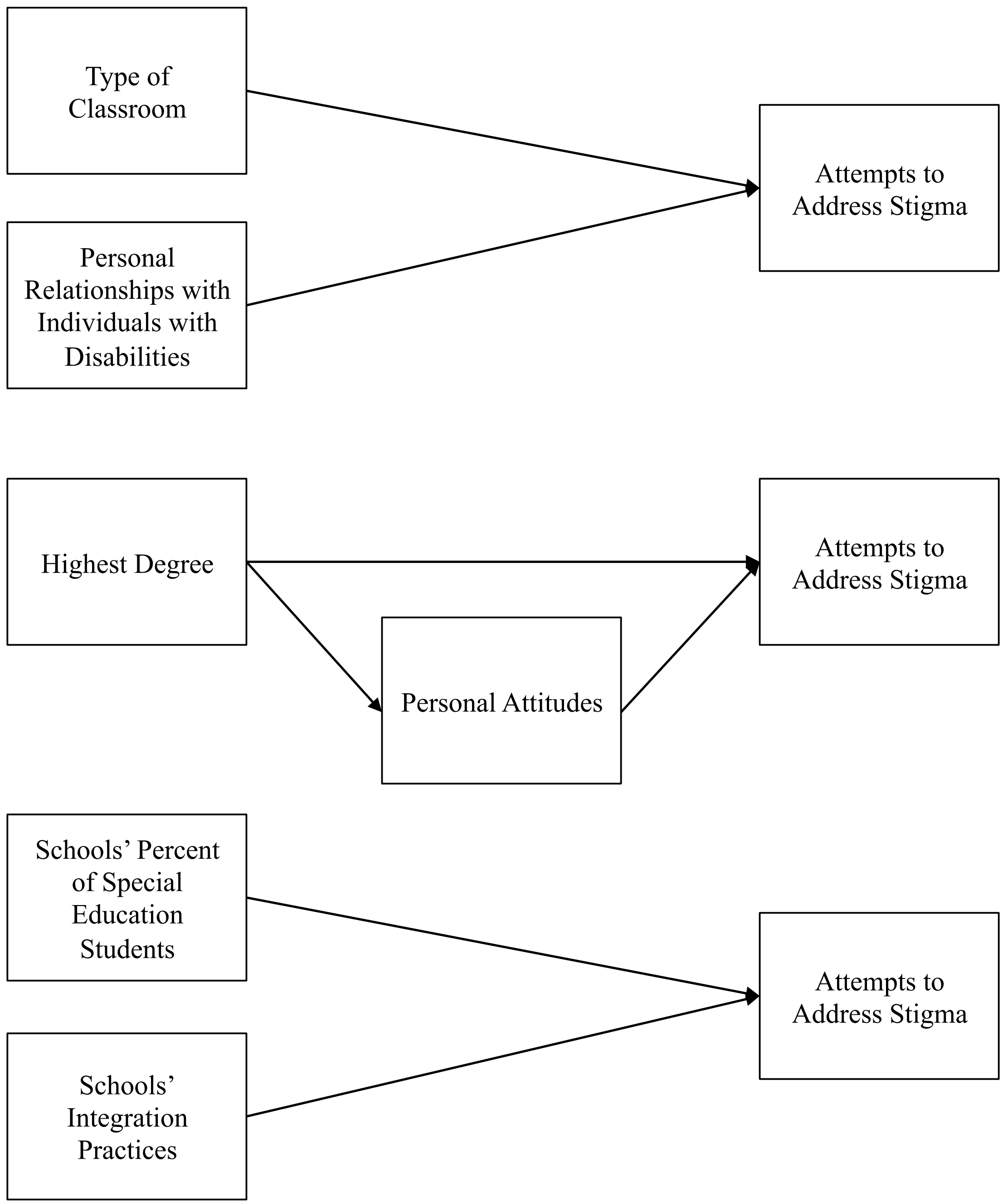

Figure 12

Final Significant Predictive Models - Top: Overall Sample, Middle: Elementary Sample, Bottom: Secondary Sample

Chapter 5

DISCUSSION

The purpose of the current study was to examine the influences on teachers' attempts to address disability stigma in the classroom. Such stigma had been shown to negatively affect children in numerous varied ways and research had provided support for empirically-based practices to reduce it within the classroom. However, evidence had also been found that teachers often were not implementing such practices. Six research questions were addressed in the present study. The first question further assessed the extent to which teachers employ empirically-based practices to address stigma in the classroom. The second, third, fourth, and sixth research questions explored the predictive relationships between teachers' background factors, personal attitudes towards students with disabilities, perceptions of public disability stigma, and attempts to address stigma through empirically-based practices. The final question examined the barriers preventing teachers from implementing such practices in their classrooms.

5.1 Employment of Empirically-Based Practices

It was hypothesized that all teachers would report using at least one practice to attempt to address stigma, although not all teachers would report implementing an empirically-based practice. Frequency analysis revealed that for each grade level set, approximately 90% of teachers (87% for secondary and 93% for elementary teachers) reported using at least one practice in their classroom to attempt to address stigma, whereas roughly 89% (85% for secondary and 92% for elementary teachers) implemented at least one empirically-based practice. This is consistent with prior findings that every teacher does not implement empirically-based practices in the classroom (Cramer, 2015; Segall, 2011; Weisman et al., 2016; Yu et al., 2016). However, greater percentages of teachers than predicted did report implementing these practices. This study serves as an examination of teachers' use of empirically-based practices specifically to address disability stigma, as previous studies did not provide information about practices for this purpose in particular.

Furthermore, the present study adds to the body of knowledge on teachers' use of empirically-based practices to address disability stigma by providing information on frequency of implementation of specific types of practices. Although research had suggested that advocacy based practices were the least commonly used (Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Murman et al., 2014), the specific practices and comparison between social contact and educational practices was uncertain. The current study was consistent with the literature proposing that advocacy practices are the least commonly implemented. Additionally, it revealed that the most frequently implemented practices involved social contact, through meaningful contact within the classroom and peer support methods between students with and without disabilities. Fortunately, research has suggested that social contact may be the most effective type of practice to reduce disability stigma (Corrigan & Shapiro, 2010; Ferrari, 2016; Mann & Himelein, 2008; Staniland & Byrne, 2013).

Another significant finding on use of empirically-based practices to address stigma was that the presence of school-wide efforts for this purpose, as well as teachers' increased involvement in these efforts, made them significantly more likely to implement these practices in their own classrooms. This finding held constant for all grade levels and aligns with research on the positive influence of school-wide initiatives on school climate, and in turn, on classroom climate (Bear, 2010; Bear et al., 2015; Emmer & Sabornie, 2015; Harrison & Thomas, 2014). In other words, school-wide initiatives increase positive school climate, which is characterized by supportive student teacher relationships, reduced behavior problems, and high academic achievement (Bear, 2010). This improved and more supportive atmosphere both directly improves classroom climate and also encourages teachers to further support their students. Based on the additional evidence from this study, it may be ascertained that an effective way to increase efforts to address stigma in the classroom may be to begin at the school level.

5.2 Relationships Between Teachers' Backgrounds, Personal Attitudes, Perceptions of Public Stigma, and Attempts to Address Stigma

It was predicted that teachers who were female, younger, had more education, held special education certifications, worked at the elementary school level, had personal or professional experiences with individuals with disabilities, and had more recently graduated would have less personal stigma, would more readily recognize stigma in others, and would employ more empirically-based practices to increase acceptance of students with disabilities in the classroom. Further, teachers with less personal stigma and those with who more readily recognized it in others were predicted to utilize more empirically-based practices for this purpose. Finally, it was predicted that personal attitudes and awareness of public stigma would mediate the relationship between teachers' background factors and use of empirically-based practices.

Based on the literature, it was hypothesized that the variables of gender, age, highest degree, special education certification, type of classroom, level, contact with individuals with disabilities, most recent graduation date, personal attitudes, and awareness of public stigma would contribute to predicting attempts to address stigma, whereas for the sample of both elementary and secondary teachers overall, only the variables of type of classroom and personal relationships with individuals with disabilities significantly predicted attempts to address stigma (see Figure 12). Specifically, teachers who taught in special education classrooms and had personal relationships with individuals with disabilities were more likely to implement practices to attempt to address stigma in the classroom. Although several of the hypothesized predictors were not found to be significant, the remaining factors were shown to predict empirically-based attempts to address stigma in the directions predicted by the literature (Lee, 2014; Segall, 2011; Segall & Campbell, 2012). Specifically, Segall (2011) found that special education teachers reported more frequent use of interventions with students with disabilities than general education teachers. This study also revealed that increased contact with individuals with disabilities predicted teachers' behavioral intentions for implementing interventions with students with disabilities (Segall, 2011). The predictive model developed in the current study adds critical information to the field by portraying the most significant predictors of teachers' behavior in terms of attempts to address stigma specifically.

To determine whether these predictors operated differently at various educational levels, a model was tested exclusively for elementary teachers. For this level, teachers who had more education tended to have more positive attitudes towards individuals with disabilities and were more likely to implement empirically-based practices to address stigma in the classroom. These significant relationships involved the direct influence of highest degree on attempts to address stigma, as well as its indirect effect on attempts to address stigma, mediated by personal attitudes. These findings are consistent with the relevant literature, which has found that more educational training, especially when pertaining to special education or disabilities, is associated with more positive attitudes towards students with disabilities and greater behavioral intentions for implementing interventions with these students (Bell et al., 2011; Park & Chitiyo, 2011; Segall, 2011). Research suggests that this training may be either in the form of pre-service degree programs or in-service professional development. The predictive influence of personal attitudes towards individuals with disabilities on effectively selecting types of interventions, implementing interventions, successfully facilitating inclusion, maintaining positive relationships with parents, and behaving more positively towards students has also been supported by prior research (Bell et al., 2011; Chung et al., 2015; Fellner, 2015; Lequia, 2015; Park & Chitiyo, 2011; Segall, 2011). For instance, Lequia (2015) found that teachers who had more positive attitudes towards students with disabilities tended to devote more time and effort to including these students in their general education classrooms. The model revealed in the current study adds to the knowledge base by confirming the hypothesized mediated relationship, as well as providing information to predict specifically elementary teachers' behavior in terms of their attempts to address stigma in particular. Furthermore, it provides a comparison of which variables serve as the most salient predictors of attempts to address stigma when compared against one another in an individual study.

For the sample of solely secondary teachers, those who taught in schools with greater percentages of special education students who were primarily integrated into general education classrooms were more likely to utilize more empirically-based practices to address stigma in their classes. Although these factors were not hypothesized to significantly predict teachers' attempts to address stigma, the association does align with prior literature. Specifically, research has shown that teachers who have more contact with students with disabilities have enhanced behavioral intentions towards these students (Segall, 2011). In a school with a greater percentage of special education students who are primarily integrated into general education classrooms, teachers are likely to have more contact with these students. Another body of literature has demonstrated the effect of school-wide practices and school climate on teacher and student classroom behavior (Bear, 2010; Bear et al., 2015; Emmer & Sabornie, 2015; Harrison & Thomas, 2014). The school factors found to be significantly predictive in this model may influence school characteristics, presumably by improving attitudes toward students with disabilities, which would then in turn have an effect on teacher and student classroom behavior in a positive trend. This model expands the existing body of literature by presenting valuable information about the significance of student teacher relationships and school climate for the practice of secondary teachers, as well as providing models that are specific to both secondary school and empirically-based practices to address stigma.

Overall, these predictive models provide valuable and novel information about the factors that affect teachers' attempts to address stigma. The differences in causal factors between elementary and secondary teachers were a result that was not predicted, nor suggested in the literature. The specific relationships were particularly interesting. For elementary teachers, the predictive factors involved especially personal variables, whereas the predictive factors in the secondary model were largely school-wide characteristics. This discrepancy may be due in part to the differing structure and scheduling at the secondary level, as compared to the elementary level. Relatedly, research has provided evidence that interventions at the secondary level may be more affected by the structure of the school, such as whether the scheduling is traditional or block (King, Lemons, & Hill, 2012; Veal & Flinders, 2001). Therefore, in designing efforts to increase teachers' attempts to address stigma in the classroom, it may be more important to consider the school structure as a whole at the secondary level. At the elementary level, this may be more effectively achieved by considering teachers' individual backgrounds. Alternatively, the model created from the overall sample may be valuable to use in either situation to identify teachers who may require additional encouragement or support in implementing empirically-based practices to address stigma.

5.3 Barriers to Implementation

It was hypothesized that the most commonly reported barriers to implementing empirically-based practices to address disability stigma would be lack of training, administrative support, and time. Descriptive analyses revealed that for the overall sample, the elementary sample, and the secondary sample, the highest endorsed barriers included all of the items involving a lack of time, as well as those detailing class size, lack of materials, and being overwhelmed from teaching duties. The presence of the factor of lack of time among the most frequently endorsed barriers is consistent with the literature (Yu et al., 2016). Additionally, the impeding effects of class size, lack of materials, and overabundance of responsibilities have been suggested by previous research (Dorsey et al., 2016; Lee, 2014; Weisman et al., 2016; Yu et al., 2016).

However, it was interesting that these barriers were more highly endorsed than the barriers of lack of training and administrative support, which were predicted to be among the most endorsed. This may be due to progress in these areas in recent years that may not have been captured in prior publications (Bell et al., 2011; Campbell, 2012; Cramer, 2015; Segall, 2011). Therefore, these findings from the current study provide additional, updated information that may be drawn upon in efforts to decrease barriers for teachers to implementing empirically-based practices to address stigma in the classroom.

5.4 Implications for Practice

The findings from the present study on implementation, predictive factors, and barriers to using empirically-based practices to address stigma have several practical implications for school psychologists, administrators, and educational institutions. First, the development of the predictive models has definite implications for efforts of school psychologists or administrators to increase teachers' use of empirically-based practices to address stigma. Specifically, these models suggest how methods for supporting teachers in this area should be modified for those of differing grade levels. Whereas teachers at the elementary school level may benefit most from additional training in disability stigma and empirically-based practices to reduce it, those at the secondary level may profit more from adjustments to the school-wide structure and initiatives. For elementary teachers in particular, the findings indicated that teachers' education and personal attitudes towards individuals with disabilities predict their use of empirically-based practices to address stigma, as predicted (Bell et al., 2011; Chung et al., 2015; Fellner, 2015; Lequia, 2015; Park & Chitiyo, 2011; Segall, 2011). Therefore, it would be recommended that teachers at this level be provided with professional development led by school psychologists or other experts in the field to scaffold their education in the area of disabilities and disability stigma. Teachers who have less pre-service education and those with more negative attitudes towards individuals with disabilities could also be identified, through survey, school records, or observation, to receive additional support during or following the in-service training.

Conversely, secondary teachers' attempts to address disability stigma in their classrooms were found to be predicted by school-wide factors, including percentage of special education students and their integration into general education classrooms. Previous studies have also found that, at the secondary level, classroom interventions are heavily influenced by school structure and practices (King, Lemons, & Hill, 2012; Veal

& Flinders, 2001). Accordingly, school psychologists and administration in secondary settings could work to increase their schools' inclusion practices, alter school programing to block scheduling to allow teachers more time with their students, improve school climate through initiating school-wide positive behavior supports or other similar programs, or implement school-wide efforts to address disability stigma (Bear, 2010; Bear et al., 2015; Corrigan & Penn, 1999; Corrigan & Shapiro, 2010; Emmer & Sabornie, 2015; Harrison & Thomas, 2014; Murman et al., 2014). Professional development sessions may also be beneficial to ensure that all teachers thoroughly understand the purpose of the school-wide efforts and to encourage their engagement. Finally, the predictive model developed from the overall sample provides valuable evidence about populations of teachers at any level who would profit from additional support from their school psychologist in the process of implementing attempts to address stigma. The model revealed that teachers who work in general education as compared to special education and those who do not have personal relationships with individuals with disabilities are less likely to attempt to address disability stigma in their classrooms, consistent with expectations (Lee, 2014; Segall, 2011; Segall & Campbell, 2012). Thus, identifying teachers at any educational level who fit these characteristics to receive more individualized training or support for this purpose may be advantageous. In summary, the various predictive models created in the present study serve as guidelines for school psychologists and administrators to utilize in developing efforts to increase acceptance of individuals with disabilities, thereby improving social, emotional, and academic outlooks for all students with disabilities in their schools.

These predictive models also carry implications for educational institutions providing pre-service training to teachers, especially those at the elementary level. In the current study, elementary teachers' quantity of pre-service education was found to significantly predict both their attitudes towards students with disabilities and their use of empirically-based practices to address disability stigma in their classes. Similarly, research has shown that although teachers' behaviors regarding students with disabilities are influenced by their training on and attitudes towards these students (Bell et al., 2011; Chung et al., 2015; Fellner, 2015; Lequia, 2015; Park & Chitiyo, 2011; Segall, 2011), teachers often lack any substantive training on disabilities or related stigma (Holland, Detgen, & Gutekunst, 2008; MacGlaughlin & Mertens, 2014). Therefore, these educational institutions could help to decrease disability stigma in grade schools by providing their students who are training to be teachers with deeper understandings of disabilities and stigma, how they affect students, and how to improve outlooks for these students. Although this may be most effective with elementary teachers based on the findings from the current study, this additional training has the potential to benefit the later practice of all pre-service teachers.

The results from the analysis of the types of empirically-based practices already being used by teachers also provide implications for future practice in the school setting. In particular, teachers reported the most implementation of several social contact based practices to address stigma. These practices, which have been found to reduce stigma by challenging stereotypes and attitudes through first person interactions, have been identified in some studies as the most effective method to combat stigma (Corrigan &

Penn, 1999; Dunn, 2016; Ferrari, 2016; Mann & Himelein, 2008). Due to this previous research and the findings from the present study, school psychologists and administrators should consider simply encouraging the continued use of these practices. Additionally, the school psychologist could guide teachers to discuss with one another how social contact is already being used in their classrooms in order to inspire the remaining teachers to implement these types of efforts. The school psychologist may also explain to teachers, either through professional development or individualized consultation, how to further build on the use of social contact practices by adjusting or adding elements of education or advocacy efforts as well, in order to further contest disability stigma. This focus on social contact efforts should be balanced with additional information on alternative, effective strategies of addressing stigma through educational or advocacy efforts.

Additional implications for school practice may be drawn from the findings on school-wide initiatives to increase acceptance and their association with teachers' use of additional practices in their classrooms. Prior research has also demonstrated the affirmative effect of school-wide initiatives on positive school climate, which in turn affects classroom climate and practices (Bear, 2010; Bear et al., 2015; Emmer & Sabornie, 2015; Harrison & Thomas, 2014). Therefore, implementing school-wide initiatives or advocacy efforts would benefit students both directly by improving student teacher relationships, creating a supportive community, and cultivating social emotional development, and indirectly by increasing teachers' use of further efforts to increase acceptance in their classrooms. These school-wide efforts may include clubs or school-wide campaigns, such as School-Wide Positive Behavior Supports, Pink Shirt Day, National Bullying Prevention Month, Safe School Ambassadors, or Best Buddies, aimed at reducing stigma and stereotypes of individuals with disabilities or those who are diverse in any nature. Although these initiatives should be supported by the administration and school psychologist, engaging teachers in the leadership may further improve their attempts to increase acceptance in their own classrooms, based on the findings in the present study that the level of teacher involvement in school-wide campaigns is related to their use of practices within their classrooms.

Examination of teachers' reported barriers to implementing efforts to address stigma provides further implications for school based practice. This analysis revealed that the constraints of time, limited materials, class size, and feelings of being overwhelmed were barriers to attempting to address stigma in the classroom, consistent with the literature (Dorsey et al., 2016; Lee, 2014; Weisman et al., 2016; Yu et al., 2016). School psychologists and administration should provide support to teachers in overcoming these barriers. Specifically, professional development led by school psychologists or other experts could help teachers by providing specific examples of how to address disability stigma through education, social contact, or advocacy based practices to prevent teachers from having to spend the time researching empirically-based practices themselves. These sessions could also aid teachers in understanding how to incorporate attempts to address stigma into their class schedule without adding any time burden. For instance, the teachers could integrate instruction about disabilities and related stigma into their already existing subject curriculums (Dunn, 2016; Eisenman & Tascione, 2002; NASP, 2010;

Ventieri et al., 2011; Watson, Otey, Westbrook et al., 2004; Weisman et al., 2016). Additionally, professional development sessions could be used as a time to explain how large class sizes may be used as an advantage in this case, by providing opportunities for social contact practices during already scheduled group work for example (Corrigan & Penn, 1999; Dunn, 2016; Ferrari, 2016; Mann & Himelein, 2008). In leading the professional development, the school psychologist could also distribute ready to use materials for implementing empirically-based practices in the classroom or provide information about how to obtain these materials easily and without financial encumbrance. These materials could include curriculums for explicit educational programs for this purpose, such as the Special Friends or Breaking the Silence curriculums (Dorsey et al., 2016; Meyer & Ostosky, 2016; Wahl et al., 2011; Weisman et al., 2016; Yu et al., 2016), books on disabilities or guidelines on selecting effective books to utilize to reduce stigma (Gaffney & Wilkins, 2016), practitioner articles that serve as ready to use instructions of how to apply empirically-based practices, or guidebooks for clubs or advocacy efforts, such as the Let's Erase the Stigma (LETS) organization (Murman et al., 2014). As some of these materials may need to be purchased, administration should consider the vast benefits in investing for this critical need. Finally, the school psychologist should make him or herself available to teachers following the professional development session in order to support their personalization or implementation of empirically-based practices for their classes through continued consultation (Martin, 2010; Salas & Cannon-Bowers, 2001). By providing instruction on practices to reduce disability stigma, guidelines on how to overcome time or class size constraints, materials to use in implementing practices, and sustained, individualized support to teachers, the school psychologist may also help teachers to overcome the barrier of feeling overwhelmed by the prospect of engaging in these practices in addition to the more tangible obstacles that each suggestion targets.

Finally, the measures of personal attitudes, perceptions of public stigma, employment of empirically-based practices to address stigma, and barriers to implementing these practices that were developed and refined through this study carry implications for future practices at the school or district level, as well as future research in the field. At the school or district level, these constructs could be measured in order to personalize the current study to specific institutions or areas. In this manner, further implications could be drawn at the individual school or district level. Furthermore, the validation of the theoretical constructs of personal attitudes, perceptions of public stigma, employment of empirically-based practices to address stigma, and barriers to implementing these practices maintains significance for further research in this field. Future researchers are both ensured of the existence of these constructs and provided with methods of their measurement. This will allow for an indeterminate quantity of further research in this area.

In summation, the findings of the present study considered with the literature provide several implications for practice. These recommendations include targeting in-service support for teachers depending on the elementary versus secondary settings, providing additional support to teachers who fit characteristics of those less likely to attempt to address stigma, delivering greater pre-service training to teachers focusing on disabilities, supporting continued use of already implemented practices, providing in-service programming incorporating instruction, distribution of materials, and follow up consultation with teachers on addressing disability stigma in the classroom, and utilizing the developed measures for further personalization of results or research in this field.

5.5 Limitations of the Study

There are some limitations of the current study in terms of the sample, data collection methods, and factors examined. Specifically, the sample was collected from a single school district and although examination of the demographic characteristics revealed similarities to the teaching workforce across the country, this may still limit the generalizability of the results. Moreover, the low response rate, which may have been due to the distribution of the survey through email, could affect the generalizability of the results. Additionally, the sampling method may have led to a selection bias in that teachers who may have more negative attitudes towards individuals with disabilities or who do not attempt to address stigma in their classrooms may not have responded to the survey. This may further impact the generalizability of the findings, as a specific subset of the population may have been unintentionally excluded from the sample.

The data collection methods utilized in the current study may also serve as a limitation. Although teachers were asked in the survey to recall and report which practices they had used to address stigma in the past year in their classrooms, they were not actually followed over the course of this year. Therefore, teachers may have over or under reported their use of practices due to simple fault of memory. Alternatively, collecting the data in a longitudinal manner in which teachers were asked to record their use of practices as they were implemented may have provided a more accurate representation of use. Additionally, employing surveys as the data collection method, rather than observation or interview, may have caused a response bias whereby teachers may have tended to over report their use of empirically-based practices in an effort to appear more conscientious. These methods may have therefore affected the validity of the results.

Additional factors could have also been considered in the study as potential predictors of teachers' use of empirically-based practices. For example, teachers were not asked to report on their in-service training on disabilities or reducing disability stigma, although the literature shows it is related to teachers' attitudes and behavior (Bell et al., 2011; Park & Chitiyo, 2011; Segall, 2011). Also, as pre-service training was found to significantly predict teachers' personal attitudes and attempts to address stigma in the present study, information on in-service training would have been valuable to examine. Another factor that was not examined was school climate, which has been linked to students' academic achievement, behavior, and wellbeing (Bear, 2010; Bear et al., 2015; Emmer & Sabornie, 2015; Harrison & Thomas, 2014). This factor could have been clearly assessed through already developed and researched measures (Bear, Gaskins, Blank, & Chen, 2011). There may also be a variety of other factors that could be considered in relation to teachers' attempts to address stigma that have not yet been unidentified.

5.6 Future Research

Additional future research should endeavor to expand upon the current study through replication, modification, or extension of the current methods and by examining the efficacy of the recommended methods for delivery of in-service support to teachers. With the development and validation of the measures in the current study, it could be replicated to compare attempts to address stigma, as well as predictors and barriers across different urban versus rural zones, states, or countries. This would provide school psychologists and administrators in varying geographic areas further information on how to meet the needs of teachers in their schools. The provision of support through professional development and consultation could be personalized to meet the needs of the individual schools, districts, or areas based on the results of this additional research. Furthermore, the present study could be duplicated with modifications to adjust for identified limitations. For example, data could be collected through observation and interview to limit influences of faulty memories, as well as selection and response bias. This would prevent teachers from providing inaccurate information about their attempts to address stigma, whether intentionally or unintentionally. Future research could also extend the current study by using the findings as a basis for an interview based study that would further examine teachers' reasoning behind their practices. More specifically, teachers could be asked why they chose to use certain practices or why they did not use others, as they reported in the survey measure, what they feel affects their attempts to address stigma in their classroom, with a focus on predictive factors revealed in this study, and whether they experience the barriers most commonly reported in this study in their own practice.

The efficacy of the recommendations provided based on the implications of the present study could also be examined through future research. First, a study might be conducted to determine the potential feasibility and effectiveness of the proposed professional development and follow up consultation model, through interviews with school psychologists, administrators, and teachers. This would allow for adaptations to be made prior to the implementation of the major suggestions and guide the development of the in-service support. Subsequently, the professional development sessions and follow up assistance could be fully implemented in schools in order to observe the effects on teachers' attitudes and use of empirically-based practices. In addition to measuring quantitative results of teachers' implementation of practices, interviews with teachers, facilitators, and other stakeholders could be conducted to gather further information on the effectiveness of this intervention.

5.7 Conclusions

The findings of the current study provide information about teachers' present use of empirically-based practices to address disability stigma in the classroom, factors that may predict the implementation of these practices for elementary teachers, secondary teachers, and teachers in general, and barriers to the employment of these research based practices. The majority of teachers already attempt to address stigma in some way and almost all use at least one empirically-based practice. Several of the social contact based practices are the most frequently implemented by teachers. Predictors of teachers' attempts to address stigma vary significantly between the elementary, secondary, and overall population of teachers. In general, the predictors for elementary teachers were personal in nature, whereas those for secondary teachers involved school-wide factors. For elementary teachers, pre-service education predicted use of empirically-based practices both directly and through an effect on teachers' attitudes towards students with disabilities, which in turn influenced their employment of practices. School wide percent of special education students and their level of integration into general education classrooms predicted secondary teachers' implementation of attempts to address stigma in their classrooms. When combined into an inclusive sample, teachers' use of practices may be predicted by their placement in general as compared to special education classes and the presence of teachers' personal relationships with individuals with disabilities. Additionally, school-wide initiatives and teachers' involvement therein are related to teachers' attempts to address stigma in their own classes. Finally, the most salient barriers teachers experience to implementing empirically-based practices to contest stigma include the constraints of time, materials, class size, and feeling overwhelmed. Overall, this study revealed that there are distinct factors that may be utilized to predict teachers' attempts to address stigma. This finding is critical as this information may be applied by school psychologists, administrators, and educational institutions to develop plans to support teachers across the country in efforts to increase acceptance of individuals with disabilities in order to affect vast improvement for the academic, social, and emotional outcomes of countless students.

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Appendix A

PILOT STUDY SURVEY MEASURE

Part 1: Personal Attitudes

Next year, Robby will be a student at your school. He is six years old and will be starting the first grade. When he talks, he sometimes repeats what was said to him instead of answering the question. And sometimes it seems like he can't hear or isn't paying attention, even though his hearing is normal. He almost never looks a person in the eye. Sometimes Robby waves his hands around or bounces up and down in his chair. Robby has a hard time changing activities, going from one thing to doing something else. Often, it seems like Robby does not want to play with other children and when he does, it seems like he does not know what to do. A recent individually administered test of intelligence indicated that Robby's intelligence was in the range for Moderate Intellectual Disability (IQ = 50). Your district's School Psychologist suggests that Robby will learn to read slower than other children and has not mastered age-appropriate daily living skills, such as independently putting his shoes on the correct feet. Robby is classified as a special education student with an IEP.

How you feel about Robby

Please mark the response that best describes **how you feel** about the following statements:

		Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1.	I would be pleased if Robby was a student in my class.	○	○	○	○	○	○
2.	I would feel comfortable talking to Robby, even if I didn't know him.	○	○	○	○	○	○
3.	I would be afraid to have Robby in my classroom.	○	○	○	○	○	○
4.	I would be embarrassed if Robby had a birthday party in my classroom.	○	○	○	○	○	○
5.	I would feel upset when I see Robby.	○	○	○	○	○	○
6.	Robby will expect lots of attention from adults.	○	○	○	○	○	○
7.	Robby will want to do many things for himself.	○	○	○	○	○	○
8.	Robby will be able to do many things for himself.	○	○	○	○	○	○
9.	Robby will be able to make new friends.	○	○	○	○	○	○
10.	Robby will enjoy playing with other students.	○	○	○	○	○	○
11.	I would not take Robby on a field trip with the rest of my class.	○	○	○	○	○	○
12.	I would not know what to say to Robby if he were in my classroom.	○	○	○	○	○	○

13.	I would try and stay away from Robby if he were a student in my school.	○	○	○	○	○	○
14.	I would try not to look at Robby if he were at my school.	○	○	○	○	○	○
15.	I would adapt Robby's assignments to meet his unique needs if he were a student in my class.	○	○	○	○	○	○
16.	I would encourage other students in my class to interact with Robby.	○	○	○	○	○	○

Part 2: View of Public Perceptions

This set of questions asks about some of the experiences, feelings, and opinions children with disabilities might have and how they are treated. Please do your best to answer each question. There are no right or wrong answers, we would just like your opinions.

For each item, select your answer: Strongly disagree (SD), disagree (D), agree (A), or strongly agree (SA).

		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	Children with disabilities are treated like outcasts.	○	○	○	○
2.	Most people think that a child with a disability is damaged.	○	○	○	○
3.	Most children with disabilities are rejected when others find out.	○	○	○	○
4.	Some people who learn of a child having a disability grow distant.	○	○	○	○
5.	After learning they have disabilities, children worry about others discriminating against them.	○	○	○	○
6.	Most people are uncomfortable around a child with a disability.	○	○	○	○
7.	People don't want a child with a disability around their children once they know that person has a disability.	○	○	○	○
8.	Some people act as though it's the child's fault that they have a disability.	○	○	○	○
9.	Children with disabilities have lost friends by telling them they have disabilities.	○	○	○	○
10.	The good points of children with disabilities tend to be ignored.	○	○	○	○
11.	People seem afraid of a child with a disability once they learn they have a disability.	○	○	○	○
12.	When people learn that a child has a disability, they look for flaws in their character.	○	○	○	○

Part 3: Attempts to Address Stigma

Classroom Level:

Which of the following methods have you used in the past year in your classroom to increase acceptance of students with disabilities? Please select all that apply.

		Used in past year?		Do you think this is/would be effective? Choose one even if you have not used.				Would use if more time, training, resources, etc.?	
		Yes	No	Not Effective	Somewhat Effective	Effective	Very Effective	Yes	No
1., 25., 49.	Packaged curriculum to educate students about disabilities	○	○	○	○	○	○	○	○
2., 26., 50.	Originally developed lesson(s) focusing on disabilities	○	○	○	○	○	○	○	○
3., 27., 51.	Discussing myths and facts about disabilities	○	○	○	○	○	○	○	○
4., 28., 52.	Teaching about strengths and difficulties of students with disabilities	○	○	○	○	○	○	○	○
5., 29., 53.	Providing typically developing students with strategies and skills to work with students	○	○	○	○	○	○	○	○

	with disabilities								
6., 30., 54.	Embedding mental health awareness into curriculum (i.e. teach about disability as form of diversity in social studies, read and discuss literature about disabilities in language arts, etc.)	○	○	○	○	○	○	○	○
7., 31., 55.	Videos on disabilities	○	○	○	○	○	○	○	○
8., 32., 56.	Discussions about videos on disabilities	○	○	○	○	○	○	○	○
9., 33., 57.	Non-fiction books on disabilities	○	○	○	○	○	○	○	○
10., 34., 58.	Fictional books involving characters with disabilities	○	○	○	○	○	○	○	○
11., 35., 59.	Plays or puppet shows about disabilities	○	○	○	○	○	○	○	○
12., 36., 60.	Discussions or Q & A with an individual	○	○	○	○	○	○	○	○

	with a disability			
13., 37., 61.	Facilitate meaningful social contact between students with and without disabilities	○ ○	○ ○ ○ ○	○ ○
14., 38., 62.	Facilitate peer support methods in the classroom between students with and without disabilities	○ ○	○ ○ ○ ○	○ ○
15., 39., 63.	Ensure that assistants in the classroom are viewed as support for whole class, not individual students	○ ○	○ ○ ○ ○	○ ○
16., 40., 64.	Reading first person narratives by individuals with disabilities	○ ○	○ ○ ○ ○	○ ○
17., 41., 65.	Watching video taped first person narratives by individuals with disabilities	○ ○	○ ○ ○ ○	○ ○
18., 42., 66.	Openly share about personal	○ ○	○ ○ ○ ○	○ ○

	experience with an individual with a disability			
19., 43., 67.	Discuss celebrities known to have disabilities	○ ○	○ ○ ○ ○	○ ○
20., 44., 68.	Organize or lead club to support those with disabilities	○ ○	○ ○ ○ ○	○ ○
21., 45., 69.	Organize or lead club to increase awareness about disabilities	○ ○	○ ○ ○ ○	○ ○
22., 46., 70.	Involve students in advocacy campaigns for disability	○ ○	○ ○ ○ ○	○ ○
23., 47., 71.	Facilitate a week dedicated to anti-stigma	○ ○	○ ○ ○ ○	○ ○
24., 48., 72.	Other (please list): _______	○ ○	○ ○ ○ ○	○ ○

School Level:

Does your school have any of the following campaigns to address disability stigma? (*Select all that apply.*)

- ☐ It's Okay to Get Help!
- ☐ #OK2TALK
- ☐ Best Buddies
- ☐ MPower for Teens
- ☐ School-wide Positive Behavioral Supports (SwPBS)

- ☐ Social Emotional Learning (SEL)
- ☐ No Place for Hate
- ☐ Teaching Tolerance
- ☐ National Bullying Prevention Month
- ☐ Pink Shirt Day
- ☐ Safe School Ambassadors (SSA)
- ☐ Another bullying prevention program
- ☐ Another program to specifically address disability stigma
- ☐ Other (please list): _______

If you indicated that your school has any of the above campaigns, to what extent are you involved? (*If more than one applies, please select the highest listed option applicable to you.*)

- ○ I am part of the leadership of the school-wide campaign.
- ○ I am actively involved in helping to facilitate the campaign at the school level.
- ○ I implement components of the school-wide campaign in my classroom.
- ○ I discuss the school-wide campaign with my students in my classroom.
- ○ Not involved.
- ○ Other (please explain): _______

Part 4: Barriers to Addressing Stigma

The following is a list of reasons teachers have provided to explain why they are not doing more to address stigma in their classrooms. How salient is each to your current teaching experience?

		Not at all (0)	(1)	(2)	(3)	(4)	(5)	Extremely (6)
1.	Stigma is already being addressed through a school-wide campaign	○	○	○	○	○	○	○
2.	Lack of training on stigma of children with disabilities	○	○	○	○	○	○	○
3.	Lack of training on evidence-based interventions	○	○	○	○	○	○	○
4.	Lack of training on research procedures	○	○	○	○	○	○	○
5.	Lack of training on reading and understanding research	○	○	○	○	○	○	○
6.	Lack of time to investigate intervention possibilities	○	○	○	○	○	○	○
7.	Comfort level in working with children with disabilities	○	○	○	○	○	○	○
8.	Lack of time to analyze stigma	○	○	○	○	○	○	○
9.	Lack of time to create intervention	○	○	○	○	○	○	○
10.	Lack of materials to use with students	○	○	○	○	○	○	○
11.	Lack of time to implement intervention	○	○	○	○	○	○	○
12.	Class size	○	○	○	○	○	○	○
13.	Severity of stigma	○	○	○	○	○	○	○
14.	Lack of communication with parents	○	○	○	○	○	○	○
15.	Lack of communication/support from school psychologist	○	○	○	○	○	○	○
16.	Ineffectiveness of previous interventions suggested	○	○	○	○	○	○	○
17.	Inability of students to benefit from regular instruction	○	○	○	○	○	○	○

18.	Demands to perform nonteaching duties	○	○	○	○	○	○	○
19.	Lack of administrative support	○	○	○	○	○	○	○
20.	Think intervention will not work	○	○	○	○	○	○	○
21.	Overwhelmed or exhausted from teaching duties	○	○	○	○	○	○	○

Part 5: Demographics

School: ____

Gender: ○ Male ○Female ○ Other

Age: ______

Ethnicity/Race:
○ White
○ Black or African American
○ American Indian or Alaska Native
○ Hawaiian or Other Pacific Islander
○ Asian or Asian American
○ Multiracial
○ Other

Highest Degree Earned:
○ High School diploma
○ Associate's degree
○ Bachelor's degree
○ Master's degree
○ Specialist's degree
○ Doctorate degree

Year of graduation from most recent education: __________

Do you hold a special education certification?
○ Yes
○ No
○ Currently working towards this certification

Teacher Title:
○ General Education Teacher
○ Special Education Teacher
○ Specialist (please specify): _____
○ Other (please specify): _____

How many years have you been working? (drop down menu)

Which type of classroom do you work in currently?

- ○ General Education Classroom
- ○ Special Education Classroom (or Resource Room)
- ○ Inclusive Classroom full day (i.e. TAM classroom, co-taught classroom, etc.)
- ○ General Education Classroom with special education students who push in part time
- ○ Other: _______

Grade(s) Taught Currently (select all that apply):

- ○ Kindergarten
- ○ 1st
- ○ 2nd
- ○ 3rd
- ○ 4th
- ○ 5th
- ○ 6th
- ○ 7th
- ○ 8th
- ○ 9th
- ○ 10th
- ○ 11th
- ○ 12th

Do you currently have any students with an IEP or 504 Plan in your classroom?

- ○ Yes
- ○ No

Have you ever had any students with an IEP or 504 Plan in your classroom?

- ○ Yes
- ○ No

Have you ever had a personal relationship with an individual with a disability (i.e. relative, close friend, etc.)?

- ○ Yes
- ○ No

Do you have any physical, emotional, or behavioral disability?

- ○ Yes
- ○ No

Please indicate the percentage of special education students in your school to the best of your knowledge: (Drop down menu, with “I do not know” as an option)

Does your school have any self-contained classrooms?

○ Yes
○ No

In your school, are special education students primarily integrated into general education classrooms or in self-contained classrooms?

○ Primarily integrated into general education classrooms
○ Primarily in self-contained special education classrooms
○ About equivalent
○ Other: _______

Appendix B

RESEARCH STUDY SURVEY MEASURE

Part 1: Personal Attitudes

Next year, Robby will be a student at your school. He is six years old and will be starting the first grade. When he talks, he sometimes repeats what was said to him instead of answering the question. And sometimes it seems like he can't hear or isn't paying attention, even though his hearing is normal. He almost never looks a person in the eye. Sometimes Robby waves his hands around or bounces up and down in his chair. Robby has a hard time changing activities, going from one thing to doing something else. Often, it seems like Robby does not want to play with other children and when he does, it seems like he does not know what to do. A recent individually administered test of intelligence indicated that Robby's intelligence was in the range for Moderate Intellectual Disability (IQ = 50). Your district's School Psychologist suggests that Robby will learn to read slower than other children and has not mastered age-appropriate daily living skills, such as independently putting his shoes on the correct feet. Robby is classified as a special education student with an IEP.

How you feel about Robby

Please mark the response that best describes **how you feel** about the following statements:

		Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1.	I would be pleased if Robby was a student in my class.	○	○	○	○	○	○
2.	I would feel comfortable talking to Robby, even if I didn't know him.	○	○	○	○	○	○
3.	I would be afraid to have Robby in my classroom.	○	○	○	○	○	○
4.	I would be embarrassed if Robby had a birthday party in my classroom.	○	○	○	○	○	○
5.	I would feel upset when I see Robby.	○	○	○	○	○	○
6.	I would not take Robby on a field trip with the rest of my class.	○	○	○	○	○	○
7.	I would not know what to say to Robby if he were in my classroom.	○	○	○	○	○	○
8.	I would try and stay away from Robby if he were a student in my school.	○	○	○	○	○	○
9.	I would try not to look at Robby if he were at my school.	○	○	○	○	○	○
10.	I would adapt Robby's assignments to meet his unique needs if he were a student in my class.	○	○	○	○	○	○
11.	I would encourage other students in my class to interact with Robby.	○	○	○	○	○	○

Part 2: View of Public Perceptions

This set of questions asks about some of the experiences, feelings, and opinions children with disabilities might have and how they are treated. Please do your best to answer each question. There are no right or wrong answers, we would just like your opinions.

For each item, select your answer: Strongly disagree (SD), disagree (D), agree (A), or strongly agree (SA).

		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	Children with disabilities are treated like outcasts.	○	○	○	○
2.	Most people think that a child with a disability is damaged.	○	○	○	○
3.	Most children with disabilities are rejected when others find out.	○	○	○	○
4.	Some people who learn of a child having a disability grow distant.	○	○	○	○
5.	After learning they have disabilities, children worry about others discriminating against them.	○	○	○	○
6.	Most people are uncomfortable around a child with a disability.	○	○	○	○
7.	People don't want a child with a disability around their children once they know that person has a disability.	○	○	○	○
8.	Some people act as though it's the child's fault that they have a disability.	○	○	○	○
9.	Children with disabilities have lost friends by telling them they have disabilities.	○	○	○	○
10.	The good points of children with disabilities tend to be ignored.	○	○	○	○
11.	People seem afraid of a child with a disability once they learn they have a disability.	○	○	○	○
12.	When people learn that a child has a disability, they look for flaws in their character.	○	○	○	○

Part 3: Attempts to Address Stigma

Classroom Level:

Which of the following methods have you used in the past year in your classroom to increase acceptance of students with disabilities? Please select all that apply.

		Used in past year?		**Do you think this is/would be effective? Choose one even if you have not used.**				**Would use if more time, training, resources, etc.?**	
		Yes	No	Not Effective	Somewhat Effective	Effective	Very Effective	Yes	No
1., 25., 49.	Packaged curriculum to educate students about disabilities	○	○	○	○	○	○	○	○
2., 26., 50.	Originally developed lesson(s) focusing on disabilities	○	○	○	○	○	○	○	○
3., 27., 51.	Discussing myths and facts about disabilities	○	○	○	○	○	○	○	○
4., 28., 52.	Teaching about strengths and difficulties of students with disabilities	○	○	○	○	○	○	○	○
5., 29., 53.	Providing typically developing students with strategies and skills to work with students	○	○	○	○	○	○	○	○

	with disabilities								
6., 30., 54.	Embedding mental health awareness into curriculum (i.e. teach about disability as form of diversity in social studies, read and discuss literature about disabilities in language arts, etc.)	○	○	○	○	○	○	○	○
7., 31., 55.	Videos on disabilities	○	○	○	○	○	○	○	○
8., 32., 56.	Discussions about videos on disabilities	○	○	○	○	○	○	○	○
9., 33., 57.	Non-fiction books on disabilities	○	○	○	○	○	○	○	○
10., 34., 58.	Fictional books involving characters with disabilities	○	○	○	○	○	○	○	○
11., 35., 59.	Plays or puppet shows about disabilities	○	○	○	○	○	○	○	○
12., 36., 60.	Discussions or Q & A with an individual	○	○	○	○	○	○	○	○

	with a disability								
13., 37., 61.	Facilitate meaningful social contact between students with and without disabilities	○	○	○	○	○	○	○	○
14., 38., 62.	Facilitate peer support methods in the classroom between students with and without disabilities	○	○	○	○	○	○	○	○
15., 39., 63.	Ensure that assistants in the classroom are viewed as support for whole class, not individual students	○	○	○	○	○	○	○	○
16., 40., 64.	Reading first person narratives by individuals with disabilities	○	○	○	○	○	○	○	○
17., 41., 65.	Watching video taped first person narratives by individuals with disabilities	○	○	○	○	○	○	○	○
18., 42., 66.	Openly share about personal	○	○	○	○	○	○	○	○

	experience with an individual with a disability								
19., 43., 67.	Discuss celebrities known to have disabilities	○	○	○	○	○	○	○	○
20., 44., 68.	Organize or lead club to support those with disabilities	○	○	○	○	○	○	○	○
21., 45., 69.	Organize or lead club to increase awareness about disabilities	○	○	○	○	○	○	○	○
22., 46., 70.	Involve students in advocacy campaigns for disability	○	○	○	○	○	○	○	○
23., 47., 71.	Facilitate a week dedicated to anti-stigma	○	○	○	○	○	○	○	○
24., 48., 72.	Other (please list): _______	○	○	○	○	○	○	○	○

School Level:

Does your school have any of the following campaigns to address disability stigma? (*Select all that apply.*)

- ☐ It's Okay to Get Help!
- ☐ #OK2TALK
- ☐ Best Buddies
- ☐ MPower for Teens
- ☐ School-wide Positive Behavioral Supports (SwPBS)

☐ Social Emotional Learning (SEL)
☐ No Place for Hate
☐ Teaching Tolerance
☐ National Bullying Prevention Month
☐ Pink Shirt Day
☐ Safe School Ambassadors (SSA)
☐ Another bullying prevention program
☐ Another program to specifically address disability stigma
☐ Other (please list): _______

If you indicated that your school has any of the above campaigns, to what extent are you involved? (*If more than one applies, please select the highest listed option applicable to you.*)

○ I am part of the leadership of the school-wide campaign.
○ I am actively involved in helping to facilitate the campaign at the school level.
○ I implement components of the school-wide campaign in my classroom.
○ I discuss the school-wide campaign with my students in my classroom.
○ Not involved.
○ Other (please explain): _______

Part 4: Barriers to Addressing Stigma

The following is a list of reasons teachers have provided to explain why they are not doing more to address stigma in their classrooms. How salient is each to your current teaching experience?

		Not at all (0)	(1)	(2)	(3)	(4)	(5)	Extremely (6)
1.	Lack of training on stigma of children with disabilities	○	○	○	○	○	○	○
2.	Lack of training on evidence-based interventions	○	○	○	○	○	○	○
3.	Lack of training on research procedures	○	○	○	○	○	○	○
4.	Lack of training on reading and understanding research	○	○	○	○	○	○	○
5.	Lack of time to investigate intervention possibilities	○	○	○	○	○	○	○
6.	Lack of time to analyze stigma	○	○	○	○	○	○	○
7.	Lack of time to create intervention	○	○	○	○	○	○	○
8.	Lack of materials to use with students	○	○	○	○	○	○	○
9.	Lack of time to implement intervention	○	○	○	○	○	○	○
10.	Class size	○	○	○	○	○	○	○
11.	Severity of stigma	○	○	○	○	○	○	○
12.	Lack of communication with parents	○	○	○	○	○	○	○
13.	Lack of communication/support from school psychologist	○	○	○	○	○	○	○
14.	Ineffectiveness of previous interventions suggested	○	○	○	○	○	○	○
15.	Inability of students to benefit from regular instruction	○	○	○	○	○	○	○
16.	Demands to perform nonteaching duties	○	○	○	○	○	○	○
17.	Lack of administrative support	○	○	○	○	○	○	○

18.	Think intervention will not work	○	○	○	○	○	○	○
19.	Overwhelmed or exhausted from teaching duties	○	○	○	○	○	○	○

Part 5: Demographics

School: ____

Gender: ○ Male ○Female ○ Other

Age: ______

Ethnicity/Race:
- ○ White
- ○ Black or African American
- ○ American Indian or Alaska Native
- ○ Hawaiian or Other Pacific Islander
- ○ Asian or Asian American
- ○ Multiracial
- ○ Other

Highest Degree Earned:
- ○ High School diploma
- ○ Associate's degree
- ○ Bachelor's degree
- ○ Master's degree
- ○ Specialist's degree
- ○ Doctorate degree

Year of graduation from most recent education: __________

Do you hold a special education certification?
- ○ Yes
- ○ No
- ○ Currently working towards this certification

Teacher Title:
- ○ General Education Teacher
- ○ Special Education Teacher
- ○ Specialist (please specify): _____
- ○ Other (please specify): _____

How many years have you been working? (drop down menu)

Which type of classroom do you work in currently?

- ○ General Education Classroom
- ○ Special Education Classroom (or Resource Room)
- ○ Inclusive Classroom full day (i.e. TAM classroom, co-taught classroom, etc.)
- ○ General Education Classroom with special education students who push in part time
- ○ Other: _______

Grade(s) Taught Currently (select all that apply):

- ○ Kindergarten
- ○ 1st
- ○ 2nd
- ○ 3rd
- ○ 4th
- ○ 5th
- ○ 6th
- ○ 7th
- ○ 8th
- ○ 9th
- ○ 10th
- ○ 11th
- ○ 12th

Do you currently have any students with an IEP or 504 Plan in your classroom?

- ○ Yes
- ○ No

Have you ever had any students with an IEP or 504 Plan in your classroom?

- ○ Yes
- ○ No

Have you ever had a personal relationship with an individual with a disability (i.e. relative, close friend, etc.)?

- ○ Yes
- ○ No

Do you have any physical, emotional, or behavioral disability?

- ○ Yes
- ○ No

Please indicate the percentage of special education students in your school to the best of your knowledge: (Drop down menu, with "I do not know" as an option)

Does your school have any self-contained classrooms?

- ○ Yes
- ○ No

In your school, are special education students primarily integrated into general education classrooms or in self-contained classrooms?

- ○ Primarily integrated into general education classrooms
- ○ Primarily in self-contained special education classrooms
- ○ About equivalent
- ○ Other: _______