

BULLYING PREVENTION IN SPECIAL EDUCATION: A MULTIMETHOD INVESTIGATION OF  
EVIDENCE-BASED PROGRAMS AND PRACTICES

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## ABSTRACT

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Bullying Prevention in Special Education: A Multimethod Investigation of Evidence-Based Programs and Practices

Thesis directed by Professor Brenda Schick

This study investigated bullying prevention programming in special education populations. Systematic review was used to identify and assess the evidence supporting bullying prevention programming in special education students. The systematic review was supplemented by a qualitative analysis that examined instructional practices and policies endorsed by the American Speech-Language-Hearing Association (ASHA). These instructional practices were compared to components of bullying prevention programs to determine which prevention programs were the most appropriate for students with speech and language delays. Results indicated that very few bullying prevention programs had been evaluated on special education populations. However, several bullying prevention programs were found to have elements that were consistent with ASHA practice policy. Implications and recommendations for bullying prevention programming among special education populations are discussed.

## TABLE OF CONTENTS

ABSTRACT.....		iii
LIST OF TABLES.....		v
CHAPTER		
I	INTRODUCTION.....	1
	Background of the Problem	
	Gap in Knowledge	
	Research Questions	
	Research Design	
	Significance of the Study	
II	REVIEW OF THE LITERATURE.....	6
	Part I: Bullying Literature	
	Part II: Systematic Review	
III	METHODOLOGY.....	49
	Introduction	
	Populations and Programs of Interest	
	Search Strategy	
	Application of Screening Criteria	
	Quality Assessment	
	Data Extraction and Synthesis	
IV	Results.....	66
	Introduction	
	Systematic Review	
	ASHA Criteria	
V	CONCLUSIONS.....	87
	Introduction	
	Findings	
	Central Themes	
	Limitations	
	Suggestions for Future Research	
REFERENCES.....		113

LIST OF TABLES

Tables		Page
1.	List of General and Specialized Databases.....	55
2.	The PEDro Scale.....	58
3.	Programs Identified in Initial Search.....	71
4.	Programs that Did Not Meet Eligibility Criteria.....	73
5.	Programs that Did Not Have an Eligible Evaluation.....	75
6.	Eligible Programs.....	76
7.	Evaluation Studies of Eligible Programs.....	77
8.	ASHA Practice Policy Documents.....	80
9.	Programs Eligible for ASHA Analysis.....	82
10.	Evidence Matrix of ASHA Practice Policy.....	84

CHAPTER 1  
INTRODUCTION

**Background of the Problem**

Bullying in American schools is a serious and well-documented problem. Every day, children across the United States are harassed, physically and verbally, in ways that are detrimental to their education and well-being. Bullying is pervasive in schools, and large-scale surveys reveal bullying victimization rates ranging from 13% (Wang, Iannotti, & Nansel, 2009) to 24% (Nansel et al., 2001) among U.S. schoolchildren. Consequences of victimization include increased levels of anxiety and depression (Junoven, Graham & Schuster, 2003), reduced academic performance (Glew, Fan, Katon, Rivera, & Kernic, 2005) and a host of negative social-emotional consequences including reduced peer acceptance and increased feelings of rejection (Mishna, 2003).

Although the rates of bullying and victimization are eye-opening among the general education population, bullying rates among special education students are even higher. Although data are still emerging, studies have indicated that students receiving special education are 2-4 times more likely to be victimized than general education students (Farmer, et al., 2012). Patterns of increased victimization among special education students have been demonstrated in a number of disabilities that are of interest to speech/language pathologists, including students with autism spectrum disorders (Sterzing, Shattuck, Naren, Wagner, & Cooper, 2012) and Learning Disabilities (Sabornie, 1994). In fact, students in special education

may be facing a form of *double jeopardy*, where they face academic challenges in the classroom and increased rates of bullying in the hallways (Mishna, 2003).

### **Gap in knowledge**

Bullying prevention programs, when implemented with fidelity, can be effective in reducing rates of bullying perpetration and victimization. Many programs are designed to work specifically in school settings and for specific age-ranges (e.g., elementary, middle, and high school). Some prevention programs have been shown to reduce bullying by up to 50% (Olweus & Limber, 2010). While many bullying prevention programs have demonstrated effectiveness among children in school settings, students receiving special education are often left out of the equation. Presently, it is not known if special education students were used in evaluation trials of many bullying prevention programs. Without this knowledge, it is impossible to know if bullying prevention programs are effective for special education populations.

This study will address this void in knowledge by examining the evidence behind the claims of bullying prevention programs. Bullying prevention programs should work for all students. Yet, if bullying prevention program outcomes have not been specifically measured or evaluated on special education populations, then the results on these populations are unknown. This study will also address gaps in knowledge related to the kinds of bullying prevention programs that work best for students with speech/language disabilities. It should be no surprise that children with speech/language delays require instructional models that are different from those in general education (ASHA, 2005). Therefore, this study will investigate the underlying components of bullying prevention programs to determine if they are



compatible with instructional practices that are shown to be effective for students with speech/language delays.

### **Research Questions**

This study seeks to answer the following questions:

1. Which bullying prevention programs have been specifically evaluated on special education students?
2. Which bullying prevention programs are appropriate for students with speech/language delays?

### **Research Design**

These questions will be answered using several different techniques and research methods. The population of interest are elementary-age children in special education. Therefore, this study will target bullying prevention programs that are designed for elementary-age students. First, bullying prevention programs that are designed for elementary-age students will be identified using a number of general and specialized bibliographic databases. Next, research and evaluation articles related to these prevention programs will be located and examined. Specifically, is there any indication that program outcomes (such as bullying) have been evaluated using special education students? If any bullying prevention programs have been evaluated using special education populations, which one(s) offer the best evidence in terms of significant reductions in bullying outcomes combined with strong research design? This analysis will rely on techniques of systematic review to identify, screen, and assess the quality of bullying prevention programming.

A secondary analysis seeks to examine the components of bullying prevention programming to determine if they are appropriate for students with speech/language

disabilities. This analysis will use elements of thematic analysis to identify intervention strategies that work best for children with speech/language delays, and compare them to strategies used in bullying prevention programs. Specifically, eligible bullying prevention programs will be examined in the context of practice policy documents endorsed by the American Speech-Language-Hearing Association (ASHA). Here, criteria derived from ASHA practice policy documents will be compared to program features of bullying prevention programs. The purpose of this analysis is to determine which bullying prevention programs, if any, are a good fit for students with speech/language disabilities. This qualitative analysis is intended to supplement the results of the systematic review, and to provide additional guidance to professionals working in special education settings.

### **Significance of the Study**

Although federal law attempts to equalize the playing field, it is clear that students receiving special education face school environments that are very different from students in general education. Not only do special education students have to manage academic challenges in the classroom, but they are bullied at rates that are significantly higher than the average student. Being bullied, either as a general or special education student, is associated with a host of negative social and emotional consequences. Although bullying prevention programs exist that seek to reduce bullying in schools, it is not currently known if these programs have been evaluated on special education students, meaning the effectiveness on these populations are unknown. Furthermore, it is not known if bullying prevention programs use instructional strategies that are known to work well for students in special education, including students

with speech/language delays. This study hopes to clarify these unknowns. It is anticipated that school administrators, speech language pathologists, program publishers, and special education teachers will benefit from these analyses.

## CHAPTER 2

### LITERATURE REVIEW

#### **Part I: Bullying Literature**

##### **Bullying History and Overview**

Every day, thousands of school-age children face a harsh reality that includes teasing, name-calling and social exclusion. In the past, schools were considered a safe haven for learning and growth, but they are increasingly becoming venues for verbal harassment and physical violence. With the proliferation of the internet and social media, bullying has now breached the walls of the schoolyard, and victims can face harassment at home, in the car, and over summer vacation. While it is clear that all students can be bullied, both at home and at school, there is evidence that some students are more vulnerable to being bullied than others. In section, *bullying* will be defined, along with a description of the various types and kinds of bullying behaviors. The negative impacts of bullying will be described, both among general education and special education students. Research will be presented that describes the specific connection between bullying victimization and speech/language disabilities.

As with other phenomena, the parameters and definitions of bullying have evolved over the decades. In previous generations, schoolyard bullying was considered to be a normal part of growing up. Lucy Van Pelt was a fixture in the *Peanuts* comic book strip, where she constantly bullied, teased, and harassed her classmate Charlie Brown. Even in relatively recent history, it was suggested that victims of bullying were themselves 'deviant,' and therefore deserved harassment (Heinemann, 1973 as cited in Atria, Strohmeier, & Speil, 2007). Fortunately, contemporary academics have relieved victims of their deviant status, and bullying is no longer

considered a harmless childhood act. In fact, it is now known that bullying can cause serious and long-term harms. In some circumstances, victims of bullying can respond with violence-in-kind, as was seen with the Columbine High School shootings (Littleton, Colorado) as well as school shootings in Mississippi, Arkansas, Oregon and California (Leary, Kowalski, Smith, & Phillips, 2003).

While it is clear that bullying has existed for generations, there were few systematic examinations of bullying prior to 1970. Much of what we know about contemporary bullying trends can be traced to Dan Olweus. Although Olweus was not the first researcher to study bullying, he was one of the first to examine bullying on a large scale. Olweus' original research focused on Scandinavia, and was published in 1973. This study included 1,000 boys, age 12 to 16, and found that up to 10% of the sample was involved in bullying, either as a victim ('whipping boy') or bully. Olweus' work was translated into English in 1978 under the title *Aggression in the Schools: Bullies and Whipping Boys*. While many other studies have been published in the decades following Olweus' original work, his first study is widely recognized as an important milestone in the bullying literature.

Olweus has remained influential in the field, and many contemporary researchers conceptualize bullying based on ideas from his decades of research. One of the most-cited definitions of bullying comes from Olweus' 1993 book, where he reports "a student is being bullied or victimized when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other students (Olweus, 1993, p. 9)." Olweus defines a 'negative action' as the intentional infliction of injury or discomfort, by physical or verbal means. While

this 1993 definition is adequate, and is inclusive of both physical and verbal bullying acts, other perspectives exist.

Researchers typically agree that bullying contains several components. Namely, bullying is (1) a form of *aggression* that is (2) characterized by *intentional* harm, (3) is carried out *repeatedly over time* and (4) involves an *imbalance of power* (Mishna, Khoury, Gadalla, & Daciuk, 2012). These components are careful to exclude a number of behaviors that are *not* considered bullying. For instance, 'intentional harm' is meant to exclude acts that are unintentional or not explicitly meant to be harmful. An example of unintentional harm might be a student who incidentally reveals an embarrassing family dynamic of another student. Likewise, the criterion 'repeatedly over time' is meant to exclude behaviors that occur occasionally or in passing (Olewus, 1993). Finally, an 'imbalance of power' is meant to exclude behavior that occurs between friends or among peers of equal social status. This also indicates there is a power differential between bully and victim, and victims typically have difficulty defending themselves.

Beyond basic definitions, researchers often distinguish between several types of bullying. Physical bullying occurs when an individual (or group) hits, kicks, punches or slaps another. Physically bullying is probably the most well-known type of bullying, and may be the stereotypical image that comes to mind when bullying is mentioned. However, physical bullying can take a number of forms, including inappropriate touching, throwing objects, hair pulling, spitting, and other forms of physical intimidation. Physical bullying can also include stealing, intentionally damaging, or failing to return personal belongings (Kuykendall, 2012). Physical bullying typically involves direct contact, and these forms of bullying can be visible to

bystanders. Because of this, physical acts of bullying can be stopped if a witness decides to intervene. However, for every act of physical bullying that is directly observed, there are many more that likely go unnoticed.

Although physical bullying is perhaps the most well-known type of harassment, other forms of bullying exist, and some studies indicate that non-physical forms of bullying are more common than physical ones (Wang et al., 2009). Unlike physical bullying, verbal bullying is a form of harassment that is free of physical contact. This type of bullying can involve harassment about clothing, physical appearance, economic status, sexual orientation, or ethnic background. Victims of verbal bullying are teased, called names, ridiculed, and/or laughed at. Verbal forms of bullying can be direct (face-to-face) or they can be indirect (via third parties).

Relational, reputational, and psychological aggression are forms of indirect verbal harassment that involve the manipulation of social interactions in ways that causes harm. As such, these overt behaviors are intentionally designed to damage friendships and contribute to social exclusion. These behaviors involve the purposeful exclusion of someone from a peer group, or harming others by manipulating social interactions (Crick & Grotpeter, 1995). Because relational bullying involves the manipulation of friendship networks and social circles, it can be especially damaging to school-age children. Since these behaviors often involve subtle manipulation, they are less likely to be noticed by parents or school staff (Mishna, 2012).

Cyberbullying is another form of indirect aggression. Although there is no widely accepted definition of cyberbullying, it typically involves harassment via electronic means including computers or cell phones (Willard, 2007). In this electronic world, victims can be targeted through malicious emails, text messages or social media (Twyman, et al., 2010).

Similar to other forms of bullying, cyberbullying is systematic and occurs repeatedly over time. What is unique about cyberbullying is that it can occur without direct physical or verbal contact. This means that cyberbullying can occur in places that were once off-limits to traditional forms of bullying. While most forms of bullying end with the school day, technology can follow children wherever they go. Because of this, harassment can occur around the clock, day or night. Because it is difficult to escape cyberbullying, some suggest that the ramifications are more serious than traditional forms of bullying (Hinduja & Patchin, 2008).

Although there are several kinds of bullying, all of them result in some form of harm. Physical bullying can leave victims with cuts, scrapes and bruises. Verbal and relational forms of bullying can lead to depression, anxiety and psychosomatic symptoms. Furthermore, there is evidence that impacts of bullying are not transient, but serious and long-term (Kuykendall, 2012).

### **Prevalence of Bullying in General and Special Education**

Despite a swath of research indicating the negative harms associated with bullying, it remains pervasive in American schools. In this section, data will be presented that illustrate the prevalence of bullying in a number of contexts. Attempts were made to focus on high-quality studies with large, representative samples and relevant outcome measures. Additionally, the most recent data were sought, and the focus was limited to bullying trends for schools in the United States. Although fewer studies have been carried out domestically than abroad, there are sufficient data to accurately describe bullying trends in the United States.

One of the larger domestic studies of bullying behavior was carried out by Nansel and colleagues (Nansel, et al., 2001). This study was part of the “Health Behavior of School-aged



Children” survey, and used a nationally representative sample of US youth in grades 6 through 10. The study achieved an 83% participation rate, with an analytic sample of 15,686 students. This study had strong internal validity due to the large sample size, high participation rate and ethnically diverse sample.

Measures were based on self-report data, and included parallel questions on frequency of bullying *perpetration* (how often they bullied others at school) as well as frequency of bullying *victimization* (how often they were bullied at school). This study also asked students about their social-emotional well-being, including substance use, school performance, depression, and ability to make friends. Among the findings: 25% of the student population reported being involved in some form of bullying perpetration, with 8.8% of those students reporting frequent bullying perpetration (once a week or more). Those percentages were remarkably consistent with the self-reported rates of bullying victimization: Among victims, 24.2% reported being victimized at any time, with 8.4% reporting being victimized frequently (once a week or more).

Another important finding of the Nansel et al. (2001) study was an analysis of five different subtypes of bullying. Of those who reported being bullied, 61.6% reported being bullied “about their looks or speech.” This number was substantially higher than those who were reported being bullied about their “religion or race” (25.8%). Furthermore, those who were bullied about their looks or speech, 20.1% reported that they were bullied frequently (once a week or more). The study also found that males were more involved in bullying than females, but there were no significant differences in bullying by geographic region (urban vs suburban).

Another large-scale domestic study was published by Wang, Iannotti and Nansel in 2009. The study included a nationally-representative sample of 7,182 students in middle and high school and used anonymous, self-report measures. Rates of physical, verbal, relational, and cyber forms of bullying were included as outcome measures. Since most studies focused on physical forms of bullying, this study is notable because it included verbal and relational bullying. The study defined physical bullying as being hit, kicked, pushed, shoved, or locked indoors. Verbal bullying was measured by three items, and included being called mean names (including mean names about race and religion), being made fun of, or being teased in a hurtful way. Relational bullying was measured by two items, and was defined by social exclusion and spreading rumors. Cyberbullying was defined as harassment via computer, email, or cell phone. Similar to the Nansel et al. (2001) study, respondents were asked about bullying perpetration as well as bullying victimization.

Results from this study indicated that verbal and social forms of bullying were far more prevalent than physical forms of bullying. In terms of bullying perpetration, 13.3% reported they physically bullied others, 37.4% reported they verbally bullied others, 27.2% had socially bullied others, and 8.3% reported cyberbullying others. Rates of reported victimization were similar: 12.8% reported being physically victimized, 35.5% verbally victimized, 41.0% reported social or relational victimization and 9.8% reported cyber victimization. Among other findings: boys were more likely to be involved in physical forms of bullying, but less likely to be involved in social or relational forms. In terms of cyberbullying, boys were more likely to be cyber bullies, but girls were more likely to be cyber victims. Interestingly, social networks appeared to play an important role in bullying behavior. For physical, verbal and relational bullying, adolescents

with more friends were more likely to be bullies, and less likely to be victims. This seems to indicate that friendship networks can serve as a protective factor to bullying victimization, which has been supported elsewhere (Boulton, Trueman, Chau, Whitehead, & Amatya, 1999; Hodges, Boivin, Vitaro, & Bukowski, 1999).

Some studies have focused exclusively on cyberbullying. One national study revealed cyberbullying rates as high as 43% among middle and high school students (National Crime Prevention Council, 2007). Other studies reported lower rates of cyberbullying, but alarming rates nevertheless. Kowalski and Limber (2007) examined a sample of 3,767 middle school students. Among them, 11% reported being a victim of cyberbullying. Despite prevalence numbers ranging from 10% to 40%, some contend that cyberbullying is actually under-reported among school-age children. According to these researchers, children often do not report electronic harassment to their parents or teachers for fear their computer and internet privileges would be revoked (Twyman, Saylor, Taylor, & Comeaux, 2010).

Literature examining bullying trends among special education students exist, but there is ample opportunity to further this knowledge base. There is ample data to support the notion that students with disabilities are at increased risk for bullying involvement, both as perpetrator and victim. One of the larger studies to examine this trend was reported by Rose, Esplage, & Monda-Amaya (2009). The study included a total of 21,646 students from middle ( $n = 7,331$ ) and high schools ( $n = 14,315$ ) in the Midwest United States. The authors distinguished between students who received part-time special education services and those who received full-time special education services. Among the special education sample, 9.7% of the middle school students and 6.4% of the high school students received part-time special education services.

There were fewer full-time special education students: 4.2% of the middle school sample and 4.1% of the high school sample. The sample was large, but it was not ethnically diverse (72.9% white). However, the study had a high participation rate (90% to 95%) among all schools.

Similar to studies of bullying in general education populations, the study included separate measures for bullying perpetration and bullying victimization. All measures were self-report, and data were collected anonymously. Overall, students in special education reported significantly higher rates of bullying perpetration, victimization, and fighting than students in general education. These trends were present at both the middle and high school level, but middle school special education students faced higher rates of victimization than high school special education students. Additionally, students in self-contained special education classrooms (full-time special education) reported greater levels of overall bullying and victimization than students who received part-time special education services. This may indicate that less-restrictive special education services, where students spend a majority of the time in the general education classroom and are “pulled out” for special education services may be associated with reduced rates of bullying involvement.

Similar results for disproportionate victimization among special education students were reported by Farmer et al. (2012). This study involved a sample of 1,389 elementary students from seven states in the U.S. The study focused on schools in rural locations, and the sample was relatively diverse (49% Caucasian, 35% African American, 8% Latino and 8% other ethnicities). Of the 1,389 students, 145 were identified as receiving special education services at least 50% of the time. Results indicated that boys who received special education services were 2.4 times more likely to be victims of bullying than boys who were in general education.

Likewise, girls who received special education services were 3.9 times more likely to be victims of bullying compared to girls who did not receive special education services.

### **Consequences of Victimization**

In this section, some of the harms associated with bullying victimization will be highlighted. For the purposes of this paper, the harms of physical, relational, and cyberbullying will be presented under a single umbrella.

In the United States, the link between bullying victimization and mental health has been established in a number of groups, including urban and minority populations. Junoven, Graham, and Schuster (2003) examined social anxiety and depression among a group of urban, low-income 6<sup>th</sup> graders in Los Angeles, California. The sample was large (n = 1,985) and included a significant proportion of Latino (45%) and African American (26%) students. Her findings revealed that levels of depression and social anxiety were significantly greater among students who were bullied, when compared to students who were not bullied. Similarly, a meta-analysis conducted by Hawker and Boulton (2000) found that victimization from bullying was associated with a number of psychosocial maladjustments, including depression, loneliness and social anxiety. Among these, depression had the highest correlation with victimization. Additional evidence is offered by Sharp (1995): In a study of 723 adolescents, victims reported feeling anxious, nervous and stressed after being bullied. These negative feelings continued beyond the bullying event, and many victims experienced “recurring memories of the incident and reported impaired concentration in school” (Sharp, 1995, p. 81). This seems to suggest that being victimized at school can cause repercussions into the future and beyond the actual bullying event.

These domestic data are supported by studies abroad. In a large study of Dutch elementary children (n = 2,766), Fekkes, Pijpers, & Verlove-Vanhorick (2004) found that students who reported being bullied also showed a 'strong' (16%) or 'moderate' (48%) indication for depression. Bullied children in this sample were also more likely to report elevated levels of anxiety (28%) and other psychosomatic symptoms, including problems with sleep. In a Scandinavian study, Kumpulainen et al. (1998) found that victims of bullying reported elevated levels of internalizing symptoms, including anxiety and depression, as well as increased psychosomatic symptoms such as headaches and stomach aches. As with the Dutch study, Kumpulainen et al. (1998) utilized a large sample size (n = 5,813) and focused on school-aged children.

Since bullying can be associated with anxiety and impaired concentration, it should not come as a surprise that victimization is also associated with reduced academic performance. At least two studies have attempted to show this link. Nansel et al. (2001) found a negative association between bullying involvement and school performance. In fact, all three categories of involvement (bullies, victims and bully/victims) were associated with reduced academic performance when compared to students who were uninvolved in bullying. This study is notable because of its large sample size (n = 15,686). However the academic achievement measure was conceptualized as "perceived school performance" as opposed to actual academic data. Because of this, results should be interpreted with caution. Other researchers (Glew, Fan, Katon, Rivara, & Kernic, 2005) solved this problem by gaining direct access to student data. This study included 3,530 students in grade 3-5 from a large school district on the West Coast. Results indicated that victims of bullying had significantly lower academic achievement when

compared to students who remained uninvolved in bullying. Victims in this survey also reported significantly higher rates of feeling sad, unsafe, and feeling as if they didn't belong at school than students who were uninvolved in bullying.

In addition to anxiety, depression, and academic consequences, victimization has been tied to a number of negative social consequences. For instance, bullying has been linked to reduced peer acceptance and increased feelings of rejection (Mishna, 2003). Similar findings were found in other studies: Junoven et al. (2003) reported that bullied students reported elevated levels of social isolation and decreased levels of popularity and social status. Left unchecked, reduced social acceptance could lead to ostracism and social exclusion, which have additional social-emotional consequences (Williams, 2007). Feelings of acceptance and inclusion are powerful forces among school-age children, and the denial of these feelings can be detrimental. Even brief periods of social exclusion can lead to sadness, anger and diminished feelings of self-worth (Williams, 2007).

There are perhaps more alarming consequences to schoolyard bullying than anxiety and depression. Some consider bullying to be at least partially responsible for the spate of school shootings in the past decade (Leary et al., 2003). Others contend that being bullied can increase the risk of suicidal ideation in adolescence (Carney, 2000). Similar correlations have also been established with cyberbullying. In fact, correlations between online harassment and suicide have become so prolific that the term "cyberbullicide" was coined (Hinduja & Patchin, 2010). Speculation into the relationship between bullying victimization and school-age suicide should not be surprising: many of the psychosocial consequences that have been associated with

bullying, including anxiety, depression, and loneliness, are thought to be precursors to suicidal thoughts and behavior (Stravynski & Boyer, 2001).

It is clear that numerous studies have shown correlation between bullying and mental health consequences including anxiety, depression, social isolation, and even suicide. Although these research findings are well-established, it should be noted that many of these links are *correlations*, and not causal. In other words, it is difficult to establish a firm link between depression and bullying because it is almost impossible to determine which came first, depression or victimization. This is analogous to the “chicken or egg” dispute, and one that many researchers readily acknowledge, including “cyberbullicyde” researchers Hinduja and Patchin (2009, 2010).

Whether the variety is physical, verbal, or cyber, it is clear that victimization from bullying is a powerful and demoralizing force. Although most school-age children are exposed to bullying in some form, there is evidence that some children are particularly vulnerable to victimization: students who receive special education services. In the next section, information will be presented on a specific subset of special education students: those with speech and language disabilities.

### **The Relationship between Victimization and Speech/Language Disability**

While it is clear that bullying is a problem that many schoolchildren encounter, there is evidence that children in special education may be particularly susceptible to bullying (Farmer et al., 2012; Rose et al., 2009). Furthermore, there is evidence that bullying is especially pervasive among children with speech and language disorders (Little, 2002; Nabuzoka, 2003; Sterzing, 2012). The term ‘speech and language disorder’ is an umbrella term used by the



American Speech-Language Hearing Association (ASHA) to describe a number of speech and language conditions. For instance, articulation and phonological disorders refer to challenges in producing speech sounds. Language disorders involve difficulty processing information such as grammar, (syntax) and/or meaning (semantics). Other speech and language disorders include stuttering (fluency disorders), aphasia, voice disorders, autism, and others.

This paper will focus on bullying as it relates to stuttering, learning disabilities (LD) and autism spectrum disorders (ASD). These three disorders were chosen for a number of reasons. First, all three of these disorders are relatively common in the school setting. Among these, learning disabilities are the most prevalent. A recent report estimated that there are 2.4 million public school students in the U.S. who have been identified with learning disabilities, which represents almost 5% of the total public school enrollment (Cortiella & Horowitz, 2014). Autism Spectrum Disorders (ASD) were chosen because they represent a rapidly increasing population of American schoolchildren. Rates of autism are increasing at an astonishing rate in the U.S., from 1 in 150 children in 2000, to 1 in 68 children in 2010 (Baio, 2014). Because of this, school staff, including teachers, administrators and speech-language pathologists are likely to encounter children with autism. Stuttering and fluency disorders were chosen because, unlike learning disabilities and autism, it is largely a 'visible' communication disorder.<sup>1</sup> Because of this, school-age children who stutter are likely to be bullied or picked on because of their disability (Blood & Blood, 2003; Dawkins, 1996).

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<sup>1</sup> Although often thought of as a 'visible' communication disorder, there are many invisible (internal) components to fluency disorders. This concept is described in detail below.

Any of these communication disorders can lead to challenges in the classroom. Speech production and the underlying language capabilities that inform speech are necessary to communicate, and deficits in these areas can negatively impact academic performance. For instance, impairments in receptive language can inhibit a student's ability to understand classroom instructions, while deficits in expressive language can impact a student's ability to complete assignments. Disorders of fluency, like stuttering, can leave children so afraid to speak that they avoid classroom discussion entirely, even if they have something to contribute. Children with autism can exhibit atypical social skills, and may have difficulty interpreting the social cues necessary to navigate the complex world of public education and peer interaction.

However, it is not just the classroom where children with speech and language disorders can face challenges: There is evidence that children in special education, including those with speech and language disorders, are at increased risk for bullying, when compared to their general education peers (Flynt & Morton 2004, Rose, Esplage & Monda-Amaya, 2009, Saylor & Leach, 2009). Therefore, children with speech and language disorders not only face difficulty in the classroom, but they also face increased rates of victimization from bullying. In the next section, bullying literature related to fluency disorders, learning disabilities and autism Spectrum Disorders will be presented.

### **Fluency disorders.**

Fluency disorders are often referred to as stuttering, and these terms will be used interchangeably in this paper. At the most basic level, stuttering is characterized by involuntary, audible or silent repetitions or prolongations in speech elements (Bennett, 2006). However, stuttering not only impacts an individual's ability to speak fluently, it pervades many other

aspects of their lives. For instance, stuttering can influence an individual's friendships, school performance, and even choice of occupation (Klompas & Ross, 2004). The school environment is hectic for all children, but especially for children who stutter. The demands of the classroom environment, from reading aloud to engaging in small-group discussion, can take on new meaning for children who stutter (Hugh-Jones & Smith, 1999). If this weren't enough, there is research to support the idea that school-aged individuals who stutter may be at a greater risk for being bullied when compared to their non-stuttering peers.

Blood and Blood have published a series of articles that outline the relationship between stuttering and bullying. A 2007 study by these authors revealed that children who stutter are at significantly higher risk of experiencing bullying when compared to those who do not stutter (Blood & Blood, 2007). The study used a total of 36 students (age 11 and 12), who completed a series of self-report measures designed to document their experiences with bullying and levels of anxiety.<sup>2</sup> All of the measures used in this analysis were published, peer-reviewed scales with high reliability (alpha) coefficients. The study revealed that a total of 22% of the children who did not stutter reported high scores on the bullying measures. This compares to national trend data presented earlier (e.g., Nansel et al., 2001). Notably, of those who stutter, 61% reported high scores on the bullying measures. This represents a statistically significant difference between the stuttering and non-stuttering populations. These findings were supported by a more recent study by the same authors: In a study of school-age teens (age 13-18 years), Blood and Blood (2011) found that students who stuttered were more likely

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<sup>2</sup> It should be noted that, in general, the sample size of studies that examine bullying rates among specific speech/language disorders are smaller than those of large, nationally-representative bullying studies. Naturally, there are fewer available subjects to survey. This limitation is discussed below.

to be victimized by bullies (44.4%) than the students who did not stutter (9.2%). Additionally, those who stuttered and were also bullied reported a host of negative social-emotional consequences, including a less optimistic life orientation, lower self-esteem, and less overall life satisfaction.

The relationship between increased rates of bullying and individuals who stutter is not just confined to the United States. Hugh-Jones and Smith (2007) reported on a sample of British citizens who stutter (n = 276). This study focused on the long-term impacts of being bullied by dysfluent teens and adults, and reported several similar themes to the Blood and Blood (2007, 2011) analyses. For instance, subjects in the Hugh-Jones and Smith (2007) study reported that their stuttering led to increased rates of being bullied, with 83% of the sample reporting being bullied, either at school as a child or at work as an adult. Additionally, participants reported difficulty making friends throughout their life course, as well as long-term negative impacts to their overall self-esteem.

Besides being more vulnerable to victimization, there is another negative correlation between bullying and school-age children who stutter. Murphy and Quesal (2002) argue that bullying can exacerbate existing stuttering behavior. According to the authors, bullying leads to increased negative thoughts and emotions among children who stutter, leaving the child with a negative self-image and reduced self-confidence. Naturally, diminished self-image contributes to an increase in negative emotions and thoughts, which can exasperate stuttering symptoms. This cycle is similar to the 'stuttering cycle' described by Bennett (2006).

To Bennett (2006), the stuttering cycle includes both the stuttering behavior as well as the emotional reaction(s) associated with the stuttering moment. For example, when an

individual is experiencing a stuttering moment, they often experience a negative emotional reaction that is related to the stuttering moment. The emotional reaction to the stuttering moment can lead to increased levels of frustration, which in-turn can lead to even more stuttering events (Bennett 2002). This cycle is self-feeding, where increased stuttering leads to increased emotional reactions which contributes to additional stuttering. Therefore, both Bennett (2006), as well as Murphy and Quesal (2002) seem to be describing the same phenomena, albeit in different ways.

Blood and Blood (2011) also bring up a valid point: If students who stutter are already at higher risk for negative social reactions from peers (because of their dysfluency), and are bullied because of the negative social reactions related to stuttering, then it is not surprising that anxiety, social isolation and withdrawal in these individuals are common. Those who stutter already face complex social dynamics, but the additional pressure of being bullied, on top of having an existing communication disorder, can be devastating to individuals with fluency disorders. Persons with speech and language disorders, including those who stutter, may already have a complex history of peer rejection. When these individuals are also bullied, it can lead to additional isolation and social rejection.

These feelings are not always brought to the surface, and children who face harassment, whether they stutter or not, are at increased risk for internalizing symptoms such as anxiety and depression. Individuals who stutter and who are also bullied are at even greater risk for these symptoms, although research is still emerging. However, it is clear that children who stutter and who are also bullied can experience covert emotional and psychological impacts that are not apparent to the general public. This is comparable to Sheehan's 'Iceberg Analogy'

(Sheehan, 1970), where the majority of negative social and emotional impacts of stuttering are hidden from public view. Therefore, school-age children who stutter face challenges that are visible, including physical and verbal harassment, but they also face a substantial amount of emotional impacts which are not always visible.

### **Learning disabilities.**

Language-based learning disability (LD) is an umbrella term for unexpected underachievement in the classroom setting (Fletcher, 2012). Learning disabilities can manifest themselves in many ways, including challenges with age-appropriate reading, spelling, and/or writing. In general, children with LD have difficulty expressing ideas, learning new material and understanding classroom instructions. There appear to be some cognitive components to learning disabilities, but genetic components have also been theorized to play a role. Dyslexia is one of the most common manifestations of LD, but children with slower processing speed and low phonological awareness can also be considered to have LD.

There are only a handful of studies that have specifically investigated the relationship between bullying and children with learning disabilities (Baumeister, Storch, & Geffkin, 2008). However, the studies that are available generally conclude that rates of bullying are higher among children who have learning disabilities, when compared to children who do not present with learning disabilities. In a 1994 study, Sabornie examined the school experiences of students with learning disabilities, including peer victimization, loneliness, and school integration. The study involved 76 middle school children (6<sup>th</sup> and 7<sup>th</sup> grade) from six schools in the Southeast United States. Of the 76 participants, half (n = 38) were identified as LD and the remaining students (n = 38) were matched on a number of demographic characteristics (race,

age, gender and grade). For this study, victimization was described as being threatened, physically assaulted, or having possessions taken from them. Overall, the students with learning disabilities reported being victimized at *three times* the rate of their non-LD matched-pairs (Sabornie, 1994). Additionally, students with LD reported significantly higher rates of loneliness, felt significantly less integrated in their school, and participated in significantly fewer activities, when compared to their non-LD peers (Sabornie, 1994). Therefore, students with learning disabilities not only reported increased feelings of isolation and loneliness in their school environment, but they were also physically assaulted and threatened at significantly higher rates than students in general education.

Learning disabilities often co-occur with other disabilities, including ADHD, emotional and behavioral difficulties, and social adjustment disorders (Greene et al., 1996). Children with learning disabilities who have comorbid diagnoses such as ADHD may be especially prone to bullying at school. A secondary analysis of 77 subjects from a child psychiatric clinic revealed that children who presented with both LD and ADHD had significantly higher rates of victimization when compared to children who had LD alone (Baumeister et al., 2008). The authors used a number of well-known and valid scales to arrive at their conclusion, including the Child Behavior Checklist and the Children's Depression Inventory. Baumeister and colleagues speculate that these children may stand out as targets more than their non-diagnosed peers, precisely because of the increased rates of anxiety and distress that are associated with ADHD, which are observable by other students (Baumeister et al., 2007, p. 20).

Similar results were reported in a group of 644 students from 25 high schools in Ontario, Canada (McNamera, Willoughby, & Chalmers, 2005). In this study, authors sought to identify

differences in psychosocial variables between children with- and without comorbid LD and ADHD. The sample consisted of three subgroups: those with LD (n = 230), those with comorbid LD/ADHD (n = 92) and a matched sample of non-LD students (n = 322). Victimization was measured using an 8-item scale that examined the frequency of direct and indirect forms of bullying within the past year. Results indicated significant between-group differences, with the comorbid LD/ADHD group reporting significantly more instances of direct and indirect victimization, including being pushed or shoved, called names, and verbally ridiculed (McNamera et al., 2005). Among the remaining students, the LD-only group reported significantly more victimization than the group without learning disabilities. Therefore, among the three groups (LD, LD/ADHD, and non-LD), the general education (non-LD) students were bullied at rates that were significantly less than children with any form of learning disability.

Finally, children with LD are also susceptible to a number of social-emotional impacts. Students with LD may experience unfavorable self-perceptions and poor social/emotional adjustment. The McNamera et al. study (2005) revealed that children with LD, whether they presented with comorbid ADHD or not, reported significantly higher depressive symptoms, lower self-esteem, and weaker relationships with their parents, compared to a matched-group of peers without LD. Some of these psychosocial and adjustment challenges, such as loneliness, depression and low self-esteem, may be due to the lasting and cumulative effects of academic difficulties (Valas, 1999). It should be noted that these relationships are cyclical: Learning disabilities can lead to decreased academic achievement at school, which, in turn can lead to unfavorable self-perceptions (Lackaye & Margalit, 2006; Sabornie, 1994). Unfortunately, these



conditions are also correlated with increased victimization from bullies (O'Moore & Kirkham, 2001).

### **Autism Spectrum Disorders.**

Autism spectrum disorders (ASD) are a group of neurodevelopmental disorders that are associated with deficits in social interaction, communication and repetitive behavior (Newschaffer et al., 2007). Children with ASD may have difficulty understanding social conventions and have challenges in social competencies, including the decoding of verbal and nonverbal cues. As such, children with ASD may have difficulty understanding the intentions behind tone of voice, facial expressions, jokes and body language (Little, 2002). For the purposes of this paper, I will refer to disorders of autism (including the 'former' diagnosis of Asperger's) as ASD<sup>3</sup>. As with other children who have communication disorders, there is evidence that children with ASD are more likely to face victimization in school, when compared to students in general education.

A report by Sterzing et al. (2012) examined rates of bullying involvement for 920 adolescents with autism spectrum disorder. This study examined data from a nationally representative, 10-year, 5-wave data set that was compiled for the US Department of Education. The study incorporated parent interviews, self-administered questionnaires and information from school principals to calculate rates of bullying perpetration and victimization among adolescents with ASD in grades 7-12. The authors reported that overall, 46% of adolescents with ASD experienced some form of victimization at school (Sterzing et al., 2012). Furthermore, students who had comorbid ASD and ADHD were bullied at even higher rates

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<sup>3</sup> Asperger's disorder was removed from the Diagnostic and Statistical Manual of Mental Disorders (DSM) in 2013.

(55.6%) than students who had ASD alone (41.4%). However, it should be noted that this study did not include a typically-developing (general education) group for comparison. Furthermore, the authors relied almost exclusively on parent reports, which may not have been as accurate as student self-reports.

Twyman, et al. (2010) completed a study of school-age children with special needs, including children with learning disabilities (n = 34) and autism spectrum disorders (n = 32). Children in this sample were between the ages of 8 and 17, currently enrolled in public or private school, and were from a mid-sized city in the Southeast United States. Parents and children independently completed various measures including the Reynold's Bully-Victimization Scale and the ostracism scale of the Bullying and Ostracism Student Screen. According to this report, children with autism spectrum disorders were more than 3 times likely than the control group to report victimization from bullying (29% of the ASD sample vs. 8.5% of the general education sample). Additionally, students with ASD reported significantly higher scores on the ostracism scale, which included self-esteem, a sense of control over environment, and a sense of belonging (42.9% of the ASD sample vs. 8.6% for the general education sample).

The relationship between bullying and ASD is not limited to studies in the United States: Data from abroad demonstrate similar results. A study by van Roekel, Scholte and Didden (2010) examined 230 school-age children from the Netherlands with a variety of ASD diagnoses, including Pervasive Developmental Disorder Not Otherwise Specified (n = 123), and Asperger's (n = 29). Measures included teacher, peer, and self-ratings of bullying and victimization. Overall, prevalence rates for bullying varied from 7% to 30%, with peer-reports indicating less victimization and teacher-reports indicating more victimization (van Roekel, Scholte, & Didden,

2010). Similar results were found in a Canadian sample (Cappadocia, Weiss, & Pepler, 2012). This study involved the parents of 192 children diagnosed with ASD who were enrolled in elementary, middle, or high school (mean age = 11.7 years). In this sample, a total of 77% of students with ASD reported being victimized at school, with 32% reporting 'low victimization' (one to three times within the last month), and 46% reporting 'high victimization' (once to several times per week).

### **Theoretical Considerations**

Numerous factors have been cited to explain bullying behavior, both among general and special education populations. For example, some researchers examine the individual characteristics of bullies and victims; these researchers contend that personal attributes contribute to bullying and victimization, including the overly-aggressive bully and the weak or timid victim (Rose et al., 2009). Others opine that social ecologies are responsible for bullying behaviors. For instance, friendship and peer networks are thought to have an influence on victimization (Boulton et al., 1999). Still others believe that environmental factors such as school climate and family/community culture can contribute to bullying. While these perspectives may at first seem disparate, the social ecological approach to bullying attempts to incorporate all of these factors.<sup>4</sup>

The social-ecological perspective advocates for an examination of behavior across individual, social, school and community contexts. According to this perspective, bullying and victimization do not occur in isolation, but occur as a result of a complex relationship between multiple domains. For instance, bullying and victimization may occur as the result of individual

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<sup>4</sup> This theory is sometimes referred to as the 'Ecological Systems Theory.'

factors, such as physical appearance, gender or personal attributes such as speech. Likewise, bullying may be inhibited or encouraged by the social worlds of those involved, including friendship networks and social status. Finally, environmental factors such as school climate, administrative policies, and philosophies about special education can impact rates of bullying. Instead of examining each of these spheres in isolation, the social-ecological approach attempts to incorporate all of these contexts and domains. This framework supports the idea that individuals are part of *interrelated systems that interact to influence behavior*, including bullying and victimization.

Examining multiple domains is especially important when considering students who receive special education. Since special education students have documented disabilities, their individual, social, and environmental worlds are substantially different from their general-education peers. For instance, social and friendship networks are often cited as a protective buffer to victimization. Friendships serve as important sources for self-esteem and social support, and having established peer networks can deter bullies (Hodges et al., 1997). This phenomenon has even been dubbed the “friendship protection hypothesis (Boulton et al., 1999).” However, the social ecologies of students with disabilities are significantly different from those without disabilities. Additionally, if peer networks act as a protective mechanism to being bullied, then children with communication disorders may be at a particular disadvantage. In general, students in special education have difficulty making peer connections, especially when compared to those in the general education environment (Frostad & Pijl, 2006). For example, children with learning disabilities have been shown to have fewer friends than those without (Nabuzoka & Smith, 1993). Since an important component of establishing friendships

involves having age-appropriate communication skills, children who are impacted by stuttering, learning disabilities or autism may have difficulties making friends (Asher & Gazelle, 1999; Klompas & Ross, 2004; Newschaffer et al., 2007). Because of this, children who are receiving special education services may be lacking some of the protective buffers that friendships offer.

Individual characteristics of the victim are also cited as being a contributing factor to bullying. Juvonen et al. (2003) found that victims of bullying were the least popular, had the lowest social status, and had the highest levels of depression, social anxiety and loneliness. Unfortunately, these very characteristics are thought to be prevalent in special education populations. Luciano and Savage (2007) report that students with learning disabilities are more likely to exhibit internalizing problems, including depression and anxiety. Blood and Blood (2011) have also documented lower rates of self-esteem and life satisfaction among people who stutter, when compared to those who do not. Since it is clear that children in special education may have individual characteristics that are different from their peers, it is important to consider these factors within a larger social-ecological framework.

The social-ecological framework also considers how environmental factors contribute to or inhibit bullying behaviors. Special education environments are different than general education. Many special education students, especially those with more severe needs, receive education in self-contained classrooms with smaller teacher-to-student ratios. Other students receive a majority of their education within the general education setting, while receiving “pull-out” services for speech/language, special education, or occupational therapy. Still other students receive “push in” services, where special education professionals provide support within the general education classroom.

Another theoretical consideration comes from the idea that negative impacts of victimization may not be equally distributed. Mishna (2003) refers to the co-occurrence of peer victimization and learning disabilities as a sort of 'double jeopardy.' First, children with learning disabilities are already at a disadvantage due to the negative academic, social, and emotional consequences of their disability. Second, the very fact that they have a learning disability *places them at higher risk for being bullied*. Because of this, according to Mishna, children with learning disabilities face challenges from two fronts: They have difficulties in the classroom because of their learning disability, and when they exit the classroom, they face bullying and harassment in the hallways.

Although Mishna coined the term 'double jeopardy' in reference specifically to children with learning disabilities, I believe it is an appropriate analogy for children with other communication disorders, including children with ASD and children who stutter. The literature supports the idea that children with learning disabilities, autism, and stuttering show increased rates of victimization. Additionally, these children also face challenges with peer acceptance and socialization (Asher & Gazelle, 1999; Fujiki, Brinton, Hart, & Fitzgerald, 1999). Furthermore, the combined effects of victimization and mental health consequences may be compounded; meaning the sum of the two parts may be significantly more damaging as a whole.

It is safe to say that the school experiences of students receiving special education are quite different from students receiving general education. Special education is indeed *special*, and these students face a number of circumstances that are unknown to general education populations. These factors should be taken into consideration when designing, selecting, or evaluating bullying prevention programming. However, it appears that these factors are often

afterthoughts, if they are considered at all. In the next section, I will describe the technique of systematic review, and how it can be used to synthesize the seemingly disparate literature bodies of special education and bullying prevention.

## **Part II: Systematic Review**

### **History of Systematic Review**

Academic research can take many forms.<sup>5</sup> Qualitative researchers use ethnographic data and ‘thick description’ to describe social experiences (Geertz, 1973). Quantitative researchers seek to investigate broad trends using empirical or statistical data. Within these studies, data collection can be ‘primary,’ where original data is collected and analyzed, or ‘secondary,’ where primary data is analyzed by a third party. In primary research, researchers collect and analyze their own data. Because of this, researchers have a great degree of control over all aspects of their data, from planning the study, collecting data, and interpreting results. While original research and primary data collection have many benefits, there are certainly tradeoffs: The collection and analysis of original data is time consuming and usually expensive. Because of this, primary data collection and analysis can be prohibitive for many research inquiries.

Research using secondary data generally refers to the process by which primary data is re-analyzed for the purpose of answering new questions or using different analyses. In this scenario, researchers have a large degree of control over analytical techniques, but they have little control over data collection techniques. A potential downside of this approach is that secondary data may not always be an exact fit for the research questions a team wishes to

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<sup>5</sup> For this discussion, the distinctions between quantitative, qualitative, primary, and secondary research are intentionally simplistic for the purposes of contrast. Of course, these designs are not mutually-exclusive, and many researchers incorporate elements from all of these designs.

answer. Like primary research, secondary data analysis can be expensive and time consuming. However, secondary data analyses are generally recognized to be less expensive and less time consuming than primary research endeavors, mostly because researchers do not have to spend resources on data collection.

There are, of course, needs for both types of research. Primary research is useful for exploring specific research questions, as well as exploring new trends, phenomena, and theoretical questions. With primary research, investigators have significant control over the data and the analyses that follow. Alternatively, those who engage in secondary analysis have the opportunity to take a fresh look at pre-existing data. By using existing data, researchers can focus their efforts on discovering new trends, asking new questions, and using data in ways the original authors never considered.

This paper does not attempt to advocate for one approach over the other. It is clear that both approaches have been utilized to generate new knowledge and expand the research frontier. Both types of analyses have led to significant scientific discovery and innovation, and both forms of research will continue to uncover new trends and phenomena. With this in mind, a discussion of *efficiency* is warranted. In the mid-1970s, a statistician named Gene Glass began to question whether primary research analysis was the most efficient way of conducting research.

### **Meta-analysis.**

The term meta-analysis was coined by Gene Glass to refer to a type of “analysis of analyses (Glass, 1976).” Meta-analysis is neither primary nor secondary research, but combines elements of both. Meta-analysis allows researchers examine a large collection of individual



studies for the purposes of integrating and/or synthesizing the findings (Glass, 1976). Meta-analysis is a blend of primary and secondary research. As with primary research, meta-analysis produces new and original information. Similar to secondary research, meta-analysis examines bodies of pre-existing data in order to discover new information.

The idea for a 'new' kind of analysis was born out of the need to synthesize existing research. In the 1970's, Glass declared that the amount of already-published academic literature was reaching unmanageable proportions. Then, as is now, thousands of new research articles were being published monthly, and the compounding result of this publishing was a rapidly expanding and somewhat unwieldy body of literature. According to Glass, it seemed as though new studies were being published without even investigating if someone else had already answered the research question. Although there is no doubt this enormous body of literature has granted researchers a significant pool of data to investigate, proponents of meta-analysis often ask: "is 'more' necessarily 'better'?"

To use a current example, a search of ProQuest (an academic research database) in September 2016 for the terms 'Bullying Prevention' yielded 13,377 results.<sup>6</sup> But this raises several questions: If a researcher was interested in the topic of bullying prevention, where would they start? Which one of these 13, 377 studies is the most relevant, important, or impactful? Furthermore, are the algorithms that ProQuest uses to determine relevance aligned with the needs of the researcher? This simple exercise illustrates a critical point: if there are thousands of research articles on the same topic, investigators face a dilemma in determining

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<sup>6</sup> Relatedly, this inquiry was first entered into ProQuest in March 2015 and returned 10,543 results. By September 2016, the same inquiry resulted in 13,377 results. This means in just 18 months, an additional 2,834 citations became available.

how to best utilize information that already exists. It also raises the question of whether the research community should continue to publish more articles on the same topic or whether efforts should be made to understand existing data.

Because of this abundance of data, Glass advocates for efforts that center on discovering new knowledge in *existing bodies of research* (Glass, 1976). In other words, Glass encourages researchers to look for answers in reports that have already been published. Instead of using resources to design and conduct new research, perhaps the focus should shift to utilizing knowledge that already exists. Not only can researchers be more efficient in finding solutions to their inquiries, but the resulting efficiency may lead to additional questions being answered. Researchers currently face an over-abundance of information, perhaps more than can be reasonably interpreted and understood. Because of this, there are ample opportunities to organize, interpret and synthesize existing data.

While most secondary research endeavors seek to re-analyze data, both meta-analysis and systematic review are forms of *original research* in that these methods seek to synthesize and extract new information from existing bodies of research. While new (primary) research on contemporary topics may grab headlines, the analysis and re-organization of existing research is extremely important. In fact, according to Glass (1976, p. 4), this type of research may even be more important than “adding a new experiment to the pile.”

### **Systematic review.**

While meta-analysis and systematic review share many components, they are indeed different approaches. A critical difference between meta-analysis and systematic review is in the use of statistical methods. Meta-analyses use statistical methods to summarize the results

of independent studies, while systematic reviews seek to synthesize research data without the use of statistical analysis. It should be stated that just because meta-analysis utilizes statistical computation does not mean that meta-analysis is a superior product. In fact, there are circumstances where meta-analysis is either impossible or undesirable. According to Liberati et al., (2009):

“Regardless of the question addressed and the complexities involved, it is always possible to complete a systematic review of existing data, but not always possible, or desirable, to quantitatively synthesize results, due to clinical, methodological, or statistical differences across included studies (Liberati et al., 2009, p.2)”

While systematic review can be used to make sense of virtually any form of data, meta-analysis must have a *uniform and very specific set of underlying components* in order to complete the analysis. These components include: effect sizes, sample sizes, standard deviations, standard errors, means, and/or confidence intervals. Because of this, meta-analyses require uniform and relatively homogenous sets of data. This can be extremely limiting to researchers who wish to use data or information that are somewhat disparate. Simply put, if there is no way to estimate the mean difference between two treatments, then these data cannot be used to inform a meta-analysis. Unfortunately, this rules-out many types of data and can be restrictive to the overall research process.

Systematic review involves clearly formulated research questions and uses standardized and explicit methods to identify, select, and critically appraise research that is relevant to the inquiry (Moher, Liberati, Tetzlaff, & Altman, 2009). Systematic reviews are used to summarize results of multiple studies that assess a similar research question. Unlike narrative (literature) reviews, systematic reviews use explicit methods and protocols that are designed to minimize

bias (Elkins, Herbet, Mosley, Sherrington, & Maher, 2010). Systematic review is generally considered a type of meta-analysis, but with different methodological underpinnings. It is often stated that all meta-analyses should contain a systematic review, but not all systematic reviews contain a meta-analysis. Whether or not a researcher decides to pursue a meta-analysis depends on many factors, including the type of data being analyzed, the overall goals of the project, and the intended audience of the finished product.

While both systematic review and meta-analysis help gather information from diverse sources and combine them into a comprehensible output, the underlying structure of each method is considerably different. Meta-analyses require several pieces of information that are not required for a systematic review, including effect sizes or similar measures. These measures help researchers understand the strength and direction of relationships among the variables they are investigating. However, not all evaluation reports include effect sizes and/or odds ratios. Ultimately, this can limit the amount of individual studies that can be used in a meta-analysis. Because of this, systematic review is more inclusive in the range of studies that can be considered for analysis.

Systematic reviews can be used for a variety of purposes, and have been used in a number of different academic fields including education (Coffield et al., 2004; Evans, Hardin, Thomas, & Benefield, 2003) and health care (Bisset, Paungmali, Vicenzino, & Beller, 2005; Brown, 2008; Hutton & Hassan, 2007). In the next section, the various parts and components of systematic review will be described including the research question(s), protocol, data search, quality assessment, and synthesis.

## Components of Systematic Review

### Research protocol.

The research protocol is a component of systematic review that distinguishes it from other methods, including narrative literature reviews. The development of a research protocol is critical to the success of a systematic review because it defines the parameters and criteria for the entire data collection process. For systematic review, this means the research protocol describes the study goals and research questions, inclusion/exclusion criteria, the quality assessment process, and data collection techniques. Of note, the systematic review research protocol is established *a priori*, meaning researchers typically publish their research protocol prior to beginning the project.

Protocols almost always include a statement of the research question(s). Like most research endeavors, a systematic review must have an overarching framework to guide the study. Without a strong backbone and firm conceptual underpinning, a research project is likely to become disorganized. Unlike literature (narrative) reviews, systematic reviews are guided by very specific, very narrow research questions. Narrative literature reviews seek to gather evidence about a particular topic in an organized, but non-systematic fashion and typically seek to describe what is currently known or unknown about a topic. While these are worthy pursuits, systematic reviews strive to be explicit and precise in describing the terms, components, and scope of the review *before* data collection begins. Precision and accuracy in formulating research questions is important in systematic review because researchers ultimately have to make a decision as to whether a particular piece of evidence can be included in the review (Jesson, Matheson, & Lacey, 2011).

In addition to the research questions, research protocols describe the population of interest, the inclusion/exclusion criteria, and information about quality assessment. As with other aspects of the protocol, these parameters should be clearly defined before beginning the systematic review. When describing the inclusion/exclusion criteria, researchers should provide a brief explanation for the rationale behind inclusion and exclusion. For example, will the review be limited to randomized controlled trials, or are quasi-experimental evaluations acceptable? Similar inclusion/exclusion justification should be made about the type of research design (qualitative vs. quantitative) as well as a date range (will older studies be included?). In general, researchers should strive to be inclusive of all studies unless there are compelling or justifiable reasons for exclusion (Needleman, 2002). This ensures that *all* relevant data will be included in the review.

In addition to outlining basic information about the project, the protocol serves to document the methods to be used in advance of the actual study (*a priori*). Having a pre-defined protocol serves a number of purposes. For one, the protocol increases research transparency. By providing documentation of research objectives and methods before beginning data collection, researchers can be held accountable if they diverge from what was initially proposed. The *a priori* nature of the research protocol also reduces selection bias because researchers can only include studies that fit criteria that were outlined in the protocol. Consequently, the *a priori* nature of the protocol prevents researchers from unfairly highlighting research that supports their argument. Publication of the protocol prior to the start of the study also allows peer review of the intended methods, which invites comment and critical appraisal.

Although the research protocol is designed to remain static throughout the research process, changes to the protocol are sometimes necessary. As in any research project, unintended or unanticipated circumstances may arise, necessitating the need for changes. If the protocol must be amended, changes should not be made on the basis of how they affect the outcome. In other words, decisions made when impact on the results is already known (post hoc) should be avoided because they are susceptible to bias (Higgins et al., 2008). An example of this would be intentionally excluding a study from a review because of how it would impact the overall results. Although some changes in the protocol may be required due to unforeseen circumstances, researchers should strive to comply with the protocol whenever possible. By adhering to the protocol, researchers are more likely to follow the intended research design, less likely to produce biased outcomes, and less likely to make spur-of-the-moment decisions that could impact results.

### **Literature search.**

The literature search involves identifying all relevant studies according to criteria outlined in the protocol. The goal of the literature search is to identify enough studies for unbiased aggregation of relevant information, and to identify *all* of the studies that meet inclusion criteria. Here, researchers scour academic journals, bibliographic databases and other sources of information (including unpublished 'grey' literature). Evidence from the literature search will ultimately inform the results of the review. The specific databases and search terms that will be used are typically described in the research protocol. Since evidence from the literature search has such a significant impact on the results, it is essential that researchers carefully consider and define the search terms to be used.

To reduce publication bias, systematic reviewers should include several different electronic databases in their search, as opposed to relying on a single database. While including several databases may lead to duplicate search results, this is better than the alternative, which is excluding or missing important pieces of research. Popular databases include EBSCO, Web of Science, and Proquest, among others. Some databases focus on specific areas of interest, so researchers should consider databases that are relevant to their field. Since each database typically contains dozens of related academic journals, database searches are typically comprehensive. In addition to relying exclusively on database search engines, some researchers conduct a 'hand-search' of specific academic journals that are considered key to the field. The goal of the 'hand search' is to gain an accurate picture of all available data. To further refine results, authors sometimes limit their search to specific date ranges in order to eliminate older or out-of-date information.

At all stages, the search should aim to reduce bias in all forms. Publication bias refers to the idea that statistically significant, positive research is published in greater amounts compared to reports with non-significant findings or research that contains negative results. Subscribers to this theory report that positive results are (a) more likely to be published; (b) more likely to be published rapidly; (c) more likely to be published in English; (d) more likely to be published more than once; and (e) more likely to be cited by others (Gough, Oliver, & Thomas, 2012, p. 111). Since systematic reviews aim to reduce bias in all forms, reducing publication bias is an important component of the review process. Therefore, researchers should identify and include all forms of data, even if they appear to be contrary to the hypotheses. This means that systematic reviewers should include research with negative and



non-significant statistical findings if they are identified. By including *all studies*, not just ones with positive and significant results, researchers can uncover the trends that may not be apparent on the surface.

Since electronic databases are often tied to mainstream academic journals (which are likely responsible, in part, for publication bias in the first place), researchers should consider sources of information that are independent of electronic databases. Unpublished literature, including research papers from conferences or other events are often referred to as 'grey' literature. While these studies may not always peer-reviewed or published, they potentially contain information that may not otherwise be considered. As with other components of systematic review, the aim of including 'grey' literature is to provide an accurate picture of what is being investigated, which includes studies with positive, negative and inconclusive results. Grey literature can be identified via Google searches, and also by examining reference lists in existing research articles, a process known as citation tracking. Ideally, researchers should include studies published in languages other than English, but this is not always feasible.

### **Screening and quality assessment.**

After the literature search identifies a body of evidence, researchers must determine if the evidence is relevant to the study. Even with precise search terms, it is likely that a high proportion of articles identified are not germane to the research question. Furthermore, researchers must decide whether the identified literature should be included in the analysis, a decision that must be made objectively and in accordance with the quality standards identified

in the protocol. Determining relevance and deciding if a particular study should be included in the analysis involve two separate processes: *screening* and *quality assessment*.

During the screening process, researchers determine if a study is relevant to their needs. For example, a search that includes the terms 'bullying' and 'special education' may reveal hundreds (if not thousands) of research articles on these subjects. The screening process helps ensure that studies are relevant to the research question before the quality of each study is appraised. Screening can take several forms. Many studies can be initially included or omitted simply by reading the title. Other times, researchers may have to read the abstract or methodology before making a decision. Since inclusion and exclusion criteria are clearly stated in the research protocol, screening should remain objective.

The screening process is designed to narrow the body of literature that is considered for inclusion. Screening also serves to focus the evidence on the parameters that were previously determined. Despite guidelines in the protocol, there may be some ambiguity as to whether a study meets inclusion criteria. If this is the case, it is often recommended to *include* the study as opposed to excluding; this helps ensure that an adequate range of evidence is considered. To promote transparency, researchers should include a description of how many articles were identified at each stage of the process. For example, authors should report how many articles were identified in the initial search. After the screening criteria are applied, authors should report how many studies remained eligible and how many were excluded as a result of the screening process. This process is similar to reporting attrition rates of longitudinal studies, and helps to ensure that researchers are not intentionally including or excluding evaluation studies based on personal agenda.

Quality assessment is the next stage of the systematic review process. Here, researchers appraise the quality of studies that have met inclusion criteria. At this stage, researchers take a critical look at studies that have passed initial screening criteria. By appraising the quality of each study, researchers can be confident that only the most appropriate and methodologically sound studies are included in the analysis. Since eligible studies are ultimately used to inform the overall findings of a systematic review, the quality assessment process is crucial to the credibility and accuracy of the review.

Since the quality of individual research can vary significantly (e.g., randomized designs vs. non-randomized designs), it is important to consider the validity of individual research studies. A detailed examination of research quality is an essential component of systematic review, and this aspect of the research process is one that sets systematic review apart from other types of research. Unlike narrative reviews, systematic reviews assess the quality of research that is used in drawing conclusions and making recommendations. Quality and strength of evidence provided by individual studies have an influence on the results of systematic reviews (Smith, Devane, Begley, & Clarke, 2011). As a result, the evidence informing systematic reviews should be thoroughly vetted.

Many researchers advocate for a standardized tool for quality assessment in systematic review (Boland, Cherry, & Dickson, 2014; Gough et al., 2011; Littell et al., 2008). Quality assessment tools can either be off-the-shelf, pre-existing tools, or the instrument can be tailored to the individual study. Regardless of origin, quality assessment tools generally seek to ensure that only the most reliable and valid studies are included in the review. Quality assessment tools can help reduce many kinds of bias in the selection and reporting of evidence,

including allocation bias, detection bias, and attrition bias. Quality assessment tools may also examine outcome measures used in the intervention (i.e., whether they were appropriate and valid) and help determine whether the intervention was delivered as intended. Overall, quality assessment tools are useful in determining the overall strength of evidence included in the review.

### **Data extraction and synthesis.**

By this point in the review process, a large and relevant body of evidence related to the research question have been collected. Additionally, screening measures have been applied to ensure that identified resources are relevant to the research questions. Researchers also have an idea of the quality of data that is contained within the reports. The next step is to organize and make sense of the data that have been collected. In systematic review, this process is known as data extraction and synthesis.

In the data extraction stage, relevant features and data from individual studies are tabulated and stored in a usable format. Typically this entails use of a data extraction form. Similar to quality assessment tools, data extraction forms can be pre-existing or they can be custom tailored to the research needs. Data to be extracted can be descriptive, (study characteristics, sample demographics, etc.) analytical, (outcome measures, outcome data) or both. When data are extracted from each study and placed in a useable format (such as tables or other visual forms), patterns and trends may be more easily recognized. Therefore, data extraction tools are often used to help make sense of large amounts of data.

While other stages of systematic review focus on the identification, screening, and extraction of data, the synthesis stage involves interpreting the results of individual studies and

determining what they mean as a *collective body of knowledge*. As such, synthesis involves combining the separate parts of a systematic review and transforming them into a coherent whole. The process of synthesizing previously unrelated parts helps generate new knowledge. The origination of new and unique knowledge from previously unrelated parts is a hallmark of systematic review, and this is what distinguishes systematic review from narrative reviews.

## **Conclusions**

Systematic review has many advantages. For one, systematic reviews attempt to capture all relevant data on a particular subject. Reviews that are not systematic (e.g., narrative literature reviews) are typically designed with an outcome in mind. As such, authors of non-systematic reviews can hand-pick research that suits their needs and thereby select the ‘best evidence’ among a limited body of work. These forms of cherry picking research articles based on the motivations of a researcher or an organization are heavily biased, and do not result in an accurate or representation of available literature. By including *all available evidence*, researchers can allow the data to speak for itself, rather than being guided by an underlying agenda.

Including *all evidence* also means that researchers incorporate adverse and contradictory reports in their analyses. In fact, this evidence has an important place in systematic review. Results that appear to be contradictory to prevailing trends are not discarded in systematic review. Rather, they play an important role in discovering the true effectiveness of an intervention, whether it is positive, negative, or inconclusive. Since there is a general trend in academic literature to focus on significant and positive results (via publication bias), studies that report negative or harmful effects are often downplayed or remain

unpublished. Because of this, actual intervention effects may not always be known to the public. Systematic review attempts to combat these trends by including *all available evidence*, not just favorable evidence. As a result, systematic review seeks to uncover the true efficacy of interventions by incorporating the entire body of research.

In addition to reporting on all available data, systematic reviews attempt to report on the *quality* of available data, an indicator that may be lacking in traditional reviews. Non-systematic literature reviews may be influenced by the motivations of the institution or financial backer. As such, studies with weak validity may be highlighted if the results are congruent with the goals of the research team. Alternatively, evaluation studies that report unfavorable or undesired effects may be minimized or completely ignored. By thoroughly investigating the methodological integrity of reported intervention effects, systematic reviewers seek to identify high-quality research, regardless of whether the results are positive or negative.

## CHAPTER 3

### METHODOLOGY

#### **Introduction**

This study will use systematic review to answer the question: ‘Which bullying prevention programs have been specifically evaluated on special education students?’ This study will investigate bullying prevention programs that are designed for elementary-age populations. Relevant prevention programs will be identified using a search of specialized and general bibliographic databases. These databases will also be used to identify evaluation studies of eligible prevention programs. In order to improve objectivity, uniformity and reduce bias, standardized forms (such as quality assessment and data extraction forms) will be utilized whenever possible.

A secondary analysis will focus on the question: ‘Which bullying prevention programs are appropriate for students with speech/language delays?’ This analysis will use elements of thematic analysis to identify intervention strategies that work best for children with speech/language delays. Specifically, eligible bullying prevention programs will be examined in the context of practice policy endorsed by the American Speech-Language-Hearing Association (ASHA). This qualitative analysis is intended to supplement the results of the systematic review, and to provide additional guidance to professionals working in special education settings.

For the purposes of this study, a *bullying prevention program* will be conceptualized as a comprehensive, curriculum-based approach that seeks to alter the school climate and norms related to bullying (Limber, 2004). Alternatively, a *bullying prevention strategy* is less formal. Bullying prevention strategies may include procedures, protocols and approaches for teachers

and principals to manage bullying within their classrooms and schools.<sup>7</sup> Therefore, bullying prevention *programs* are formal curricula that are adopted by an entire school, while bullying prevention *strategies* are less-formal measures used by teachers and principals to combat bullying. This study will focus on bullying prevention programs. *Evaluation study* will be used to refer to the critical assessment of a bullying prevention program or strategy by a third party. These are typically controlled trials (randomized and quasi-experimental) that evaluate the effectiveness of a particular prevention program or strategy. The methods used in these evaluations, including study design and sample size, will be examined for this review.

### **Populations and Programs of Interest**

The target population for this study are *elementary-age students who receive special education services*. Therefore, this study will focus on bullying prevention programs that are appropriate for the elementary age group (generally age 5 to 11 years old). The elementary school-age student was chosen for several reasons. First, bullying is most prevalent in the elementary years, and bullying generally declines with age (Craig, 1998; Fekkes et al., 2004). Because of this, most bullying prevention programs are designed for elementary-aged children. By focusing on elementary-age children, a large proportion of bullying prevention programs can be identified and included in the analysis.

Students with special education status will be of primary interest to this project.

Program evaluations will be investigated for specific mention of special education students.

Children with speech-language disabilities are included under the 'special education' umbrella

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<sup>7</sup> An example of a bullying prevention *program* is the Olweus Bullying Prevention Program, which involves staff training by a certified instructor, and mandatory program materials and curricula. Examples of bullying prevention *strategies* are "stop and walk away," codes-of-conduct, or a one-time assembly to highlight the negative impacts of bullying.



largely due to federal legislation, including the Individuals with Disabilities in Education Act (IDEA). This legislation, along with other state and federal provisions, ensure that children with disabilities receive a “free and appropriate” education that addresses the educational impact of their disability. IDEA applies to students with speech and language delays, including students with learning disabilities, autism, and fluency disorders.

For the purposes of analysis, students with speech and language disorders will be part of the larger category of *students receiving special education services*. The decision to aggregate all students with disabilities is based on several factors. First, a preliminary investigation of program evaluation studies has revealed that very few program evaluations have performed subgroup analyses on speech and language disorders. When program evaluations sometimes make distinctions between general education and special education students, it is typically limited to this dichotomy, as opposed to investigating program effects on specific subgroups of special education students. This is likely due to the fact that even with large sample sizes, the number of students within each disability category would not be enough to provide sufficient statistical power to examine differential effects across special education categories.

Additionally, diagnostic categories of special education students vary from state to state, and even from one locale to another (Farmer et al., 2012). In Colorado, each school district determines eligibility criteria, based on standards set forth by the state. While the Colorado Department of Education provides broad diagnostic criteria, it is up to individual school districts to qualify students for disability labels. There are over 150 distinct school districts in Colorado, each with its own nuances in determining special education eligibility. Because of this, there is broad variability in how special education labels are applied, even

within a single state. The result is that a child may be diagnosed with one disability in one school district, while the same child would receive another disability label in another school district. Because of the relative subjectivity in applying special education labels, attempts to draw conclusions about children based on specific disability labels may be inaccurate because of differences in how school districts (and state agencies) classify and qualify their students. In addition to these considerations, students with speech and language disorders rarely fall succinctly into one category or another. For example, children who have a learning disability may also have ADHD. Likewise, an individual with autism may also have an expressive language delay. Because of this, distinct speech and language labels, while useful for diagnostic purposes, are often aggregated for purposes of service delivery within the educational system.

Additionally, this study focuses on *school-based* bullying prevention programs. Programs that are designed for use in the community or other venues (such as inpatient/outpatient treatment programs) will be excluded from this study. Within the school setting, prevention programs can be school-level (designed to change the overall climate of the school), classroom-level (targeting teachers and other adults), or student-level (targeting individual or small groups of bullies and victims). Some programs attempt to incorporate all of these levels simultaneously, in an environmental approach to bullying prevention. Regardless of whether the prevention program focuses on the school, classroom, or student, this study seeks to identify programs that are appropriate for elementary-age students.

## **Systematic Review**

### **Search Strategy**

The systematic review will require two separate searches. The first search seeks to identify as many bullying prevention programs as possible. After programs are screened for eligibility, a second search seeks to identify evaluation studies related to eligible prevention programs. Systematic reviews typically include a search of known bibliographic databases to help identify studies for inclusion. As such, this study seeks to conduct a broad-based search with the aim of identifying relevant prevention programs that are suitable for the population of interest. While it is unlikely that *every* relevant program will be identified, this project seeks to identify a sufficient number of studies for unbiased aggregation.

This study will focus on well-known databases in order to identify bullying-prevention programs. Several of these databases focus exclusively on prevention programming, such as the National Registry of Evidence-based Programs and Practices (NREPP). In addition to specialized databases, other broad-based bibliographic, scientific and academic databases will be included. Educational and social science literature will gain exposure through searches of EBSCO and ProQuest, while medical and scientific literature will be included using searches of PubMed and Web of Science. Combined, these databases cover a wide spectrum of available literature.

In addition to bibliographic databases, Google searches will also be used to identify relevant prevention programs and evaluation studies. These searches will be useful in locating newer programs and evaluation studies that may not have been identified by the major databases. A Google search will also be helpful in uncovering unpublished or 'grey' literature. Although this component of the search strategy will help identify several new resources, it

should be noted that broad-based Google searches are less precise than bibliographic databases. As such, Google searches will be utilized on a supplemental basis only after the bibliographic databases have been exhausted.

In addition to the databases and search engines described above, two more search strategies will be incorporated. First, reference list checking will be used to scan references cited within evaluation reports that are reviewed. This process is sometimes referred to as citation tracking, and follows the logic that evaluation studies may also cite earlier trials (Elkins et al., 2010). If additional programs or evaluations are discovered, they will move through the screening process just as any other report would. Second, information will be obtained from personal and professional contacts. I have had the opportunity to work in the field of prevention research, as well work as a school-based speech-language pathologist. As such, I hope to glean valuable information from these professional worlds.

The search strategy for this project uses a number of techniques and databases to generate relevant literature. Indeed, the goal of a search in systematic review is to identify sufficient studies for unbiased aggregation. By including a search of specialized databases, as well as more general academic databases, a significant number of studies should be identified. Throughout the project, a detailed record of studies that are identified will be recorded. As studies are screened and excluded, attrition rates will be noted. Therefore, records will be kept that illustrate the number of studies that were initially identified, as well as how many studies and programs remain after each stage of the screening criteria.

Table 1  
*List of General and Specialized Databases*

Specialized bibliographic databases	Generalized bibliographic databases
Blueprints for Healthy Youth Development	EBSCOHost
Child Trends/LINKS	ProQuest Central
Coalition for Evidence-Based Policy	PubMed
OJJDP Model Programs Guide	Science Direct
National Registry of Evidence-Based Programs and Practices (NREPP)	Web of Science

### **Application of Screening Criteria**

The goal of the initial search is to identify as many bullying prevention programs as possible. After the initial search is completed, screening criteria will be applied to ensure that programs are applicable to the populations of interest, which are elementary-age students receiving special education. As described above, this analysis requires two separate searches: one to identify *bullying prevention programs* and another to identify *evaluations of eligible programs*. As such, two separate screening stages will be required. The first step will screen prevention programs for relevance to the population of interest. The following criteria will be applied to the bullying prevention programs identified in the initial search to ensure they are relevant to the study:

- The program is designed for elementary school-age children (approximately 6 – 11 years).
- The program specifically targets bullying.
- The program is school-based.

The second screening stage will focus on screening evaluation studies of the programs that have passed through the initial criteria. This screen will ensure that the evaluation study is related to the correct prevention program. At this stage, information from the study title or abstract can be used to help determine whether it is appropriate for inclusion. When in doubt,

the study will be passed through for additional screening. The following criteria will be applied to *evaluation studies* to ensure they are relevant:

- The evaluation is related to an eligible program.
- The evaluation includes a sample of special education students.
- The evaluation includes outcomes that specifically measure bullying (e.g., bullying is measured using self-reports, peer ratings, observational data, etc.).

It should be noted that the screening stage is an ongoing process. Initially, evaluation studies related to eligible programs will be sought. Initial screening may focus only on whether or not the evaluation study is related to a particular prevention program, while later screenings may focus on sample composition and specific outcome measures. Eventually, all of the criteria described above will be investigated for eligible programs.

### **Quality Assessment**

At this stage in the project, evaluation studies of eligible programs will have been identified and screened in accordance with the criteria above. Namely, remaining evaluation studies will be: (a) be associated with an eligible prevention program, (b) screened for the presence of special education students in the evaluation sample, and (c) screened for specific outcome measures related to bullying. All evaluation studies that meet the above criteria will be assessed for methodological quality. Quality assessment in systematic review seeks to ensure that only the most appropriate and trustworthy studies are used to inform the results. As such, systematic reviews seek to appraise individual studies to ensure the underlying research is of sufficient quality to make the results and conclusions credible.

Several quality-assessment checklists were considered for this project, including the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), Jadad scale, the QUADAS-2 and the Critical Appraisal Skills Programme (CASP). All of these checklists have

unique advantages and disadvantages. The CASP was developed in 1993 for the purposes of appraising medical research. Likewise, the QUADAS-2 is endorsed by the Cochrane Collaboration, which is a major publisher of systematic reviews. However, both of these tools have drawbacks. For example, the CASP includes 10 questions to evaluate methodological quality, but some of them are vague (e.g., “Are the benefits worth the harm and cost?”). Likewise, the PRISMA tool contains 27 items and a 4-phase flow diagram, making the tool unnecessarily complex. Since there is no “gold standard” when it comes to quality assessment tools in systematic review, authors should seek tools that are simple, specific, and show evidence of validity (Sanderson et al., 2007). The Physiotherapy Evidence Database (PEDro) Scale meets these criteria.

The PEDro scale is an 11-item scale designed for rating the methodological quality of randomized controlled trials. The scale was originally designed to rate the quality of randomized controlled trials in the Physiotherapy Evidence Database, which is a database of randomized trials, systematic reviews, and clinical practice guidelines for physical therapy.<sup>8</sup> As of September 2016, the PEDro scale has been used to review over 34,000 clinical trials. The scale is designed to assist researchers in identifying evaluations that are internally valid and have sufficient statistical information to guide clinical decision-making. A total of 10 of the 11 items on the PEDro scale are used to form a total score (the first item relates to external validity, and is not used in calculating the total score). If a criterion is satisfied, the item receives a score of “1.”

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<sup>8</sup> The discipline of Physical Therapy is called ‘Physiotherapy’ in many parts of the world. The PEDro organization is based at the George Institute for Global Health in Sydney, Australia. .

Table 2  
*The PEDro Scale*

Criterion number	Outcome
1. Eligibility criteria were specified	No Yes Where:
2. Subjects were randomly allocated to groups	No Yes Where:
3. Allocation was concealed	No Yes Where:
4. The groups were similar at baseline regarding the most important prognostic indicators	No Yes Where:
5. There was blinding of all subjects	No Yes Where:
6. There was blinding of all therapists who administered therapy	No Yes Where:
7. There was blinding of all assessors who measured at least one key outcome	No Yes Where:
8. Measures of at least one key outcome were obtained from more than 85% of the subjects initially allocated to groups	No Yes Where:
9. All subjects for whom outcome measures were available received the treatment or control condition as allocated (or intent-to-treat analysis performed)	No Yes Where:
10. The results of between-group statistical comparisons are reported for at least one key outcome	No Yes Where:
11. The study provides both point measures and measures of variability for at least one key outcome	No Yes Where:

Note. Adapted from Centre for Evidence-Based Physiotherapy. (1999). PEDro Scale. Retrieved from: <http://www.pedro.org.au/english/downloads/pedro-scale/>

While the PEDro scale provides an excellent foundation for appraising quality, some modifications are required for this project. Most of the modifications have to do with blinding of assessors and subjects, which typically apply to participants in clinical trials. Blinding of assessors and subjects is necessary in clinical trials to minimize the placebo effect. However, assessors and subjects are not typically blinded in field studies, and blinding of assessors and subjects is not always practical or even possible. This is especially true in evaluation studies that feature prevention programming, where entire schools or school districts are selected as intervention or control groups. If these criterion were included as part of the quality



assessment, very few studies would qualify as “high quality,” which would substantially reduce the number of programs available for recommendation. Therefore, the PEDro scale will be modified for this project so that items 3, 5 and 6 are excluded. Even though these three criteria are excluded, many important quality indicators remain, including randomization, baseline equivalence, intent-to-treat, and attrition.

Modifying or adapting the PEDro scale for the needs of a particular project is common. In a 2009 study, deMorton randomly selected 200 trials from the PEDro database and reported that many studies did not use all of the items in the PEDro scale. According to deMorton (2009), the most commonly excluded items were: (a) Criterion 6 (blinding of therapists); (b) Criterion 5 (blinding of subjects); (c) Criterion 9 (intent-to-treat); (d) Criterion 3 (concealed allocation); and (e) Criterion 7 (blinding of assessors). In other words, the PEDro scale is frequently modified to meet the needs of a particular project. Furthermore, deMorton’s analysis reveals that modifying the PEDro scale does not reduce the validity of the scale. This project proposes to exclude 3 of the “top five” most commonly excluded items on the PEDro scale, which is consistent with other systematic reviews.

### **Data Extraction and Synthesis**

It is anticipated that several programs will remain after the literature search, screening, and quality assessment have been completed. The next step in the review is to make sense of the data that have been collected through a process known as data extraction and synthesis. Data extraction and synthesis are two separate components of systematic review. In the data extraction stage, relevant features and data from individual studies are tabulated and stored in a usable format. Data to be extracted can be descriptive (study characteristics, sample

demographics, etc.) and/or analytical (outcome measures and outcome data). This study seeks to extract both descriptive and analytical data.

Descriptive data to be extracted include sample size, race/ethnicity, number of special education students included in the sample, location (urban/suburban/rural), and grade level (if reported). Not all of these data will be reported in each evaluation study, but these data will be extracted if they are available. Since school districts may want to implement programs that have been evaluated on populations similar to their own, descriptive information on sample selection, composition and size are beneficial. Results from evaluations that are conducted on large sample sizes from diverse locations have a greater likelihood of being generalizable to other populations, and this information will be useful when considering recommendations.

Analytical data to be extracted include the number of students assigned to the experimental and control conditions, attrition rates, outcome measures, reporting methods (teacher report, student report, discipline data), study design (RCT, cross-sectional, quasi-experimental), direction of outcome(s) and strength of outcome(s). Many of these data will be highlighted by the quality assessment tool, but the data extraction form helps organize these data into usable pieces. For this study, a data extraction form from the Joanna Briggs Institute will be used. The form is useful for extracting and storing all of the above information in one document, which will be used when synthesizing data.

Synthesis involves examining the data *as a collective body of evidence*. This study aims to identify high-quality bullying prevention programs that have been evaluated on special education students. These prevention programs will focus on elementary-age students. As such, raw data from the analysis will be synthesized into a form that can assist readers in the

selection of an appropriate prevention program. Findings can be published, distributed, or made available to interested parties after data have been examined as a collective whole. In systematic review, synthesis also entails generating new knowledge based on the information that has been gathered. In this case, synthesis should result in a resource of high-quality bullying prevention programs that have been evaluated on special education students.

### **ASHA Policy Analysis**

A secondary analysis will focus on prevention programming from the perspective of speech-language pathology. Specifically, eligible bullying prevention programs will be examined in the context of policies and practices endorsed by the American Speech-Language-Hearing Association (ASHA). For this task, program elements of eligible bullying prevention programs will be compiled and compared to a set of criteria derived from ASHA practice policy documents. The purpose of this analysis is to determine which bullying prevention programs offer the most appropriate instructional practices for children with speech and language disabilities. This qualitative analysis is intended to supplement the results of the systematic review, and to provide additional guidance to those working in special education settings.

The populations and programs of interest for this analysis are similar to those of the systematic review. Namely, this analysis will focus on prevention programs that are designed for elementary schools, and students who receive special education services for speech/language delays. Programs will be considered eligible if they passed the *initial screen* described above (e.g., the program is designed for elementary school-age children, the program is school-based, and the program is specifically designed to reduce bullying). Additionally, programs must have at least one evaluation study to be eligible for this analysis. The purpose of

this criterion is to ensure that only high-quality bullying prevention programs are included in the policy analysis.

These screening criteria were selected for several reasons. For one, it is desirable to have overlap between the systematic review and the qualitative analysis. Therefore, the policy analysis aims to draw from a similar pool of prevention programs. Beginning with programs that were initially eligible for the systematic review allows these two analyses to have a similar foundation in terms of programming. The criteria for having at least one evaluation study is designed so that only high-quality bullying prevention programs are included. Although this may seem to be restrictive, this provision should allow the qualitative analysis to be more inclusive. Specifically, this analysis will include prevention programs that have evaluation studies *regardless of special education status*. Unlike the systematic review, if a prevention program has evidence of reducing bullying among general education students, then it will be included in the ASHA policy analysis.

Therefore, programs will be considered eligible for the policy analysis if:

- The program is available for elementary school-age children.
- The program is school-based.
- The program is specifically designed to reduce bullying.
- The program has at least one evaluation study demonstrating effectiveness among general or special education students.

Although the policy analysis has similar eligibility criteria to the systematic review, the two analyses seek to answer different questions. While the systematic review has a focus on whether programs have been evaluated on special education students (which is a question of

“does it work?”), the ASHA analysis is focused on the question of “which programs are the most appropriate?” Indeed, these are two different questions. The systematic review seeks to understand the amount and quality of research that exists as it relates to bullying prevention among special education students. However, just because a program is effective, does not necessarily mean that it is the best fit.

Because of their disability, children with speech/language delays require supports in order to manage the general education environment. Depending on the level of severity, students have varying degrees of exposure to the general education curriculum, as well as varying degrees of supports and modifications in order to help them manage the educational environment. As such, ASHA endorses certain practices and instructional conditions that are recommended for students with speech/language delays. One goal of this analysis is to explore the overlap between ASHA recommendations and components that already exist within bullying prevention programming. While the systematic review seeks to discover which programs are most *effective* for students with disabilities, without regard to whether they are necessarily *appropriate*, the policy analysis seeks to determine which programs are the most appropriate. The latter considers both disability and instructional conditions, as well as program effectiveness. The combination of both systematic review and ASHA policy analysis should result in a rich description of bullying prevention programs that are both *effective* and *appropriate* for special education populations, particularly students with speech and language delays.

The first step in this analysis will focus on identifying policy and practices that the American Speech Language and Hearing Association considers to be essential in working with students with speech/language delays. For this task, ASHA practice policy documents will be examined and themes will be extracted from these documents. According to ASHA, practice policy documents “are written for and by ASHA members and approved by our governance to promulgate best practices and standards in the professions of audiology and speech-language pathology” (ASHA, n.d.). As such, they serve as the *official opinion* of ASHA on a variety of topics. ASHA practice policy document types include:

**Position Statements** - public statements of ASHA’s official stand on various issues.

**Technical Reports** – supporting documentation and research for an ASHA Position Statement.

**Knowledge & Skills** – the knowledge and skill set required for a particular area of practice

**Guidelines** – current best practice procedures based on available evidence

Practice policy documents will be identified through the ASHA website ([www.asha.org](http://www.asha.org)). These documents are organized by discipline (Audiology and/or Speech-Language Pathology) and also by type (e.g., Preferred Practice Patterns, Scope of Practice, Position Statements, Technical Reports, etc.). Since speech/language pathologists work in a variety of settings, not all practice policy documents will be related to school-age children, but all documents related to school-based settings will be reviewed.

Once relevant practice policy documents are located, they will be analyzed for central themes. These themes will highlight and incorporate essential components of service delivery in school-based settings, according to ASHA. As such, they will serve to inform the policy

analysis. Criteria for determining if a program satisfies criteria for a theme will also be developed. These criteria will be derived from the themes once they are extracted.

The ASHA policy analysis is intended to supplement the results of the systematic review and to provide additional information about appropriate bullying prevention programming for students receiving special education services. This analysis does not strive to follow the rigors of content or thematic analysis, nor does this analysis claim to be objective or without bias. Alternatively, this analysis intended to identify themes in ASHA policy and discover program components of bullying prevention programs that are consistent with ASHA practice policy. It is hoped that these results will complement the results of the main analysis, and a complete picture of effective and appropriate prevention programming will emerge.

## CHAPTER 4

### RESULTS

#### **Introduction**

The purpose of this study was to answer two questions:

1. Which, if any, bullying prevention programs have been specifically evaluated on special education students?
2. Which bullying prevention programs are appropriate for students with speech/language delays?

In order to answer the first question, systematic review was used to identify organize, and evaluate bullying prevention programs. Prevention programs were identified through a number of general and specialized databases. Initial screening of these prevention programs focused on: 1) programs that specifically target bullying; 2) programs that are designed for elementary-age children and; 3) programs that can be used within the school setting (school-based prevention programs). Prevention programs that met these initial criteria were passed through to the next stage of analysis, which focused on locating evaluation studies of the eligible programs. Evaluation studies of eligible programs were used to: 1) identify which prevention programs used special education students in their study sample and 2) determine the overall effectiveness of the bullying prevention program, as determined by evaluation outcomes and strength of evaluation methods.

The second question was addressed using elements of thematic analysis to focus on prevention programming from the perspective of speech-language pathology. Specifically,



eligible bullying prevention programs were examined in the context of practice policy documents endorsed by the American Speech-Language-Hearing Association (ASHA). For this task, descriptions of eligible prevention programs were compiled and compared to a set of criteria derived from ASHA practice policy documents. The purpose of this analysis was to determine which bullying prevention programs, if any, were a “good fit” for students with speech/language delays. The qualitative analysis was intended to supplement the results of the systematic review, and to provide additional guidance to those working in special education settings.

In this section, results from all analyses are presented. The results of the systematic review will be presented first, along with the number of prevention programs that were identified and at each stage in the search. Screening criteria, as well as programs lost to attrition (ineligibility) are presented for each stage of analysis. Results from the policy analysis will also be presented, with a focus on programs that feature characteristics that are consistent with ASHA practice policy.

### **Systematic Review**

The evaluation sample for the systematic review consisted of the bullying prevention programs that were identified, as well as the evaluation articles that were used to contribute evidence of effectiveness. The initial search for prevention programs took place in summer 2015. The initial search identified 82 bullying prevention programs that were potentially eligible for inclusion. After screening criteria were applied, 22 programs were deemed eligible for inclusion. The systematic review identified 176 evaluation studies related to the 22 prevention programs in the analytic sample. Of the 176 evaluation studies that were identified, 137 (78%)

were reviewed for analysis. Therefore, a total of 137 evaluation studies were thoroughly searched for evidence to indicate whether (or not) special education students were included in the evaluation sample. Details of the analysis are provided below.

### **Identification of bullying prevention programs.**

One of the initial objectives of the review was to identify as many bullying prevention programs as possible. All programs that were identified in the initial search were considered eligible for inclusion, with the goal of gathering a sufficient number of prevention programs for unbiased analysis. As such, the initial search had a broad focus of identifying prevention programs without consideration of eligibility criteria. A number of general bibliographic databases, as well as specialized databases that specifically focused on prevention programming were used to identify prevention programs.

Due to the high density of relevant content, databases that specialized in prevention programming (*specialized databases*) were searched first. These included the National Registry of Evidence-Based Programming and Prevention (NREPP), Blueprints for Violence Prevention, and Child Trends/LINKS. A complete list of specialized databases are listed in Chapter 3. Most of the specialized databases featured the ability to filter by program by type, which facilitated the identification of bullying prevention programs. For example, the *OJJDP Model Programs Guide* allowed users to 'Search Programs by Topic.' In this case, the OJJDP database automatically generated a list of bullying prevention programs based on the input selection. When there was no such feature, the word "bullying" was placed in the search bar. In many cases, the same program was listed in multiple databases. When this occurred, duplicates were removed and remaining programs were passed through for further review.

The initial search strategy also utilized general bibliographic databases such as JSTOR, Medline, and Science Direct. A complete list of general bibliographic databases used in the analysis are listed in Chapter 3. In order to reduce subjectivity and bias, the same search term was used in all searches across all bibliographic databases. Previous systematic reviews on bullying prevention programs were examined to identify relevant keywords. Consistent with Evans, Fraser & Cotter (2014), as well as Farrington & Ttofi (2009), the following keywords were used: bully, bullies, anti-bullying, bully-victims, bullying, school, elementary, intervention, program, outcome, evaluation, effect, prevention, tackling, anti-bullying. These keywords were placed into a bibliographic database (PubMed) in order to generate a Boolean search term that was used to search the remaining databases. The resulting Boolean search term was:

(((((bully OR bullies OR anti-bullying OR bully-victims OR bullying)) AND school AND elementary)) AND (AND: intervention OR intervention OR program OR outcome OR evaluation OR effect OR prevention OR tackling OR anti-bullying))

The search term was designed to be broad and inclusive, but also efficient in identifying programs that were relevant to the goals of the study. Again, the goal of the initial search was to identify as many bullying prevention programs as possible, without consideration of eligibility criteria. The first part of the search term included many variations of the term “bullying.” Since the focus was on programs designed for elementary-age students, the terms “school” and “elementary” were used. The last part of the search term included several variations of the word “program.” This was to ensure that the search focused on prevention *programs* rather than strategies or one-off presentations.

All searches were conducted using default settings, which included full-text, “all years” and all available databases. The number of “hits” that resulted using the same term with different bibliographic databases varied significantly. For example, the search term returned 241 results in the Web of Science database, while EBSCOhost resulted in 3,488 hits (as of June 2016). In the event that more than 100 results were returned using the database’s default settings (which was typically a full-text search), the search was restricted to *abstract only*. All newly identified programs were passed through for additional screening, and duplicates were noted and excluded. The following table lists programs identified in the initial search, across both general and specialized bibliographic databases.

Table 3

*Programs Identified in Initial Search (n = 82)*

	Program name
5 W's Approach to Bullying	Olweus Bullying Prevention Program
Adolescent Transitions Program: Parent and Teen Focus	Open Circle
Aggressors, Victims, and Bystanders	Ophelia Project (aka, Creating a Safe School)
Al's Pals	PAX Good Behavior Game
Anti-Bullying Intervention	Peers Running Organized Play Stations (PROPS)
Befriending Intervention	Playworks
Bernese Program	Point Break
Brief Strategic Family Therapy	Positive Action
Building Assets - Reducing Risk (BARR)	Preventing Relational Aggression Everyday
Bulli and Pupe	Project Ploughshares for Peace (P4)
Bully Busters	Promoting Alternative Thinking Strategies (PATHS)
Bully Busting	Psychosocial Educational Groups for Students (PEGS)
Bully Prevention Challenge Course Curriculum	Quest for the Golden Rule
Bully Proofing Your School	Raising Healthy Children (aka, Seattle Social Development Project)
Bullying Prevention in Positive Behavior Support	Resolve It, Solve it
Bullying Video Program	Restorative Whole School Approach
CAPSLE (aka, Gentle Warrior, Peaceful Schools Project)	Ripple Effects
Caring School Community	Rock in Prevention
Community-Based Participatory Action Research	Roots of Empathy (aka, Empathy Training Program)
Cool Kids Child and Anxiety Management	S.S. Grin
Curriculum-Based Anti-Bullying	Safe and Civil Schools
Dare to Care	Safe School Ambassadors
Drama Program	School-Wide Positive Behavioral Support
Drugs: True Stories	Second Step/Steps to Respect
Early Childhood Friendship Project	Short Anti-Bullying Video Intervention
Educational Program of Prevention: Skills for Elementary Students	Skillstreaming
Effective Bully Prevention	Social Norms Project
Expect Respect Project	Stop School Bullying
Fairplayer Manual Bullying Prevention	STORIES
Fear Not!	Strategic Structural Systems Engagement (SSSE)
Flemish Anti-Bullying Intervention	Success in Stages
Fourth R: Skills for Youth Relationships	Take a Stand, Lend a Hand, Stop Bullying Now
Friendly Schools Program	Take the LEAD
GREAT teacher program	The Leadership Program's Violence Prevention Project
Home-Based Nurse Intervention	The Respect
I Can Problem Solve	Tribes
Integrative Family Therapy for Male Bullies	Triple-P
KiVa Anti-Bullying Program	Viennese Social Competence Training
Lesson One	WITS Primary Prevention Program
Lunch Buddies Mentoring	Youth Matters
Making Choices	Zero Program Against Bullying

### **Application of screening criteria.**

After the initial pool of prevention programs were identified, screening criteria were applied to determine which of the 82 programs were eligible for inclusion. In order to be considered for analysis, prevention programs had to meet several criteria: First, the prevention programs had to *specifically target bullying*. Therefore, programs that targeted academic achievement, life skills, or other areas were excluded. Second, the programs had to be *designed for use in elementary-aged children*. Third, the program had to be *school-based*. Therefore, programs that were based in community or institutional settings were excluded. The following table lists programs that did not meet initial eligibility criteria, as well as the reason for exclusion.

Table 4

*Programs that Did Not Meet Eligibility Criteria (n = 42)*

Program name	
Adolescent Transitions Program: Parent and Teen Focus	Not an elementary program
Aggressors, Victims, and Bystanders	Not an elementary program
Brief Strategic Family Therapy	Does not target bullying
Building Assets - Reducing Risk (BARR)	Not an elementary program
Bulli and Pupe	Not an elementary program
Bully Busting	Not an elementary program
Bully Prevention Challenge Course Curriculum	Not an elementary program
Bullying Video Program	Not an elementary program
Bullying Prevention in Positive Behavior Support	Not available/Not a program
Community-Based Participatory Action Research	Not available/Not a program
Cool Kids Child and Anxiety Management	Does not target bullying
Drugs: True Stories	Not an elementary program
Early Childhood Friendship Project	Does not target bullying
Educational Program of Prevention: Skills for Elementary Students	Not available/Not a program
Effective Bully Prevention	Not an elementary program
Expect Respect Project	Does not target bullying
Fairplayer Manual Bullying Prevention	Not an elementary program
Fourth R: Skills for Youth Relationships	Not an elementary program
GREAT teacher program	Not an elementary program
Home-Based Nurse Intervention	Not an elementary program
Integrative Family Therapy for Male Bullies	Not an elementary program

As can be seen in Table 4, the most common reason for exclusion was the program was not designed for elementary-age students (25 programs). In some cases, prevention programs were only available for middle school students, and in other cases the programs were based in other settings, such as a community or day-treatment center. Other reasons for exclusion were: (a) program did not specifically target bullying (9 programs), and (b) the program was not currently available or was not actually a program (8 programs). It should be noted that

categories were not mutually exclusive, and some programs were excluded for multiple reasons.

### **Locating evaluation studies.**

The 40 programs that remained after screening were passed through to the next stage of analysis, which involved locating evaluation studies. As above, specialized databases as well as general bibliographic databases were used to locate evaluation studies related to eligible programs. To facilitate objectivity, a standardized search term was devised to search for evaluation studies of each remaining eligible program. Because each program had a different name, the search term was modified for each search. The search term was:

*([Program Name]) AND ((bully OR bullying)) AND (school) AND ((evaluation OR trial))*

The number of results that were returned varied by the database that was searched, as well as by the name of each program. Typically, evaluation studies were located in peer-reviewed academic journals. When a relevant evaluation study was located, citations were saved to Zotero bibliographic software for later examination. Whenever possible, a full-text version of each evaluation study was retrieved at the same time it was identified. However, not all evaluation studies were immediately available, and many were retrieved through other means such as interlibrary loan, program websites, or other bibliographic databases. Efforts were made to retrieve *all* relevant evaluation studies, but ultimately more studies were identified in the search than could be located and retrieved. Unpublished literature, including research papers from conferences or other events are often referred to as 'grey' literature (Gough, Oliver, & Thomas, 2012). In the event the evaluation was an unpublished report or part of a conference paper, efforts were made to contact the author or the organization by email.



Google searches were also used to locate program information and evaluation materials if they could not be located by other means.

During the course of locating evaluation studies, it became apparent that not all of the programs that passed through the initial screen had eligible evaluation studies. To pass through to the next stage of analysis, it was first necessary to determine if eligible programs had been evaluated in a field study or trial. In this case, prevention programs had to have *at least one evaluation study* in order to determine the presence of special education students within the evaluation. It was also required that evaluation studies were conducted domestically, on U.S. school children. This decision was based on the fact that bullying varies by culture, and evaluations of bullying prevention programs conducted outside of the United States may not be relevant to U.S. school children. Based on these criteria, an additional 18 programs were excluded. The following table presents programs that met initial eligibility criteria, but did not have at least one domestic evaluation trial.

Table 5  
*Programs that Did Not Have an Eligible Evaluation (n = 18)*

Program name	
5 W's Approach to Bullying	Flemish Anti-Bullying Program
Anti-Bullying Intervention	Friendly Schools Program
Befriending Intervention	KiVa
Bernese Program	Project Ploughshares
Caring School Community	Rock in Prevention
Curriculum-Based Anti-Bullying	Stop School Bullying
Dare to Care	Viennese Social Competence Training
Drama Program	WITS Primary Prevention Program
Fear Not!	Zero Program Against Bullying

### Eligible Programs.

Based on these criteria, a total of 22 programs were eligible for analysis. These prevention programs were: (a) specifically designed for elementary-age children, (b) school-based, (b) directly target bullying, and (c) have at least one domestic (U.S.) evaluation study or trial. The following table presents programs that were eligible for inclusion for the systematic review:

Table 6  
*Eligible Programs (n = 22)*

Program name	
Al's Pals	Positive Action
Bully Busters	Preventing Relational Aggression Everyday (PRAISE)
Bully Proofing Your School	Quest for the Golden Rule
CAPSLE: Creating a Peaceful School Learning Environment	Raising Healthy Children (Seattle Social Development Project)
PAX Good Behavior Game	Roots of Empathy
I Can Problem Solve	S.S. GRIN
Lesson One	Safe School Ambassadors
Making Choices	Second Step/Steps to Respect
Olweus	Success in Stages
Ophelia Project	Tribes
PATHS	Youth Matters

### Results.

A total of 176 evaluation studies related to 22 eligible bullying prevention programs were identified. Out of the 176 evaluation studies identified, 137 (78%) were retrieved and appraised. The remaining studies (39) could not be located because they were unpublished reports, conference papers, dissertations, or otherwise unavailable (e.g., out-of-print, incorrect

citation, internal documents, etc.). Overall, the evaluation sample used in the review included 137 evaluation studies related to 22 prevention programs.

The following table lists the prevention programs that were used in the analysis, as well as the number of evaluation reports that were identified and reviewed for each prevention program.

Table 7  
*Evaluation Studies of Eligible Programs*

Program name	Special education students included in sample?	Number of evaluations identified	Number of evaluations located or reviewed
AI's Pals	No	12	2
Bully Busters	No	3	3
Bully Proofing Your School	No	5	5
CAPSLE: Creating a Peaceful School Learning Environment	No	8	8
PAX Good Behavior Game	No	26	24
I Can Problem Solve	No	1	1
Lesson One	No	2	0
Making Choices	No	3	3
Olweus	No	27	20
Ophelia Project	No	1	1
PATHS	Yes	14	14
Positive Action	Yes	21	13
Preventing Relational Aggression Everyday (PRAISE)	No	4	3
Quest for the Golden Rule	No	1	1
Raising Healthy Children (Seattle Social Development Project)	No	7	7
Roots of Empathy	No	10	5
S.S. GRIN	No	3	3
Safe School Ambassadors	No	1	1
Second Step/Steps to Respect <sup>9</sup>	No	18	16
Success in Stages	No	2	1
Tribes	No	1	1
Youth Matters	No	6	5
<b>Total</b>		<b>176</b>	<b>137</b>

<sup>9</sup> The Steps to Respect and Second Step programs are the same program, but have been evaluated under two different names.

As shown in the table above, there was wide variability in the number of evaluation studies that were identified for each prevention program. The number of evaluation studies identified ranged from a high of 27 (Olewus Bullying Prevention Program) to a low of 1 (Ophelia Project, Tribes, etc.). There were 12 programs that had 5 or more evaluations. Of the 137 evaluation articles examined, 5 contained evidence that special education students were used in the evaluation sample. The five evaluation studies were associated with two different prevention programs: Promoting Alternative Thinking Strategies (PATHS) and Positive Action.

Four of the five evaluations that contained special education students were related to the PATHS program. However, *none of these studies included bullying perpetration or victimization as a primary outcome measure*. Instead, these evaluations focused on outcomes related to social and academic skills (e.g., Domitrovich et al., 2007; Greenberg & Kusché, 1998; Greenberg, Kusche, Cook, & Quamma, 1995; Kam, Greenberg, & Kusche, 2004). Although the PATHS program has been demonstrated to reduce *aggression* in some studies (e.g., Kam 2003; Crean 2013), these studies *did not* have evaluation samples that included special education students.<sup>10</sup> Similarly, the Positive Action program had one evaluation study that included special education students (Snyder, et al., 2010), but this study focused on improving academic outcomes, including reading, math, and absenteeism.

In summary, a total of 22 prevention programs were eligible for inclusion because they (a) targeted bullying as a primary program objective; (b) were designed for elementary-age

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<sup>10</sup> The Kam (2003) study mentions that 14 students contained in the sample were in special education, but these students do not appear to have been included in the analysis sample: "While the PATHS Curriculum is the major component of the intervention, the Dauphin County Project also had a second component of intervention provided by the Big Brothers and Big Sisters in the area (Tierney et al., 1995). The latter provided mentoring to 14 students in the intervention schools who teachers identified to have special needs (Kam, 2003 p. 57)."

students, (c) were school-based, and (d) had at least one domestic evaluation study. A total of 137 evaluation studies related to the 22 eligible programs were examined to determine if special education students were used in the evaluation sample to determine program effectiveness. Results indicate that no eligible programs have been evaluated on special education students. A more thorough discussion of these results, as well as the implications, will appear in Chapter 5.

### **ASHA Criteria**

A secondary analysis focused on prevention programming from the perspective of speech-language pathology. For this analysis, descriptions of eligible prevention programs were compared to a set of criteria derived from the American Speech-language Hearing Association (ASHA) practice policy documents. The purpose of this analysis was to determine which bullying prevention programs, if any, were the most appropriate for students with speech/language delays.

### **Identifying Documents and Extracting Themes**

Themes were extracted from a variety of practice policy documents, but a majority were ASHA Technical Reports (n =5). The remainder of the practice policy documents were ASHA Position Statements (n = 1), ASHA Knowledge and Skills documents (n = 1), and ASHA Guidelines (n = 1). The following table lists the practice policy documents that were used for the analysis.

Table 8  
*ASHA Practice Policy Documents*

Author	Title	Year	Document type
American Speech-Language-Hearing Association	<i>Providing appropriate education for students with learning disabilities in regular education classrooms</i>	1991	Position Statement
American Speech-Language-Hearing Association	<i>Inclusive practices for children and youths with communication disorders</i>	1996	Technical Report
American Speech-Language-Hearing Association	<i>Knowledge and skills needed by speech-language pathologists and audiologists to provide culturally and linguistically appropriate services</i>	2004	Knowledge and Skills
American Speech-Language-Hearing Association	<i>Roles and responsibilities of speech-language pathologists with respect to augmentative and alternative communication: technical report</i>	2004	Technical Report
American Speech-Language-Hearing Association	<i>Evidence-based practice in communication disorders: an introduction</i>	2004	Technical Report
American Speech-Language-Hearing Association	<i>Principles for speech-language pathologists serving persons with mental retardation/developmental disabilities</i>	2005	Technical Report
National Joint Committee for the Communication Needs of Persons With Severe Disabilities	<i>Guidelines for meeting the communication needs of persons with severe disabilities</i>	1992	Guidelines
National Joint Committee on Learning Disabilities	<i>Learning Disabilities and Young Children: Identification and Intervention</i>	2007	Technical Report

All practice policy documents related to speech-language pathology in educational settings were collected and analyzed, but the documents cited above served as major sources for the themes that were extracted. Although themes were extracted from official ASHA policy documents, this analysis does not claim to be a content analysis. However, the unit of analysis was the organizational message defined in the ASHA policy documents, which has some

similarities to content analysis (Neuendorf, 2002). Below is a list of themes identified as well as a brief explanation of the theme.

- ***The intervention should be delivered in inclusive settings (ASHA 1991, 2004, 2005)***
  - Bullying prevention programs should be delivered in Inclusive settings. Inclusive settings are diverse and emphasize the connection between those with communication disorders (special education students) and typically developing peers.
- ***The intervention includes a collaborative service delivery model with familiar communication partners (NCJ, 1992, 2007; ASHA 2004)***
  - Individuals with communication challenges benefit from familiar communication partners. Therefore, services should be provided by general education or special education teachers who work at the school. Additionally, procedures and activities such as modeling, peer tutoring, role playing, and group problem-solving facilitate communication among student learners.
- ***The intervention has a strong evidence base (ASHA, 2004b)***
  - Interventions should have a strong evidence base. Studies should have a large and diverse sample size. Programs may have been evaluated in multiple locations and have a strong study design.
- ***The intervention has evidence of cultural and/or linguistic diversity (ASHA, 2005)***
  - Interventions should consider the impact of cultural variables and language exposure and acquisition. Programs should demonstrate respect for an individual's race, ethnicity, gender, gender identity/gender expression, age, religion, nation origin, sexual orientation, and/or ability.
- ***The intervention establishes instructional conditions and environments that are appropriate for individuals with communication disorders (ASHA, 1991)***
  - Individuals with communication disorders benefit from clear and explicit instruction. Programming should be explicit and systematic with well-defined goals, objectives, content, materials, and support. Programs should be delivered in small- to medium group sizes.
- ***The intervention incorporates the family and links to the community (ASHA, 2005)***
  - Information should be provided to and shared with families. Family members should collaborate and take part in service delivery

#### **Eligible programs.**

Programs considered eligible for the thematic analysis were programs remaining after the systematic review. Specifically, programs that had at least one evaluation trial *with direct*

*measures of bullying* were eligible for the policy analysis. Because this analysis occurred after the systematic review had been completed, the qualitative analysis benefited from information that was gathered from the systematic review. Specifically, it was noted that not all of the 137 evaluations that were reviewed specifically measured bullying. In fact, many of the 22 eligible programs from the systematic review were lacking evaluations that actually measured bullying, even though they had passed all eligibility criteria. While it is true that eligible programs for the systematic review (n =22) had at least one evaluation or clinical trial, *not all of the evaluations specifically measured bullying in elementary students*. For example, some evaluations measured academic outcomes and other evaluations measured substance use. Other evaluations used measures of aggression, but very few had direct measures of bullying. Based on this criteria, the following programs were eligible for the ASHA policy analysis:

Table 9  
*Programs Eligible for ASHA Analysis*

Program name	Evaluation study with direct measures of bullying?
Olweus	Yes
Positive Action	Yes
S.S. Grin	Yes
Second Step/Steps to Respect	Yes
Youth Matters	Yes

**Evidence of criteria.**

Remaining programs (n = 5) were bullying prevention programs that had at least one evaluation study on elementary-age students with explicit outcome measures of bullying. This approach is consistent with overall goals of the project, and also consistent with the ASHA policy that interventions should have a “strong evidence base” (ASHA, 2004). When possible,



evidence criteria was derived directly from the ASHA policy documents. Similarly, evidence that prevention programs could satisfy these criteria were extracted from program websites, evaluation articles, or by directly contacting program designers or organizations. Based on the ASHA criteria, the following pieces of evidence were considered sufficient to satisfy the ASHA criteria.

- ***The intervention should be delivered in inclusive settings (ASHA 1991, 2004, 2005)***
  - *Evidence:* Prevention programs that are taught in the home school in the general education classroom. All students (general education and special education) receive the intervention together.
- ***The intervention includes a collaborative service delivery model with familiar communication partners (NCJ, 1992, 2007; ASHA 2004)***
  - *Evidence:* Prevention programs that are taught by regular or special education teachers who are trained on the program (as opposed to ‘outsiders’ who come to the school to deliver the intervention). Programs encourage role playing, modeling, or peer-to-peer tutoring.
- ***The intervention has a strong evidence base (ASHA, 2004b)***
  - *Evidence:* Prevention programs that have at least one randomized controlled trial with large and diverse sample sizes and strong outcomes to indicate significant reductions in bullying victimization.
- ***The intervention has evidence of cultural and/or linguistic diversity (ASHA, 2005)***
  - *Evidence:* Prevention programs that integrate diverse traditions, customs, values, and beliefs in service delivery.
- ***The intervention establishes instructional conditions and environments that are appropriate for individuals with communication disorders (ASHA, 1991)***
  - *Evidence:* Programming is systematic and well-defined (follows a curriculum). Program has appropriate materials and exercises.
- ***The intervention incorporates the family and links to the community (ASHA, 2005)***
  - *Evidence:* Does the program include a parent component? Flyers to inform parents of prevention practices? In-service programs to tell parents about the program? Tips for parents?

After examining program descriptions obtained from academic journals, websites, and program materials, an evidence matrix was constructed. When there was explicit evidence that

a criterion was met, the program was given a score of “1” for this theme. If evidence for the theme could not be found, or if evidence was ambiguous or unclear, a score was not given (“0”).

**Results.**

Of the five programs that were eligible, three met 5 or more of the themes identified in ASHA practice policy. One program, Positive Action, met all 6 of the ASHA criteria. Two programs, the Olweus Bullying Prevention Program and Steps to Respect, met 5 of 6 criteria.

The following table summarizes the results of the qualitative analysis:

Table 10  
*Evidence Matrix of ASHA Practice Policy*

Program name	Strong evidence base	Inclusive settings	Collaborative service delivery	Cultural / linguistic diversity	Appropriate instructional conditions	Family and community component	Total score
Olweus	N	Y	Y	Y	Y	Y	5
Positive Action	Y	Y	Y	Y	Y	Y	6
SS Grin	N	N	Y	N	Y	N	2
Steps to Respect / Second Step	N	Y	Y	Y	Y	Y	5
Youth Matters	N	Y	N	Y	Y	N	3

Based on this analysis, the Positive Action program appears to be a good fit for individuals with speech/language delays. This program has a strong evidence base for bullying prevention among general education students: In a randomized controlled trial involving 14 elementary schools in Chicago, Li et al., (2011) reported that students who received the Positive

Action program reported significantly fewer bullying behaviors, when compared to control schools. Additionally, the Positive Action program contains many elements that are developmentally appropriate for children who have communication disabilities, including peer-to-peer tutoring, role-playing, and modeling of appropriate behaviors. Materials for Positive Action are available in Spanish, and the program engages parents and community members through direct communication and involvement in program activities.

The Olweus Bullying Prevention program may also be a good fit for students with speech/language delays. The Olweus program has demonstrated effectiveness in reducing bullying behaviors over many different studies, but it should be noted there are no randomized controlled trials for elementary-aged children in the United States. However, the Olweus program has been demonstrated effective in other countries (e.g., Olweus & Limber, 2010, Olweus 2005). The Olweus program is delivered universally (to all students), but bullies and victims receive additional interventions. The Olweus program includes appropriate instructional conditions for children with speech/language delays because lessons are delivered by familiar teachers and there is an emphasis on clear and direct communication via specific rules that are related to bullying. The Olweus program also attempts to alter the climate and culture of a school by fostering respectful relationships between students and adults. A climate that encourages respect and positive relationships would likely benefit students with speech and language delays.

The Steps to Respect program, which met 5 of 6 of the ASHA criteria, may also be a good choice for students with speech/language delays. The program is delivered in the classroom by

regular teachers (inclusive settings with familiar communication partners). Steps to Respect follows a series of pre-written lesson plans that include instructional strategies that are appropriate for children with speech/language delays, including small-group activities and games to help students learn program components. The Steps to Respect program lacks a randomized controlled trial to demonstrate evidence of effectiveness, but non-randomized studies have shown positive results (e.g., Frey, 2005; Low et al., 2010).

It should be noted that several programs did not demonstrate a strong evidence base. Similar to the Steps to Respect program, the Youth Matters program had a randomized controlled trial that specifically measured bullying (Jenson, 2007), but results were not significant in favor of reduced victimization. Another randomized evaluation of the Youth Matters program (Jenson, 2013) measured “transition patterns associated with bullying and victimization, but did not report significant or direct reductions in bullying victimization (Jenson, 2013). Similarly, the S.S. Grin program had two evaluations related to bullying (DeRossier, 2004, 2005), but results were either non-significant or had modest effect sizes.

## CHAPTER 5

### CONCLUSIONS

#### Introduction

The purpose of this study was to answer two questions:

1. Which bullying prevention programs have been specifically evaluated on special education students?
2. Which bullying prevention programs are appropriate for students with speech/language delays?

In order to find the answers, a systematic review of bullying prevention programming was supplemented by a qualitative analysis of ASHA practice policy. The study focused specifically on elementary-age students because bullying is most prevalent in the elementary years, and bullying generally declines with age (Craig, 1998; Fekkes et al., 2004). Therefore, it is recommended that bullying prevention efforts begin at an early age (Whitted & Dupper, 2005). The foundation of this research relies on the premise that without *explicit evaluation* of bullying prevention programs on students with special education status, program effectiveness on these populations are unknown. The qualitative analysis sought to examine bullying prevention from the perspective of speech/language pathology, and offers insight into best practices in working with children who have speech/language delays.

For the systematic review, prevention programs were identified through a number of general and specialized databases. Initial screening of these prevention programs focused on: 1) programs that specifically targeted bullying; 2) prevention programs that were designed for elementary-age children and; 3) prevention programs that could be used within the school

setting (school-based programs). Prevention programs that met these initial criteria were passed through to the next stage of analysis, which focused on locating *evaluation studies* of eligible bullying prevention programs. Evaluation studies were used to: 1) identify which (if any) prevention programs used special education students in their evaluation sample and, if necessary, 2) determine the overall effectiveness of the bullying prevention program, as determined by outcome measures and strength of study design.

This project was motivated by the current void in bullying prevention programming as they relate to the needs of children who receive special education services. Although all school-age children are susceptible to bullying, a large body of literature indicates that special education students are at increased risk for bullying, especially when compared to their general education peers (Flynt & Morton 2004; Rose, Esplage, & Monda-Amaya, 2009; Saylor & Leach, 2009). Bullying in school-age children can lead to a host of negative impacts including reduced academic performance (Nansel et al., 2001), feelings of rejection (Mishna, 2009), and depression (Junoven et al., 2003). Despite the ample evidence that children with special needs are more likely to be bullied, these populations appear largely forgotten in bullying prevention programming.

Approximately 13% of U.S. schoolchildren are designated as ‘special education students’ under the Individuals with Disabilities in Education Act (IDEA)<sup>11</sup>. In some school districts, the percentage is much higher. Although many bullying prevention programs have demonstrated effectiveness on the general education population, there is little evidence that these prevention

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<sup>11</sup> <http://nces.ed.gov>

programs have been evaluated on special education populations. This amounts to a significant oversight by the publishers of bullying prevention programming, as well as the researchers responsible for designing, implementing and analyzing evaluation data related to these programs. Unfortunately, this oversight comes at the expense of special education students, who are already vulnerable to increased victimization in the first place.

## **Findings**

A total of 82 programs were identified, and 22 programs met inclusion criteria (e.g., programs were appropriate for elementary-age children, specifically targeted bullying, and had at least one evaluation study). A total of 137 evaluation studies related to these 22 prevention programs were examined to determine which, if any, used special education students in their evaluation sample. This study found *there are no existing evaluations of bullying prevention programs that explicitly measured bullying outcomes on elementary-age special education students.*

A secondary analysis focused on prevention programming from the perspective of speech-language pathology. Specifically, eligible bullying prevention programs were examined in the context of practice policy documents endorsed by the American Speech-Language-Hearing Association (ASHA). For this task, which included elements of thematic analysis, descriptions of eligible prevention programs were compiled and compared to a set of criteria derived from ASHA practice policy documents. The purpose of this analysis was to determine which bullying prevention programs, if any, were the most appropriate for students with speech/language delays.

The analysis found that one program, Positive Action, met all six criteria in the ASHA policy analysis, earning a perfect score. Two other programs, Second Step and the Olweus Bullying Prevention Program scored 5/6 on the ASHA criteria. An additional program, Promoting Alternative Thinking Strategies may also be a good fit for children in special education settings. These programs are discussed in detail below.

### **Positive Action.**

The Positive Action program scored 6/6 on the ASHA matrix, making it the only program that met all of the ASHA criteria, including having at least one randomized controlled trial that demonstrated reductions in bullying behavior. Because of this, the Positive Action program would be a good fit for students with speech language disabilities, as well as other students receiving special education.

The Positive Action (PA) program was originally developed in the late 1970's, but program materials have been revised and updated since the original program debuted. The main goal of the program, which has not changed, is that children learn how to use and model actions that are positive ("positive actions"). By doing positive actions, children feel better about themselves and better about others. The idea is that a community of students who are participating in positive actions can create a healthy school environment, one in which problem behaviors are significantly reduced and replaced by positive behaviors. The PA program is taught in the classroom, and the program follows a curriculum with daily lessons that are delivered by the primary teacher. Each lesson takes 15-20 minutes, and lessons include



activities such as role-playing, games, peer modeling, stories, music, question/answer, activity sheets, and manipulatives.

The program encourages all parties to create goals and work to improve the school environment and larger community. Individual goals include developing good character, feeling good about who you are, and allowing everyone the opportunity to learn. In addition to activities at school, the PA program seeks to involve the larger school community, including parents and members of the surrounding community. Parents are encouraged to facilitate program goals at home and as a family. Family goals include creating a positive learning environment in the home, contributing to the life skills of adult family members, and helping children become effective learners. Program goals are designed to align students, teachers, family and the community around similar thoughts, behaviors, and actions.

The classroom lessons are taught through six units: (1) Self-Concept, (2) Positive Actions for Body and Mind, (3) Managing Yourself Responsibly, (4) Getting Along with Others, (5) Being Honest with Yourself and Others and (6) Improving Yourself Continually. While students and teachers work through these units, school administration uses the Principal's Kit, which focuses on overall school climate by facilitating positive actions throughout the school. The Principal's Kit components are designed to reinforce concepts in the classroom curriculum by promoting schoolwide implementation of program goals.

Many components of the Positive Action program fit well with the ASHA criteria described above. The PA program is *delivered in inclusive settings* because content is delivered to *all students* in their home classroom. The PA curriculum is universal and designed to be

delivered to the entire school population. This means that special education students can learn the same concepts alongside their general education peers in integrated classrooms. Similarly, the PA program *includes a collaborative service delivery with familiar communication partners*. In this case, collaborative service delivery focuses on teaching techniques that facilitate communication among student learners. The PA program encourages this by incorporating techniques such as role-playing, peer modeling, and small-group activities in the lesson plans. Furthermore, the program is *not* delivered by outside specialists as is the case with some prevention programming. Instead, the PA program is delivered in the home classroom by teachers the students are most familiar with.

The Positive Action program is also the only program that has a *strong evidence base*, which includes a randomized controlled trial that demonstrates significant reductions in bullying. Li et al., (2011) reported results of a matched-pair randomized controlled trial on a cohort of elementary school students in Chicago (n = 510). The trial involved 14 elementary schools that were randomly assigned to intervention (n = 7) and control conditions (n = 7). The evaluation followed a single cohort of students as they advanced from 3<sup>rd</sup> to 5<sup>th</sup> grade. The sample was racially and ethnically diverse: 46% African American, 27% Hispanic, 17% mixed race, 7% white and 3% Asian. Students were assessed at five intervals, beginning in fall 2004 (beginning of 3<sup>rd</sup> grade) and ending in spring 2007 (end of 5<sup>th</sup> grade). Baseline equivalence occurred at the school level.

Bullying behaviors were measured using a scale which asked children how often they had engaged in verbal or physical aggression at school, including teasing and pushing/shoving

others. Researchers also included other measures including disruptive behaviors at school (skipping class, taking things that belonged to others), serious violence-related behavior (carried a knife, joined a gang) and substance use (alcohol, marijuana, and cigarette use). Results indicated that the Positive Action program was effective in significantly reducing 3 of 4 outcome measures, including bullying, substance use, and serious violent behavior. Of note, students in the intervention condition reported a 41% reduction in bullying behaviors when compared to students in the control condition). Other evaluations of Positive Action have reported significant reductions in student-reported violent behavior (Beets et al., 2009), significant improvements in student safety (Snyder et al., 2012) and reductions in student suspensions (Snyder et al., 2010).

The Positive Action program continues to fit well with the ASHA criteria by *demonstrating evidence of cultural and linguistic diversity*. All program materials are available in Spanish, and program activities are designed to serve “all students, including those learning English as a second language, low-income students, and students with disabilities (Flay et al., 2001, p. 77).” In addition to the explicit acknowledgement of being inclusive, the Positive Action program has been evaluated on large segments of elementary-age students. Evaluations have taken place in Hawaii (Snyder, et al., 2010), Chicago (Li, et al., 2011), and in the Southeast United States (Washburn, et al., 2011). In addition to geographic diversity, all evaluation samples demonstrated appropriate racial/ethnic and gender diversity. One evaluation of the PA program (Snyder et al., 2010) explicitly included special education students in their evaluation sample, but this study did not measure bullying. This study did, however, demonstrate

significant improvements in reading and math scores, as well as significant reductions in suspensions, absences and grade retentions (Snyder et al., 2010).

The Positive Action program also attempts to *establish instructional conditions that are appropriate for individuals with communication disorders*. Individuals with speech/language delays benefit from clear and explicit instruction (ASHA, 1991). As such, the PA program follows a well-defined curriculum with specific goals and instructional units. Lessons are relatively short (approximately 15 minutes), which could benefit students who have difficulty maintaining attention (which is common in students with learning disabilities).

Finally, the PA program seeks to *incorporate the family and links to the community*. The Positive Action program has components designed to incorporate the family in a number of ways. Letters are sent home throughout the year to encourage families to set goals and increase positive actions in the home. The PA program also offers an optional Family Kit with 42 unique, additional lessons for use at home. These lessons are separate from the classroom components, but include similar themes and goals. Parenting classes are also offered, and the community component encourages participants to complete projects for the benefit of the larger community.

In summary, the PA program is compatible with many of the ASHA policy statements, making it a good fit for students with speech/language disabilities, and likely with the larger special education community. Positive Action seeks to improve school climate for all students by teaching messages of inclusion, acceptance and self-management. Teachers and staff are taught to identify and reinforce positive actions by students, which in turn lead to improved

school climate. While some prevention programs target singular outcomes (bullying), the PA program incorporates a holistic approach that emphasizes healthy relationships, understanding and managing emotions, parent/community involvement and the development of positive self-concept (Flay et al., 2001). The messages of positive self-concept could be empowering for all students, particularly those with disabilities.

### **Other programs for consideration**

Besides Positive Action, three other programs could be considered a good fit for students with speech/language disability. Two programs, the Olweus Bullying Prevention Program and Second Step/Steps to Respect scored 5/6 on the ASHA criteria, but these programs lacked a perfect score because they did not have randomized controlled trials that demonstrated significant reductions in bullying. Another program, Promoting Alternative Thinking Strategies (PATHS), appears to be a good fit for students with speech/language disability, but this program does not have evaluation evidence that specifically measures bullying. In this section, alternative programs to Positive Action will be presented.

#### ***Olweus Bullying Prevention Program.***

The Olweus Bullying Prevention Program (OBPP) scored well on the ASHA criteria (5/6), but lacks a randomized controlled trial that demonstrates significant reductions in bullying in elementary-age children. The Olweus program is specifically designed to reduce bullying and improve peer relations within a school setting. To accomplish this, the program encourages extensive monitoring of student behavior in an effort to reduce opportunities and rewards for bullying. As a result, school climate is restructured in a way that discourages bullying. As part of

the OBPP, schools are encouraged to adopt four rules in regards to bullying: (1) We will not bully others; (2) We will try to help students who are bullied; (3) We will try to include students who are left out; and (4) If we know that somebody is being bullied, we will tell an adult at school and an adult at home.

The program attempts to incorporate anti-bullying measures at several levels, including the school, classroom, individual and community. At the school level, staff are trained by a certified Olweus trainer, with the goal of instructing staff how to identify and react to bullying situations. The program encourages the administration of the Olweus Bullying Questionnaire, which is used to understand and monitor bullying trends within a school. A school-level Bullying Prevention Coordinating Committee is responsible for collecting data and administering program elements. Classroom-level components include enforcing school-wide rules against bullying, holding regular class meetings to discuss bullying and scheduling meetings with parents. Weekly meetings are intended to build cohesion among students and reinforce the rules around bullying. Classroom discussions and activities include: identifying feelings, improving peer relationships, identifying bullying Hot Spots, and respecting differences.

Much of the focus of the OBPP occurs at the individual level. These individual-level interventions focus on intensive supervision of student activities and behaviors and intervening 'on the spot' when bullying occurs. After bullying is identified, school staff meet separately with bullies and victims. Additionally, parent meetings are scheduled with the families of bullies and victims to discuss the incident. Intervention plans tailored to each student are created after incidents occur. Additionally, the OBPP encourages following-up with students and parents to

make sure the intervention plans are working. Follow-up meetings are held separately for bullies and victims, and teachers as well as parents and administrators are encouraged to collaborate and find solutions to the problem.

Although the Olweus Bullying Prevention Program has many strengths, it lacks a randomized controlled trial that demonstrates significant reductions in bullying, at least for children in the United States. However, the Olweus Bullying Prevention Program has other studies which indicate generally positive results. Black and Jackson (2007) published a report that evaluated the OBPP in six public elementary and middle schools in the U.S. This study reported reductions in bullying incident density (the number of bullying incidents which occur within a given time). However, schools were not randomized and there was no control condition. Furthermore, outcome measures focused on observational measures gathered by the research team as opposed to student self-reports of bullying perpetration and victimization.

Another evaluation of the OBPP examined school-aged students, but with mixed results. Schroeder, et al. (2012) reported on a large-scale evaluation of the Olweus program on 107 schools in Pennsylvania (n = 56,137). Although this evaluation reported reductions in bullying among elementary students, results were not significant. This report did, however, report positive and significant results for students in high school. Because the OBPP lacks a randomized controlled trial that demonstrates effectiveness in elementary-age students, results are considered unknown in this population. However, if future evaluations can demonstrate results among this age group the OBPP may be considered a good option for use among students with disabilities.

### ***Second Step/Steps to Respect.***

Similar to the Olweus Bullying Prevention Program, the Second Step/Steps to Respect program scored well on the ASHA criteria, but is lacking evaluation evidence that demonstrates effectiveness among elementary-age students.<sup>12</sup> The Steps to Respect/ Second Step program is designed to decrease bullying by (a) increasing staff awareness and responsiveness, (b) fostering socially responsible beliefs, and (3) teaching social-emotional skills to counter bullying and promote healthy relationships. The program seeks to promote skills associated with general social competence (Frey et al., 2005). Lessons are semi-scripted and teach skills for positive peer relations, emotion management, and recognizing bullying behavior. Instructional strategies include large- and small-group discussion, games, and skill practice. The program also features information for parents about how they can be involved in the program. To keep parents involved, letters explaining program concepts and themes are sent home throughout the school year.

Although there have been some evaluation trials for both the Steps to Respect and Second Step programs, the program lacks a randomized controlled trial that demonstrates effectiveness against bullying in elementary school. Frey, et al. (2009) reports on longitudinal data from six elementary schools in the U.S. The evaluation included 1,126 students (grade 3-5) who were followed over 18 months. Results indicate significant decline in bullying across intervention schools, with reductions ranging from 19%-31%. However, this evaluation was non-randomized, and only reports results from pretest to posttest. Another evaluation of the

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<sup>12</sup> Second Step is the current version of this program, but it was formerly known as Steps to Respect. Many evaluations refer to the older version, Steps to Respect.



Steps to Respect program (Brown et al., 2011), was a randomized controlled trial of 33 schools in California (n = 3,119). This evaluation included a relatively diverse sample (48% non-white/mixed race), a relatively large sample size and a randomized design. While the evaluation produced significant results on *attitudes and beliefs related to bullying*, self-report measures of bullying perpetration and victimization were not significantly reduced.

It should be noted that the Second Step program does have an evaluation that includes students in special education, but the evaluation focuses on middle school populations. Espelage, Rose, and Polanin (2015) evaluated the Second Step program on sixth grade students with disabilities (n = 123). This report indicates significant reductions in student self-reports of bullying perpetration, but student self-reports of bullying victimization remained non-significant. Although these results are promising for middle school populations, the Second Step/Steps to Respect program does not currently have adequate evidence to show effectiveness in bullying reduction among elementary-age populations.

### ***PATHS.***

In addition to the programs mentioned above, Promoting Alternative Thinking Strategies (PATHS) may be a good option for bullying prevention among special education populations. The PATHS program teaches children about the expression, understanding, and regulation of emotions. A basic premise of the PATHS program is that children's behavior is a reflection of their emotional awareness, internal regulation, and social-cognitive understanding (Greenberg, 1995). As such, the PATHS program uses a social-emotional learning curriculum that encourages several domains of social and emotional development, including self-control, emotional

understanding, positive self-esteem, positive relationships, and interpersonal problem-solving skills.

The PATHS program is delivered by classroom teachers at a rate of 2-3 lessons per week. Each lesson lasts approximately 30 minutes and is designed to be incorporated into regular classroom routines. Lessons are scripted and focus on classroom rules, improving communication skills, recognizing emotions, and developing empathy. The program includes family communication and support materials so that children can work on skills at home and generalize program concepts to other settings. All program materials are available in Spanish. Of note, the PATHS program was originally developed for use in deaf and hard-of-hearing classrooms (Greenberg & Kusche, 1998). As a result, the PATHS program has been evaluated on special education students. Unfortunately, none of these evaluations have explicitly evaluated the PATHS program on bullying among special education students.

Despite this, the PATHS program has several evaluations that indicate positive and significant results for skills that may be useful for children in special education settings. Greenberg and Kusche (1998) utilized a quasi-experimental design with 57 students in self-contained special education classrooms for deaf and hard-of-hearing children. The study was designed to evaluate the PATHS program in regards to academic skills, social/emotional understanding, and teacher/parent reports of behavior. The study reports that intervention children improved significantly more than comparison children in many aspects of social/emotional understanding, including the ability to problem-solve, recognize emotions and generate alternative solutions to problems. These skills may be useful to all children, but

particularly useful to children with speech/language delays who may have difficulty communicating their needs. Children who have difficulty understanding the emotions of others, including children with autism, may also benefit from these lessons.

Other evaluations have indicated the PATHS program to be effective in improving social competence and emotional knowledge (Dimitrovich, Cortes & Greenberg, 2001), reducing teacher-reports of aggression and conduct problems (Crean & Johnson, 2013) and significantly reducing teacher-reported externalizing behaviors (Kam, Greenberg & Kuche, 2004). Many of these evaluations explicitly tested the program effects of PATHS on special education students (e.g., Greenberg, et al., 1995; Greenberg & Kusche, 1998; Kam, et al., 2004; Domitrovich, et al., 2007). Although the PATHS program has not been explicitly evaluated on bullying, the program has demonstrated reductions in externalizing behaviors (Greenberg & Kuche, 1998) and aggression (Kam, Greenberg & Walls, 2003) in special education populations.

### **Central Themes**

One of the goals of systematic review is to gather information from diverse sources and combine them into a comprehensible output. Additionally, the qualitative analysis resulted in a significant body of information related to the intersection of bullying prevention programming and school-based policies endorsed by ASHA. As a result, several themes emerged in the process of conducting these analyses. In this section, central themes will be presented and discussed.

**Theme 1: There are limited options for bullying prevention programming in elementary schools, and few programs have good evidence demonstrating their effectiveness.**

A total of 82 programs were initially identified in a broad search of bullying prevention programs. Of the 82 programs, only 22 were found to meet the criteria of: (a) specifically designed to reduce bullying, (b) school-based program available for elementary-age children, and (c) had at least one domestic evaluation study. Although 22 programs may seem like an adequate number to serve the needs of the bullying problem in the United States, a closer examination revealed that few of these programs actually had data to demonstrate significant reductions in bullying victimization.

Of the 22 programs that passed the initial screening criteria, only five had evaluation studies that specifically measured bullying. While it is true there are many obstacles to performing large-scale evaluation studies, it appears that many bullying prevention programs are being offered with very little information as to whether or not they actually work. This picture is further complicated by prevention programs that *claim* to have studies that demonstrate reductions in bullying, but the evidence is flawed, missing, or nonexistent. For example, Brown, et al. (2011) published an evaluation of the Steps to Respect bullying prevention program on 33 California elementary schools. On the surface, this randomized controlled trial seems to offer favorable documentation for the effectiveness of the Steps to Respect program. But a careful and critical review of this study reveals a different story.

The Brown et al. (2011) study included a relatively large sample size (n = 2,940) and several promising measures such as (a) school climate, (b) teacher assessment of student behavior, (c) student attitudes towards bullying, and (d) observed instances of bullying

perpetration and victimization. While this study reported significant reductions of teacher-reported physical bullying perpetration, *student reports of the same measure were not significantly reduced*. While some may interpret these findings as adequate enough to make claims as to the effectiveness of Steps to Respect to reduce bullying in schools, I argue that teacher reports of observed bullying behavior are far less trustworthy than student self-reports of actually being bullied.

Even the Olweus Bullying Prevention Program, which claims to be “the most researched and best-known bullying prevention program”<sup>13</sup> lacks strong evidence of effectiveness among elementary-age children in the United States. While some evaluations of the OBPP have attempted to measure bullying, these studies have a number of faults. For example, Black and Jackson (2007) measured the impacts of the Olweus program on six public elementary and middle schools in the US. The authors claim that the Olweus program resulted in a reduction of bullying incident density by 45% (Black & Jackson, 2007). However, schools in this evaluation were chosen by convenience, there was no control group, and all outcome measures were based on researcher observation instead of student reports. Limber (2011) reports on other evaluations of the OBPP, but several of the evaluations cited in her report remain unpublished (e.g., Pagliocca, Limber, & Hashima, 2007; Masiello et al., 2009).

Therefore, while there are few options for bullying prevention programming at the elementary level, even fewer programs have strong evidence that can demonstrate significant reductions in bullying victimization. Without evidence indicating these programs work, the

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<sup>13</sup> The Olweus Bullying Prevention Program website (<http://www.violencepreventionworks.org>) as well as the Clemson University website for the Olweus Bullying Prevention Program (<http://olweus.sites.clemson.edu/>) make this claim.

public is left to guess, and vulnerable children remain exposed to victimization. Furthermore, even when claims are made, they should be interpreted with caution as many claims appear to be unsubstantiated.

**Theme 2: Currently, no bullying prevention programs have been evaluated on elementary-age special education students.**

Perhaps the most notable contribution of this analysis was the discovery that *no studies have explicitly evaluated bullying prevention programming on elementary-age special education students*. Although some prevention programs, such as PATHS, seem to make efforts to evaluate their curricula on special education students, other program evaluations completely ignore this population. It is true that only a handful of bullying prevention programs are designed for elementary-age students, and fewer still have evaluation trials. However, the fact that *we don't know if bullying prevention programming works on special education students* is simply unacceptable. To restate this, there is currently *zero evidence* regarding the effectiveness of bullying prevention programming on elementary-age special education students in the United States. This fact is troublesome given the fact that these populations are significantly more vulnerable to bullying in the first place.

Since these data do not exist, one can only speculate as to the reason why. On one hand, perhaps special education students are simply forgotten among researchers who design evaluations. Like other minority and disadvantaged populations, the argument could be made that special education students are marginalized to the point where they are invisible or forgotten. In many circumstances, researchers have come to understand that minority populations may not react to interventions in the same way as their majority counterparts.

Because of this, it is relatively common to consider the differential effects of race, gender, age, and even location (urban/rural) when designing evaluation studies. However, special education status is rarely included with these other variables. While special education students make up a minority of students within a school system, they still represent a large percentage of U.S. schoolchildren. Furthermore, special education students are especially prone to victimization. It is precisely for these reasons why special education status should be considered in program evaluations in much the same way as race, ethnicity, age, and gender.

**Theme 3: There are some programs that match well with the ASHA criteria.**

Although there is limited evidence regarding bullying prevention among special education students, this study has identified several programs that are compatible with policy statements issued by the American Speech-Language-Hearing Association. Only one program, Positive Action, matched all six ASHA criteria. However, two more programs, Steps to Respect and the Olweus Bullying Prevention Program met 5 of the 6 ASHA criteria. Because of this, there are at least three programs that could be considered appropriate for addressing bullying in students with speech/language delays, including children in special education.

Special education students warrant an additional layer of consideration when discussing special education programming. It should be clear that *just because a program has been shown to reduce bullying, it does not necessarily mean it is the best fit for students receiving special education*. For example, the S.S. Grin program has evidence that it can reduce bullying/aggression among elementary-age students (DeRossier, 2004). Therefore, school districts interested in reducing bullying may consider this program. However, the S.S. Grin program fails to meet several of the ASHA policy criteria. Specifically, the S.S. Grin program is

delivered as a pull-out model, meaning students are removed from their home classroom to receive the intervention. Not only does this violate the idea of least restrictive environment outlined in the Individuals with Disabilities in Education Act (IDEA), but it also singles-out bullying victims (and to a lesser extent, perpetrators). Furthermore, the S.S. Grin program is taught by specialized staff (school counselor and/or an intern), which is counter to the ASHA criterion that the *intervention includes a collaborative service delivery model with familiar communication partners* (ASHA, 2004). Therefore, just because a bullying prevention program is effective in reducing bullying, does not necessarily mean the program is a good fit for students receiving special education.

Although some programs do not fit well with the ASHA criteria, others do. The Positive Action program met all six of the ASHA criteria, making this a good match for students with speech/language disabilities, and likely a good fit for special education students in general. The Positive Action program delivers lessons to students in their home classroom, whether they are in general or special education settings. The Positive Action program includes instructional strategies that ASHA considers to be appropriate for children with communication disorders, including peer modeling, explicit and direct instruction, and role playing. The PA program keeps parents involved by encouraging family goal-setting and positive actions in the home. Because of this, the Positive Action program is recommended for students with speech/language disabilities.



**Theme 4: Perhaps traditional bullying prevention programs aren't the best way to reduce bullying among special education students.**

The ASHA criteria helps provide additional guidance when considering bullying prevention among special education students. After these programs were examined through the lens of ASHA policy statements, it became clear that not all bullying prevention programs offer the best instructional practices for children with speech/language delays. Continuing on this theme, perhaps we should investigate why some of these programs are especially beneficial for students in special education.

Two of the programs that scored well on the ASHA criteria, Positive Action and Steps to Respect, are rooted in the concept of Social Emotional Learning (SEL). Social emotional learning refers to the process of explicitly developing skills such as empathy and self-regulation, usually in the school setting (Humphrey, 2013). Common skills taught in social emotional learning programs include: establishing positive relationships, making responsible decisions, and recognizing and managing emotions. As a result, SEL programs have been used to improve school climate and culture by improving the relationships within a school. Recently, the concepts of SEL have been extended to include bullying prevention programming.

Social emotional learning programs attempt to redefine school culture by improving relationships, with a particular emphasis on understanding and accepting differences among students. For example, the Positive Action program associates negative bullying behaviors with inadequate self-regulation and emotion management. Instead of directly targeting bullying, the Positive Action program targets distal influences of negative behavior. This, in turn, leads to a

holistic approach to school climate, one that discourages bullying behaviors by encouraging diversity and positive relationships among students (Flay et al., 2001).

Explicitly teaching students about empathy, self-regulation and accepting differences will encourage positive relationships among all students, but it may be particularly beneficial for students who are different, including students in special education. These lessons may benefit special education students in two ways: First, children with disabilities, especially those with limited means of communication, may benefit from the social-emotional lessons of managing their own feelings and learning how to handle challenging situations. Simultaneously, general education students who interact with special education students may benefit from lessons on how to establish positive social relationships and how to develop empathy for people who are different. Indeed, the core principles of both the Positive Action and Steps to Respect programs, which are rooted in social emotional learning, focus on both intrapersonal skills (self-regulation and managing one's own emotions) as well as interpersonal skills (getting along with others).

Additionally, many SEL programs incorporate lessons that are already familiar to the speech/language pathologist. The Second Step/Steps to Respect program has lessons dedicated to recognizing and understanding emotions, a common theme in autism therapy. The lessons include tips such as "you can look at people's faces and bodies for clues to help you tell how they feel" and "how to identify someone who is angry." These lessons mirror IEP goals for students with autism and provide an excellent example of how to generalize speech/language therapy goals into the classroom and community. Lessons on empathy could help students in

general education understand the plight of a student who stutters, or a student who has difficulty succeeding in the classroom because of a learning disability.

To contrast, the Olweus Bullying Prevention Program focuses heavily on the *individual*. The OBPP places heavy emphasis on supervision of student activities and behaviors. When students are caught bullying, individuals are identified and reprimanded, with consequences that follow. With such a heavy focus on individual factors, the OBPP could be missing out on many of the root causes of bullying behaviors. Therefore, the OBPP runs the risk of blaming individuals while never fully resolving the issue. Since students in special education are more likely to be bullying perpetrators as well as victims (Rose et al., 2010), programs with a heavy individual focus may unfairly target special education students as bullies.

Bullying prevention programs should be carefully considered with special education students in mind. By understanding the policy and practices that are endorsed by the American Speech/Language Hearing Association, we can better understand how components of prevention programming can interact with students who have speech/language delays. It is speculated that the policy and practices of similar organizations, such as Autism Speaks, may also be investigated for clues that would specifically relate to students with autism. Furthermore, traditional models of prevention programming may not be the best for students in special education, and programs rooted in Social Emotional Learning may offer several benefits to students with disabilities in addition to reductions in bullying.

## Limitations

As with any analysis, there are limitations to this study. Some of these limitations are related to the analytical method of choice, systematic review. Other limitations are solely the responsibility of the researcher and the decisions made within the research project. The specific limitations of systematic review have been discussed above, so this section will focus on specific limitations of this analysis.

In many respects, this project could be considered a very narrow examination of bullying prevention programming. From the outset, this project focused on bullying prevention programming that was available for elementary-age students. This focus resulted in a relatively small number of prevention programs that were eligible for study inclusion. Furthermore, it was found that none of these programs had been evaluated on special education students. While it is true that casting a wider net may have uncovered additional programming, and perhaps programs would have been discovered that have been evaluated on special education students, I believe this project has served its purpose by exposing a void. Professionals working with students in special education deserve to know whether existing bullying prevention programming is effective. Likewise, those who spend scarce funding resources on bullying prevention programs deserve to know if these programs are effective on *all students*. Currently, both of these parties are left to guess.

This project could also be expanded by including measures of aggression as well as bullying. Additional programs could have been included in the final analysis if measures of aggression were included. To be clear, bullying is a form of aggression, but not all aggression is bullying.

Since this project explicitly focused on *bullying* among students in special education, aggression was not included in the analysis. Evaluation studies were thoroughly examined for all references to bullying, and if there was not explicit mention of bullying, the study was excluded.

The derivation of the ASHA criteria could also be criticized. The goal was to develop a set of criteria that could be used to determine which bullying prevention programs were a “good fit” for students with speech/language disabilities. Because this criteria did not exist, it had to be developed. The development of these criteria were admittedly qualitative, and as a result could be seen as a form of cherry picking to suit the needs of the analysis. While every effort was made to remain objective in the selection of themes highlighted in ASHA policy statements, the fact remains that these criteria were hand-selected by the researcher without any guidance, rules or systematic approach. It is hoped that more objective criteria can be developed in the future, perhaps with the collaboration of ASHA.

### **Suggestions for Future Research**

It should also be noted that just because bullying prevention programs are effective in reducing bullying, it does not necessarily mean they are a good fit for all students, particularly students in special education. As such, future research should continue to expand the criteria that were derived from ASHA policy statements. Further understanding could come from criteria derived from the special education literature in an effort to better understand how special education students can learn material relevant to bullying prevention.

Additionally, this project can (and should) be expanded to include bullying prevention programs that target middle and high school students. Bullying is not limited to elementary-age

students. As such, it would be a worthy pursuit to determine if bullying prevention programming have been evaluated on special education students in other age brackets. One study was identified that evaluated bullying prevention on middle school students in special education (Espelage, Rose & Polanin, 2015), and others may exist. Additional information could be generated by expanding the study to include programming that focuses on aggression as well as bullying. While bullying and aggression are distinct entities, special education students are victims of both. As such, it would be prudent to determine if programing is available to combat victimization in either form.

Finally, it is hoped that this project will encourage others to consider special education students in the development and evaluation of prevention programming, including bullying prevention programming. Special education is a minority and disadvantaged class. As such, researchers should take extra care in ensuring that programming works for these populations. Just as researchers consider the differential impacts of race, ethnicity and gender, researchers should consider special education status. While this consideration would not make up for the past void, it could contribute to a more equitable future for special education students who are not yet known.

## References

- American Speech-Language-Hearing Association. (1991). *Providing appropriate education for students with learning disabilities in regular education classrooms*. Rockville, MD.
- American Speech-Language-Hearing Association. (1996). *Inclusive practices for children and youths with communication disorders*. Rockville, MD.
- American Speech-Language-Hearing Association. (2004a). *Evidence-based practice in communication disorders: An introduction*. Rockville, MD.
- American Speech-Language-Hearing Association. (2004b). *Knowledge and skills needed by speech-language pathologists and audiologists to provide culturally and linguistically appropriate services*. Rockville, MD.
- American Speech-Language-Hearing Association. (2004c). *Roles and responsibilities of speech-language pathologists with respect to augmentative and alternative communication: Technical report*. Rockville, MD.
- American Speech-Language-Hearing Association. (2005). *Principles for speech-language pathologists serving persons with mental retardation/developmental disabilities*. Rockville, MD.
- Asher, S. R., & Gazelle, H. (1999). Loneliness, Peer Relations, and Language Disorder in Childhood. *Topics in Language Disorders, 19*(2), 16–33.
- Atria, M., Strohmeier, D., & Spiel, C. (2007). The relevance of the school class as social unit for the prevalence of bullying and victimization. *European Journal of Developmental Psychology, 4*(4), 372–387.

- Baio, J. (2014). Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years, United States, 2010. *Center for Disease Control and Prevention, Morbidity and Mortality Weekly Report, Surveillance Summaries*, 1–21.
- Baumeister, A. L., Storch, E. A., & Geffken, G. R. (2008). Peer Victimization in Children with Learning Disabilities. *Child and Adolescent Social Work Journal*, 25(1), 11–23.
- Beets, M. W., Flay, B. R., Vuchinich, S., Snyder, F. J., Acock, A., Li, K.-K., ... Durlak, J. (2009). Use of a social and character development program to prevent substance use, violent behaviors, and sexual activity among elementary-school students in Hawaii. *American Journal of Public Health*, 99(8), 1438–1445.
- Bennett, E. (2005). *Working With People Who Stutter: A Lifespan Approach*. New York: Pearson.
- Bernstein, J. Y., & Watson, M. W. (1997). Children Who Are Targets of Bullying A Victim Pattern. *Journal of Interpersonal Violence*, 12(4), 483–498.
- Bisset, L., Paungmali, A., Vicenzino, B., & Beller, E. (2005). A systematic review and meta-analysis of clinical trials on physical interventions for lateral epicondylalgia. *British Journal of Sports Medicine*, 39(7), 411–422.
- Black, S. A., & Jackson, E. (2007). Using bullying incident density to evaluate the Olweus Bullying Prevention Programme. *School Psychology International*, 28(5), 623–638.
- Blood, G. W., Blood, I. M., Maloney, K., Meyer, C., & Qualls, C. D. (2007). Anxiety levels in adolescents who stutter. *Journal of Communication Disorders*, 40(6), 452–469.
- Blood, G. W., Blood, I. M., Tellis, G. M., & Gabel, R. M. (2003). A preliminary study of self-esteem, stigma, and disclosure in adolescents who stutter. *Journal of Fluency Disorders*, 28(2), 143–159.



- Blood, G. W., Blood, I. M., Tramontana, G. M., Sylvia, A. J., Boyle, M. P., & Motzko, G. R. (2011). Self-Reported Experience of Bullying of Students Who Stutter: Relations with Life Satisfaction, Life Orientation, and Self-Esteem. *Perceptual & Motor Skills, 113*(2), 353–364.
- Boland, A., Cherry, G., & Dickson, R. (2014). *Doing a Systematic Review: A Student's Guide*. Thousand Oaks, CA: Sage Publications.
- Boulton, M. J., Trueman, M., Chau, C., Whitehand, C., & Amatya, K. (1999). Concurrent and longitudinal links between friendship and peer victimization: implications for befriending interventions. *Journal of Adolescence, 22*(4), 461–466.
- Brown, C. (2008). The information trail of the “Freshman 15” —a systematic review of a health myth within the research and popular literature. *Health Information & Libraries Journal, 25*(1), 1–12.
- Brown, E. C., Low, S., Smith, B. H., & Haggerty, K. P. (2011). Outcomes From a School-Randomized Controlled Trial of Steps to Respect: A Bullying Prevention Program. *School Psychology Review, 40*(3), 423–443.
- Cappadocia, M. C., Weiss, J. A., & Pepler, D. (2012). Bullying experiences among children and youth with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 42*(2), 266–277.
- Carney, J. V. (2000). Bullied to Death Perceptions of Peer Abuse and Suicidal Behaviour during Adolescence. *School Psychology International, 21*(2), 213–223.
- Chadwick, S. (2014). Impacts of Cyberbullying, Building Social and Emotional Resilience in Schools (pp. 1–10). Springer International Publishing.

- Coffield, F., Moseley, D., Hall, E., Ecclestone, K., & others. (2004). Learning styles and pedagogy in post-16 learning: A systematic and critical review.
- Cortiella, C., & Horowitz, S. H. (2014). The State of Learning Disabilities: Facts, Trends and Emerging Issues. *New York: National Center for Learning Disabilities.*
- Coyle, H. E. (2008). School culture benchmarks: Bridges and barriers to successful bullying prevention program implementation. *Journal of School Violence, 7*(2), 105–122.
- Craig, W. M. (1998). The relationship among bullying, victimization, depression, anxiety, and aggression in elementary school children. *Personality and Individual Differences, 24*(1), 123–130.
- Crean, H. F., & Johnson, D. B. (2013). Promoting Alternative Thinking Strategies (PATHS) and Elementary School Aged Children’s Aggression: Results from a Cluster Randomized Trial. *American Journal of Community Psychology, 52*(1-2), 56–72.
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66*(3), 710–722.
- Dawkins, J. L. (1996). Bullying, physical disability and the paediatric patient. *Developmental Medicine & Child Neurology, 38*(7), 603–612.
- de Morton, N. A. (2009). The PEDro scale is a valid measure of the methodological quality of clinical trials: a demographic study. *Australian Journal of Physiotherapy, 55*(2), 129–133.
- DeRosier, M. E. (2004). Building relationships and combating bullying: Effectiveness of a school-based social skills group intervention. *Journal of Clinical Child and Adolescent Psychology, 33*(1), 196–201.

- DeRosier, M. E., & Marcus, S. R. (2005). Building friendships and combating bullying: Effectiveness of SS GRIN at one-year follow-up. *Journal of Clinical Child and Adolescent Psychology, 34*(1), 140–150.
- Domitrovich, C. E., Cortes, R. C., & Greenberg, M. T. (2007). Improving Young Children’s Social and Emotional Competence: A Randomized Trial of the Preschool “PATHS” Curriculum. *The Journal of Primary Prevention, 28*(2), 67–91.
- Elkins, M. R., Herbert, R. D., Moseley, A. M., Sherrington, C., & Maher, C. (2010). Rating the quality of trials in systematic reviews of physical therapy interventions. *Cardiopulmonary Physical Therapy Journal, 21*(3), 20–26.
- Espelage, D. L., Low, S., Polanin, J. R., & Brown, E. C. (2015). Clinical trial of Second Step middle-school program: Impact on aggression & victimization. *Journal of Applied Developmental Psychology, 37*, 52–63.
- Evans, C. B. R., Fraser, M. W., & Cotter, K. L. (2014). The effectiveness of school-based bullying prevention programs: A systematic review. *Aggression and Violent Behavior, 19*(5), 532–544.
- Evans, J. M., Harden, A., Thomas, J., & Benefield, P. (2003). Support for pupils with emotional and behavioural difficulties (EBD) in mainstream primary classrooms: a systematic review of the effectiveness of interventions.
- Farmer, T. W., Petrin, R., Brooks, D. S., Hamm, J. V., Lambert, K., & Gravelle, M. (2012). Bullying Involvement and the School Adjustment of Rural Students With and Without Disabilities. *Journal of Emotional and Behavioral Disorders, 20*(1), 19–37.

- Farrington, D., & Ttofi, M. (2009). School-Based Programs to Reduce Bullying and Victimization. The Campbell Collaboration Crime and Justice Group.
- Fekkes, M., Pijpers, F. I. M., & Verloove-Vanhorick, S. P. (2004). Bullying behavior and associations with psychosomatic complaints and depression in victims. *The Journal of Pediatrics, 144*(1), 17–22.
- Flay, B. R., Allred, C. G., & Ordway, N. (2001). Effects of the Positive Action Program on Achievement and Discipline: Two Matched-Control Comparisons. *Prevention Science, 2*(2), 71–89.
- Fletcher, J., Lyon, G., Fuchs, L., & Barnes, M. (2011). *Learning Disabilities: From Identification to Intervention*. New York: Guilford Press.
- Flynt, S. W., & Morton, R. C. (2004). Bullying and children with disabilities. *Journal of Instructional Psychology, 31*(4), 330.
- Frey, K. S., Hirschstein, M. K., Edstrom, L. V., & Snell, J. L. (2009). Observed reductions in school bullying, nonbullying aggression, and destructive bystander behavior: A longitudinal evaluation. *Journal of Educational Psychology, 101*(2), 466–481.
- Frey, K. S., Hirschstein, M. K., Snell, J. L., Edstrom, L. V. S., MacKenzie, E. P., & Broderick, C. J. (2005). Reducing Playground Bullying and Supporting Beliefs: An Experimental Trial of the Steps to Respect Program. *Developmental Psychology, 41*(3), 479–490.
- Frostad, P., & Pijl, S. J. (2006). Does being friendly help in making friends? The relation between the social position and social skills of pupils with special needs in mainstream education. *European Journal of Special Needs Education, 22*(1), 15–30.

- Fujiki, M., Brinton, B., Hart, C. H., & Fitzgerald, A. H. (1999). Peer Acceptance and Friendship in Children with Specific Language Impairment. *Topics in Language Disorders, 19*(2), 34–48.
- Geertz, C. (1973). *The interpretation of cultures: Selected essays* (Vol. 5019). Basic books.
- Glass, G. V. (1976). Primary, Secondary, and Meta-Analysis of Research. *Educational Researcher, 5*(10), 3–8.
- Glew, G. M., Fan, M.-Y., Katon, W., Rivara, F. P., & Kernic, M. A. (2005). Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of Pediatrics & Adolescent Medicine, 159*(11), 1026–1031.
- Gough, D., Oliver, S., & Thomas, J. (2012). *An Introduction to Systematic Reviews*. Los Angeles: Sage.
- Greenberg, M. T., & Kusché, C. A. (1998). Preventive Intervention for School-Age Deaf Children: The PATHS Curriculum. *Journal of Deaf Studies and Deaf Education, 3*(1), 49–63.
- Greenberg, M. T., Kusche, C. A., Cook, E. T., & Quamma, J. P. (1995). Promoting emotional competence in school-aged children: The effects of the PATHS curriculum. *Development and Psychopathology, 7*(01), 117–136.
- Greene, R. W., Biederman, J., Faraone, S. V., Ouellette, C. A., Penn, C., & Griffin, S. M. (1996). Toward a new psychometric definition of social disability in children with attention-deficit hyperactivity disorder. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*(5), 571–578.
- Hawker, D. S. J., & Boulton, M. J. (2000). Twenty Years' Research on Peer Victimization and Psychosocial Maladjustment: A Meta-analytic Review of Cross-sectional Studies. *Journal of Child Psychology and Psychiatry, 41*(4), 441–455.

- Higgins, J. P. T., Green, S., & Cochrane Collaboration. (2008). *Cochrane handbook for systematic reviews of interventions*. Chichester, England; Hoboken, NJ: Wiley-Blackwell.
- Hinduja, S., & Patchin, J. W. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimization. *Deviant Behavior, 29*(2), 129–156.
- Hinduja, S., & Patchin, J. W. (2010). Bullying, Cyberbullying, and Suicide. *Archives of Suicide Research, 14*(3), 206–221.
- Hodges, E. V., Boivin, M., Vitaro, F., & Bukowski, W. M. (1999). The power of friendship: protection against an escalating cycle of peer victimization. *Developmental Psychology, 35*(1), 94.
- Hugh-Jones, S., & Smith, P. K. (1999). Self-reports of short-and long-term effects of bullying on children who stammer. *British Journal of Educational Psychology, 69*(2), 141–158.
- Humphrey, N. (2013). *Social and Emotional Learning: A Critical Appraisal*. Thousand Oaks, CA: Sage Publications.
- Hutton, E. K., & Hassan, E. S. (2007). Late vs early clamping of the umbilical cord in full-term neonates: systematic review and meta-analysis of controlled trials. *Jama, 297*(11), 1241–1252.
- Jenson, J. M., Brisson, D., Bender, K. A., & Williford, A. P. (2013). Effects of the Youth Matters prevention program on patterns of bullying and victimization in elementary and middle school. *Social Work Research, 30*.
- Jenson, J. M., & Dieterich, W. A. (2007). Effects of a skills-based prevention program on bullying and bully victimization among elementary school children. *Prevention Science, 8*(4), 285–296.

- Jesson, J., Matheson, L., & Lacey, F. M. (2011). *Doing Your Literature Review: Traditional and Systematic Techniques*. SAGE.
- Juvonen, J., Graham, S., & Schuster, M. A. (2003). Bullying Among Young Adolescents: The Strong, the Weak, and the Troubled. *Pediatrics*, *112*(6), 1231–1237.
- Kam, C.-M., Greenberg, M. T., & Kusché, C. A. (2004). Sustained Effects of the PATHS Curriculum on the Social and Psychological Adjustment of Children in Special Education. *Journal of Emotional and Behavioral Disorders*, *12*(2), 66–78.
- Kam, C.-M., Greenberg, M. T., & Walls, C. T. (2003). Examining the Role of Implementation Quality in School-Based Prevention Using the PATHS Curriculum. *Prevention Science*, *4*(1), 55–63.
- Klompas, M., & Ross, E. (2004). Life experiences of people who stutter, and the perceived impact of stuttering on quality of life: Personal accounts of South African individuals. *Journal of Fluency Disorders*, *29*(4), 275–305.
- Koo, H. (2007). A time line of the evolution of school bullying in differing social contexts. *Asia Pacific Education Review*, *8*(1), 107–116.
- Kowalski, R. M., & Limber, S. P. (2007). Electronic Bullying Among Middle School Students. *Journal of Adolescent Health*, *41*(6, Supplement), S22–S30.
- Kumpulainen, K., Räsänen, E., Henttonen, I., Almqvist, F., Kresanov, K., Linna, S.-L., ... Tamminen, T. (1998). Bullying and Psychiatric Symptoms Among Elementary School-Age Children. *Child Abuse & Neglect*, *22*(7), 705–717.
- Kuykendall, S. (2012). *Bullying*. Westport, CT: Greenwood Publishing.

- Lackaye, T. D., & Margalit, M. (2006). Comparisons of achievement, effort, and self-perceptions among students with learning disabilities and their peers from different achievement groups. *Journal of Learning Disabilities, 39*(5), 432–446.
- Leary, M. R., Kowalski, R. M., Smith, L., & Phillips, S. (2003). Teasing, rejection, and violence: Case studies of the school shootings. *Aggressive Behavior, 29*(3), 202–214.
- Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P. A., ... Moher, D. (2009). The PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies That Evaluate Health Care Interventions: Explanation and Elaboration. *PLoS Med, 6*(7).
- Li, K.-K. IsaacDuBois, David L. Vuchinich, Samuel Ji, Peter Brechling, Vanessa Day, Joseph Beets, Michael W. Acock, Alan C. Berbaum, Michael Snyder, Frank Flay, Brian R. (2011). Effects of the Positive Action programme on problem behaviours in elementary school students: A matched-pair randomised control trial in Chicago. *Psychology & Health, 26*(2), 187–204.
- Limber, S. (2004). Implementation of the Olweus Bullying Prevention Program in American Schools: Lessons Learned From the Field. In *Bullying in American Schools: A Social-Ecological Perspective on Prevention and Intervention*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Littell, J. H., Corcoran, J., & Pillai, V. (2008). *Systematic Reviews and Meta-analysis (Pocket Guides to Social Work Research Methods)*. Oxford, UK: Oxford University Press.



- Little, L. (2002). Middle-class mothers' perceptions of peer and sibling victimization among children with asperger's syndrome and nonverbal learning disorders. *Issues in Comprehensive Pediatric Nursing, 25*(1), 43–57.
- Low, S., Van Ryzin, M. J., Brown, E. C., Smith, B. H., & Haggerty, K. P. (2014). Engagement matters: lessons from assessing classroom implementation of steps to respect: a bullying prevention program over a one-year period. *Prevention Science, 15*(2), 165–176.
- Luciano, S., & Savage, R. S. (2007). Bullying Risk in Children With Learning Difficulties in Inclusive Educational Settings. *Canadian Journal of School Psychology, 22*(1), 14–31.
- Masiello, M., Messina, A., Saylor, J., & Limber, S. (2009). Bullying prevention: A statewide collaborative that works. A report to stakeholders. Pittsburgh, PA: Highmark Foundation.
- McNamara, J. K., Willoughby, T., Chalmers, H., & Ylc-Cura. (2005). Psychosocial Status of Adolescents with Learning Disabilities With and Without Comorbid Attention Deficit Hyperactivity Disorder. *Learning Disabilities Research & Practice, 20*(4), 234–244.
- Mishna, F. (2003). Learning disabilities and bullying double jeopardy. *Journal of Learning Disabilities, 36*(4), 336–347.
- Mishna, F., Khoury-Kassabri, M., Gadalla, T., & Daciuk, J. (2012). Risk factors for involvement in cyber bullying: Victims, bullies and bully–victims. *Children and Youth Services Review, 34*(1), 63–70.

- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *Annals of Internal Medicine, 151*(4), 264–269.
- Murphy, W. P., & Quesal, R. W. (2002). Strategies for Addressing Bullying with the School-Age Child Who Stutters. *Seminars in Speech and Language, 23*(3), 205–212.
- Nabuzoka, D. (2003). Teacher Ratings and Peer Nominations of Bullying and Other Behaviour of Children With and Without Learning Difficulties. *Educational Psychology, 23*(3), 307–321.
- Nabuzoka, D., & Smith, P. K. (1993). Sociometric Status and Social Behaviour of Children with and without Learning Difficulties. *Journal of Child Psychology and Psychiatry, 34*(8), 1435–1448.
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *Jama, 285*(16), 2094–2100.
- National Joint Committee for the Communication Needs of Persons With Severe Disabilities. (1992). *Guidelines for meeting the communication needs of persons with severe disabilities*. Rockville, MD.
- National Joint Committee on Learning Disabilities. (2007). *Learning Disabilities and Young Children: Identification and Intervention*. Rockville, MD.
- Needleman, I. G. (2002). A guide to systematic reviews. *Journal of Clinical Periodontology, 29*, 6–9.
- Neuendorf, K. A. (2002). *The content analysis guidebook*. Thousand Oaks, CA: Sage.

Newschaffer, C. J., Croen, L. A., Daniels, J., Giarelli, E., Grether, J. K., Levy, S. E., ... Windham, G.

C. (2007). The Epidemiology of Autism Spectrum Disorders. *Annual Review of Public Health, 28*(1), 235–258.

Olweus, D. (1993). *Bullying at School: What We Know and What We Can Do*. Malden, MA: Wiley-Blackwell.

Olweus, D. (2005). A useful evaluation design, and effects of the Olweus Bullying Prevention Program. *Psychology Crime & Law, 11*(4), 389–402.

Olweus, D., & Limber, S. P. (2010). Bullying in School: Evaluation and Dissemination of the Olweus Bullying Prevention Program. *American Journal of Orthopsychiatry, 80*(1), 124–134.

O'Moore, M., & Kirkham, C. (2001). Self-esteem and its relationship to bullying behaviour. *Aggressive Behavior, 27*(4), 269–283.

Pagliocca, P. M., Limber, S. P., & Hashima, P. (2007). Evaluation report for the Chula Vista Olweus Bullying Prevention Program. Final report prepared for the Chula Vista, CA, Police Department. Unpublished Manuscript. Institute on Family & Neighborhood Life. Clemson University, Clemson, SC.

Rose, C. A., Espelage, D. L., & Monda-Amaya, L. E. (2009). Bullying and victimization rates among students in general and special education: a comparative analysis. *Educational Psychology, 29*(7), 761–776.

Sabornie, E. J. (1994). Social-Affective Characteristics in Early Adolescents Identified as Learning Disabled and Nondisabled. *Learning Disability Quarterly, 17*(4), 268–279.

- Sanderson, S., Tatt, I. D., & Higgins, J. P. T. (2007). Tools for assessing quality and susceptibility to bias in observational studies in epidemiology: a systematic review and annotated bibliography. *International Journal of Epidemiology*, *36*(3), 666–676.
- Saylor, C. F., & Leach, J. B. (2009). Perceived Bullying and Social Support in Students Accessing Special Inclusion Programming. *Journal of Developmental and Physical Disabilities*, *21*(1), 69–80.
- Schroeder, B. A., Messina, A., Schroeder, D., Good, K., Barto, S., Saylor, J., & Masiello, M. (2012). The implementation of a statewide bullying prevention program: preliminary findings from the field and the importance of coalitions. *Health Promotion Practice*, *13*(4), 489–495.
- Sharp, S. (1995). How much does bullying hurt? The effects of bullying on the personal wellbeing and educational progress of secondary aged students. *Educational and Child Psychology*, *12*(2), 81–88.
- Sheehan, J. (1970). *Stuttering: Research and Therapy*. New York: Harper and Row.
- Smith, D., Schneider, Smith, & Ananiadou. (2004). The Effectiveness of Whole-School Antibullying Programs: A Synthesis of Evaluation Research. *School Psychology Review*, *33*(4), 547.
- Smith, V., Devane, D., Begley, C. M., & Clarke, M. (2011). Methodology in conducting a systematic review of systematic reviews of healthcare interventions. *BMC Medical Research Methodology*, *11*(1), 15–20.

- Snyder, F., Flay, B., Vuchinich, S., Acock, A., Washburn, I., Beets, M., & Li, K.-K. (2009). Impact of a Social-Emotional and Character Development Program on School-Level Indicators of Academic Achievement, Absenteeism, and Disciplinary Outcomes: A Matched-Pair, Cluster-Randomized, Controlled Trial. *Journal of Research on Educational Effectiveness*, 3(1), 26–55.
- Snyder, F. J., Vuchinich, S., Acock, A., Washburn, I. J., & Flay, B. R. (2012). Improving Elementary School Quality Through the Use of a Social-Emotional and Character Development Program: A Matched-Pair, Cluster-Randomized, Controlled Trial in Hawai'i. *Journal of School Health*, 82(1), 11–20.
- Sterzing, P. R., Shattuck, P. T., Narendorf, S. C., Wagner, M., & Cooper, B. P. (2012). Bullying involvement and autism spectrum disorders: prevalence and correlates. *Archives of Pediatrics & Adolescent Medicine*, 166(11), 1058–1064.
- Stravynski, A., & Boyer, R. (2001). Loneliness in Relation to Suicide Ideation and Parasuicide: A Population-Wide Study. *Suicide and Life-Threatening Behavior*, 31(1), 32–40.
- Tierney, J. P., Grossman, J. B., & Resch, N. L. (1995). Making a difference: An impact study of Big Brothers/Big Sisters.
- Twyman, K. A., Saylor, C. F., Saia, D., Macias, M. M., Taylor, L. A., & Spratt, E. (2010). Bullying and ostracism experiences in children with special health care needs. *Journal of Developmental & Behavioral Pediatrics*, 31(1), 1–8.
- Twyman, K., Saylor, C., Taylor, L. A., & Comeaux, C. (2010). Comparing Children and Adolescents Engaged in Cyberbullying to Matched Peers. *Cyberpsychology, Behavior, and Social Networking*, 13(2), 195–199.

- Valas, H. (1999). Students with learning disabilities and low-achieving students: Peer acceptance, loneliness, self-esteem, and depression. *Social Psychology of Education, 3*(3), 173–192.
- Van Roekel, E., Scholte, R. H., & Didden, R. (2010). Bullying among adolescents with autism spectrum disorders: Prevalence and perception. *Journal of Autism and Developmental Disorders, 40*(1), 63–73.
- Wang, J., Iannotti, R. J., & Nansel, T. R. (2009). School Bullying Among Adolescents in the United States: Physical, Verbal, Relational, and Cyber. *Journal of Adolescent Health, 45*(4), 368–375.
- Washburn, I. J., Acock, A., Vuchinich, S., Snyder, F., Li, K.-K., Ji, P., ... Flay, B. R. (2011). Effects of a Social-Emotional and Character Development Program on the Trajectory of Behaviors Associated with Social-Emotional and Character Development: Findings from Three Randomized Trials. *Prevention Science, 12*(3), 314–323.
- Whitted, K. S., & Dupper, D. R. (2005). Best Practices for Preventing or Reducing Bullying in Schools. *Children & Schools, 27*(3), 167–175.
- Willard, N. E. (2007). *Cyberbullying and Cyberthreats: Responding to the Challenge of Online Social Aggression, Threats, and Distress*. Research Press.
- Willcutt, E. G., Betjemann, R. S., McGrath, L. M., Chhabildas, N. A., Olson, R. K., DeFries, J. C., & Pennington, B. F. (2010). Etiology and neuropsychology of comorbidity between RD and ADHD: The case for multiple-deficit models. *Cortex, 46*(10), 1345–1361.
- Williams, K. R., & Guerra, N. G. (2007). Prevalence and predictors of internet bullying. *Journal of Adolescent Health, 41*(6), S14–S21.