

1-1-2017

Effects of a Peer-Tutoring System Utilizing Students With Emotional Behavioral Disorders as Tutors and Students With Intellectual Disabilities as Tutees

Vicki Koslin Howell
Nova Southeastern University

This document is a product of extensive research conducted at the Nova Southeastern University [Abraham S. Fischler College of Education](#). For more information on research and degree programs at the NSU Abraham S. Fischler College of Education, please click [here](#).

Follow this and additional works at: https://nsuworks.nova.edu/fse_etd

 Part of the [Special Education and Teaching Commons](#)

Share Feedback About This Item

NSUWorks Citation

Vicki Koslin Howell. 2017. *Effects of a Peer-Tutoring System Utilizing Students With Emotional Behavioral Disorders as Tutors and Students With Intellectual Disabilities as Tutees*. Doctoral dissertation. Nova Southeastern University. Retrieved from NSUWorks, Abraham S. Fischler College of Education. (218)
https://nsuworks.nova.edu/fse_etd/218.

This Dissertation is brought to you by the Abraham S. Fischler College of Education at NSUWorks. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of NSUWorks. For more information, please contact nsuworks@nova.edu.

Effects of a Peer-Tutoring System Utilizing Students With Emotional Behavioral
Disorders as Tutors and Students With Intellectual Disabilities as Tutees

by
Vicki Koslin

An Applied Dissertation Submitted to the
Abraham S. Fischler College of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Nova Southeastern University
2017

Approval Page

This applied dissertation was submitted by Vicki Koslin under the direction of the persons listed below. It was submitted to the Abraham S. Fischler College of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova Southeastern University.

Hardwick Smith Johnson, Jr., EdD
Committee Chair

Sherry Burke, EdD
Committee Member

Kimberly Durham, PsyD
Interim Dean

Statement of Original Work

I declare the following:

I have read the Code of Student Conduct and Academic Responsibility as described in the *Student Handbook* of Nova Southeastern University. This applied dissertation represents my original work, except where I have acknowledged the ideas, words, or material of other authors.

Where another author's ideas have been presented in this applied dissertation, I have acknowledged the author's ideas by citing them in the required style.

Where another author's words have been presented in this applied dissertation, I have acknowledged the author's words by using appropriate quotation devices and citations in the required style.

I have obtained permission from the author or publisher—in accordance with the required guidelines—to include any copyrighted material (e.g., tables, figures, survey instruments, large portions of text) in this applied dissertation manuscript.

Vicki Koslin
Name

March 22, 2017
Date

Abstract

Effects of a Peer-Tutoring System Utilizing Students With Emotional Behavioral Disorders as Tutors and Students With Intellectual Disabilities as Tutees. Vicki Koslin, 2017: Applied Dissertation, Nova Southeastern University, Abraham S. Fischler College of Education. Keywords: emotional disturbances, intellectual disability, moderate intellectual disability, peer tutoring, self-contained classrooms

High school students with intellectual disabilities often find appropriate ways and times to socialize with their peers. In self-contained settings, students are often limited to interacting with only those within the classroom. In addition, students with emotional behavioral disorders often have deficits in social domains and in self-esteem. Improving socializations of students with disabilities has always been a concern of both parents and teachers. Peer-mediated learning has been a proven effective way to instruct students with disabilities. Placing a student with an emotional behavioral disorder in the position of a peer tutor allows them to feel more secure in their own skills.

A multiple baseline across subject design was used to evaluate the effectiveness of a peer-tutoring program in which students with emotional behavioral disorders tutored students with moderate intellectual disabilities with the aim of increasing social initiations in students with moderate intellectual disabilities.

Table of Contents

	Page
Chapter 1: Introduction.....	1
Background and Justification	2
Research Problem	3
Deficiencies in the Evidence	3
Statement of the Problem	4
Setting.....	4
Audience.....	5
Definition of Terms	5
Purpose of the Study.....	6
Chapter 2: Literature Review	7
Mild to Moderate Intellectual Disabilities.....	7
Socialization	10
Factors Impacting Socialization	13
Emotional Behavioral Disorders	15
Self-Esteem.....	17
The Nature of Peer Relationships in School Settings.....	21
Peer-Mediated Learning.....	25
Peer-Tutoring Benefits to Tutees.....	27
Peer Tutoring: Individuals With Disabilities as Tutors	34
Benefits of Peer Tutoring for Tutors	37
Summary.....	38
Research Questions	39
Chapter 3: Methodology.....	40
Participants	40
Instruments	41
Procedures	42
Chapter 4: Results.....	48
Implementation of Peer Tutoring Program Affecting Social Initiations	48
Implementation of Peer Tutoring Program Affecting Self-Esteem.....	48
Chapter 5: Discussion.....	52
Elaboration and Interpretation of Results.....	52
Implications of Findings.....	55
Limitations.....	55
Further Research.....	56
References	58
Appendices	
A Social Initiation Data Sheet.....	75
B Rosenberg Self-Esteem Scale.....	77

Figures

1	Results for Tutee A.....	49
2	Results for Tutee B.....	50
3	Results for Tutee C.....	50

Chapter 1: Introduction

High school students with disabilities often struggle with appropriate ways of socializing among peers. According to the American Psychiatric Association (2013), characteristics of intellectual disabilities (ID) involve diminished overall cognitive functioning to include adaptive skills, such as interpersonal communication skills and the ability to create and maintain friendships. In addition to students with ID, students with Emotional Behavioral Disorders (EBD) also have deficits in behavioral and social domains in the areas of friendships and social relationships (Lane, Wehby, Little, & Cooley, 2005). The Individuals with Disabilities Education Act mandates schools to provide students with disabilities the least-restrictive environment for learning (U.S. Congress, 2004). If students cannot fully participate in general education classrooms, an individualized education program team must, then, determine an appropriate substitute setting closest to that of the general education setting.

According to Idol (2006), the term mainstreaming is used when students with disabilities are taught in both the special and general education classrooms for parts of the day. Some students with disabilities, however, need a more structured environment with smaller class sizes throughout the day. Students with disabilities often receive special-education services in the self-contained classroom. According to Jones (2007), some students' differences require "distinct (and therefore, separate) places for instruction if their educational needs are to be met" (p. 151). Jones also stated because of students' needs, a separate classroom can in fact prove effective over inclusive placement for students. Jones agreed with Brigham and Kauffman (1998), who stated that if school leaders are to provide equal access and opportunities to education, then certain students may need a more supportive and closely-monitored environment.

Background and Justification

Jones and Hensley (2012) found that students in self-contained classrooms are isolated from the rest of the school. Results, however, indicated that students in self-contained classes felt better supported by peers than by other students in the school. Because students with disabilities are more often socially isolated than other students, teachers and parents are concerned with providing opportunities for improving socialization (Carter et al., 2015). Effective socialization is important to school performance (Hughes et al., 2011).

Peer-mediated learning has been an effective tool in classrooms for students with disabilities, allowing peers the opportunity to be role models (Bukowski, Motzoi, & Meyer, 2009). Peer-mediated learning has been shown to enhance student academic engagement in addition to improving social interactions for students with and without disabilities (Carter & Kennedy, 2006; Howes, 1996). Involving other students in classroom learning takes some of the burden from teachers. In fact, “compared with individually assigned paraprofessionals, peer support arrangements were associated with increased peer interaction” (Carter, Sisco, Melekoglu, & Kurkowski, 2007, p. 214). Peer tutoring has benefits to both the tutee and the tutor. Positive peer groups provide students the opportunity to help others while learning to help themselves. (Laursen, 2005). For students with EBD, being a peer tutor can be particularly effective, as it affords an awareness of latent skills that actually help others (Laursen, 2005). In an article synthesizing 12 studies, the authors concluded that using students with disabilities as both the peer tutor and peer tutees resulted in positive academic outcomes for all involved (Okilwa & Shelby, 2010). In a study by Carter et al. (2007), an increase was noted in peer interaction when students with special needs were paired with other

students instead of paraprofessionals. Similarly, in a study by Goldstein, Schneider, and Thiemann (2007), children with disabilities showed an increase in social interactions through peer-mediated strategies.

In a study conducted by Whitaker in 2004, peer tutors felt a sense of personal accomplishment, of being needed, wanted, and special to peer partners. Jones (2007) also found that peer tutors received many benefits. The parent of a peer tutor with academic and behavioral problems reported that the opportunity had given her child something to feel good about and recommended peer tutoring to anyone considering it. The researcher also found that peer tutors had an increase in self-confidence, pride, and had learned responsibility. Considering the lack of prosocial skills and opportunities for leadership (Fitzpatrick & Knowlton, 2009), giving students with EBD opportunities at peer tutoring, and thereby becoming a leader who helps others, could be beneficial.

Research Problem

Students with EBD often have deficits in social domains and in self-esteem (Jones, 2007; Kauffman, 2005; Laursen, 2005). Evidence indicates that peer mentoring can address some areas of need for socialization skills for individuals with disabilities (Carter & Kennedy, 2006; Gena, 2006; Goldstein et al., 2007; Ryan, Reid & Epstein, 2004). Research is lacking, however, for utilizing students with disabilities as both peer tutors and peer tutees (Bobroff & Sax, 2010; Carter et al., 2007; Odluyurt, Tekin-Iftar, & Ersoy, 2014; Okilwa & Shelby, 2010).

Deficiencies in the Evidence

Many studies exist to suggest the benefits of peer-mediated learning, in the areas of socialization and academics, using students with special needs as the tutees (Carter et al., 2007; Estell et al., 2008; Hudson, Browder, & Jimenez, 2014; Hughes et al., 2011).

Few studies were found in which students with any sort of disability served as the peer tutor and peer tutee. Okilwa and Shelby (2010) found that a lack of evidence existed in regard to the effectiveness of peer tutoring in Grades 6 through 12. Okilwa and Shelby synthesized 12 different studies finding that students with different types of disabilities are effective peer tutors. The researcher concluded that additional research is needed in the area of peer tutoring with students with moderate to severe disabilities and how well skills are generalized into other settings.

Statement of the Problem

Students with ID often struggle with appropriate socialization techniques (American Psychiatric Association, 2013). Students with EBD also struggle with confidence and opportunities to be role models (Jones, 2007). Students with ID or emotional disabilities who are placed in self-contained classrooms lack opportunities for appropriate socialization in conversations. Students taught in self-contained classrooms for most of the school day are also at risk for low self-esteem (Smetana, Campione-Barr, & Metzger, 2006). Additionally, these students often have lower levels of desirable behavior like leadership skills and achievement (Brigham & Kauffman, 1998).

Setting

This study was conducted at a public high school in a small rural town in the southeast within a self-contained special education classroom. The classroom included four adults, one teacher and three paraprofessionals, three students with mild to moderate intellectual disabilities, and three peers with EBD. The peers were already familiar with the students with disabilities through years of Peer Helpers, a group that connects typical peers with peers with special needs. Peers were chosen by the self-contained EBD teacher and the self-contained ID teacher based upon eligibility,

observation of desire to help others, nonaggressive behaviors, and lack of leadership opportunities throughout the school day.

The research classroom had 10 moveable student desks, a small kidney table with four chairs, a kitchen table with four chairs, and a single computer station. The times for baseline and intervention were from 2:15 p.m. to 2:35 p.m. The adults in the classroom each monitored a pair of students from a distance of no more than 15 feet and no less than 7 feet. The observing adults were behind a computer or laptop to increase subtlety. All students were placed into pairs by the lead teacher in the classroom, then, dismissed into groups and instructed to utilize any part of the classroom desired.

Audience

This research topic has implications for teachers, therapists, and administrators. Moreover, researchers in the fields of special education and peer tutoring as well as parents of students with ID and EBD are all affected by this topic. This audience can collaborate, share, and practice information learned throughout this study.

Definition of Terms

Below are definitions of terms that will appear throughout this study.

Emotional behavioral disorder (EBD). A condition exhibiting one or more specific emotional-behavioral problems over a long period-of-time, which adversely affects educational performance, is an emotional disorder (U.S. Congress, 2004).

Mild to moderate intellectual disabilities. Students who have an intelligence quotient between 35 and 70 and who have significantly delayed adapted behavior skills have mild to moderate intellectual disabilities (American Psychiatric Association, 2013).

Self-determination. The set of characteristics or attitudes someone has to enable them to take charge of his or her life is known as having self-determination (Miller,

Miller, Armentrout, & Flannagan, 1995).

Social initiation. Any time a student starts a conversation with another peer that student is displaying social initiation (Hughes et al., 2011).

Mainstreaming. When students with disabilities are taught in both the special education and general education classrooms for parts of the day, they are mainstreaming with the general education students (Idol, 2006).

Negative peer interaction. Communications that are discouraging or unkind in nature are referred to as negative peer interaction (Goldstein et al., 2007).

Peer tutoring. A group of strategies that involve peers as a teacher in order to provide individualized instruction is peer tutoring (Utley & Mortweet, 1997).

Positive peer interaction. Communications between peers that are encouraging or kind in nature are positive peer interaction (Goldstein et al., 2007).

Purpose of the Study

The purpose of this study was to determine the impact of trained tutors with EBD as peer facilitators for social interactions in the self-contained classroom and the impact the tutoring session had on interpersonal interactions and self-esteem of peer tutors. Students with EBD were trained to praise social initiations of students with mild to moderate intellectual disabilities.

The number of social initiations for students with mild to moderate intellectual disabilities, the tutees, were measured. The nature of interpersonal interactions and rating of self-esteem of students with EBD, the tutors, were also measured. The study determined whether both students with EBD and students with mild to moderate intellectual disabilities mutually benefited from interactions with trained peers.

Chapter 2: Literature Review

The following represents a review of literature relevant to peer tutoring with regard to students with ID and EBD. This section will review socialization, self-esteem, the nature of peer relationships in schools, role theory, and social cognitive theory. These topics are the theoretical basis for this study.

Mild to Moderate Intellectual Disabilities

Intellectual disability is defined as below average intellectual functioning with deficits in adaptive skills like communication and social skills (Satsangi & Bouck, 2015). Historically, students were defined as having mental retardation because of deficits in socially adapting to the environment (Schalock et al., 2007). Adaptive behavior was defined by Schalock et al. (2007) as “the collection of conceptual, social, and practical skills that have been learned and are performed by people in their everyday lives” (p. 292). A lack of communicative skills and social competence is characteristic of ID (Alwell & Cobb, 2009).

Intellectual disability is divided into four categories: mild, moderate, severe, and profound, with the lowest being profound (Belva & Matson, 2013). A review of daily living skills of adults with ID residing in residential centers in 2013 was performed by Belva and Matson (2013). The researchers observed 204 adults while conducting tests to measure three areas of adaptive behavior: personal, domestic, and community. No gender differences in measurements were evident, but domestic daily living skills far exceeded community skills. This concurs with previous research and is thought to be due to living in residential facilities that hinder community opportunities and growth. Belva and Matson also found that younger residents, between the ages of 30 and 39, demonstrated more personal living and domestic skills than did residents over 60. In

addition, adults with profound ID scored highest in personal daily living skills followed by domestic and then community skills.

Tassé et al. (2012) stated that an intellectual disability is a condition in which someone has “significant limitations in adaptive behavior, along with significant limitations in intellectual functioning and age of onset prior to 18” (p. 291). Across America, high school students with ID are receiving educational services in public schools. Over half the students spend much of the day in a separate classroom as indicated by the following statistic. In 2009, 52% of students with ID spent most of the school day in a self-contained classroom (Rampey, Dion, & Donahue, 2009). While the students received educational services in smaller groups with students of similar intellectual capacities, students lost any innate ability to socialize with general education peers.

According to the National Center for Health Statistics (Centers for Disease Control and Prevention, National Center for Health Statistics, 2015), the number of students with disabilities in U.S. schools has increased by 2.4 million in 29 years. In 2009, 52% of students with ID affected about 3% of the population worldwide (Matson, Belva, Hattier, & Matson, 2012). Students with mild to moderate intellectual disabilities often receive functional life-skills curriculum, which includes social skills and self-determination, focusing on preparing students for graduation (Bouck, 2012). Bouck (2012) gathered information from tens of thousands of high school students, Grades 9 through 12, with moderate to severe ID to assess in-school curriculum and the relationship between the curriculum and postsecondary outcomes.

The results of the study suggested that most students with a moderate to severe intellectual disability did receive a functional curriculum in addition to core instruction.

Most students, however, were being pulled out of general education classrooms to receive instruction. In addition, the curriculum being taught to students with ID did not correlate to independent living, employment, or other postsecondary areas. The strengths of this study included the large sample size and the specificity of the population. For example, students were merely labeled with moderate to severe intellectual disabilities rather than with a comprehensive diagnosis of intellectual disability. The study indicated the number of students who were pulled out of general education classrooms to receive instruction. A limitation of the study was that separate measures of students being taught in and outside of the general education classrooms were not performed. In addition, the study only looked into the first few postsecondary years and excluded 5 to 10 years post high school, which could have provided different outcomes.

Students who cannot perform academically in a general education classroom for the entire school day are often put in smaller classrooms with special education certified teachers. Even in smaller classrooms the disabilities among students vary, and the teacher is responsible for the social, behavioral, and academic welfare of each student. Teachers of students with moderate ID often have to use many differentiation strategies in order to reach each student. Similarly, teachers of general education classrooms with integrated students with disabilities find providing individualized instruction to a classroom of typically developing students a struggle. Special needs and problem behaviors can make differentiation more challenging (Ayvazo & Aljadeff-Abergel, 2014). In summation, teachers of students with ID, whether in a self-contained classroom or a general education classroom, struggle to meet the demands required for successfully teaching. State standards dictate that teachers teach an academic curriculum to all students, which may leave sparse opportunities for social instruction.

Socialization

An area that most authors define as a deficit of ID is socialization. In a review of 26 studies, Carter and Hughes (2005) found that students with disabilities, in general, lack such social skills as initiating and sustaining conversations. Carter and Hughes also stated that students with ID have more difficulty performing a variety of social skills, including engaging in reciprocal communication. According to Snell et al. (2010), “the ability to communicate effectively with others is essential for good quality of life” and for students with disabilities, communication may be substantially compromised (p. 365).

Carter, Sisco, Brown, Brickham, and Al-Khabbaz (2008) defined interaction as communications, whether verbal or nonverbal, directed towards a peer. Carter et al. studied the effects of communication between students with and without disabilities in five different middle and high schools. The sample size was 23 students with an educational label such as autism or intellectual disability. The racial breakdown of the sample included Caucasian, African American, Asian, and Hispanic. Most students also had a speech or language impairment, yet all were verbal communicators.

The study focused on interactions of participants in the general education setting where at least either a special educator or paraprofessional was almost always present. This was observed 86.8% of the time. The observer counted the frequency of social interactions of participants per minute and converted it to frequency. In addition, the observer coded the nature of socializations as either (a) task related, pertaining to instruction; (b) social related, pertaining to other school events or out-of-school activities; or (c) indistinguishable, if impossible to distinguish what was said. Additionally, the observer made note as to whether the socializations were initiations or

responses.

Results indicated that participants engaged in some type of communication every 1.4 minutes but that the social initiations of these students occurred only once every 7.7 minutes. The highest interaction occurred in classes where teachers had divided students into small groups. Interestingly, the researchers found that participants' social-related communications were slightly lower while task-related communication was slightly higher when general educators were present. Overall a significantly higher amount of communication occurred when special educators were out of proximity. Researchers were thorough in addressing types, purposes, and rates of communication around adults. A major strength of this study was the comparison of the communication rates when a general educator, versus a special educator, was in proximity.

Alwell and Cobb (2009) stated that communication requires at least two people, including the "sender of a message and a receiver" and that "communicative competence is critical for youth with disabilities because it is fundamental to most activities in human lives" (p. 95). Maag (2005) stated that adolescents who lack social competence are at risk for social isolation and difficulty developing relationships with others. The author reviewed studies on social-skills training and found flaws in each of the results. Overall, few studies acknowledged that lack of training resulted in poor social-skill acquisition in children. Maag also found small changes in peer acceptance. This is a major part of social competence.

Alwell and Cobb (2009) defined social skills as behaviors "that may be taught, learned, and performed" (p. 95). Maag (2005) indicated that social skills acquired by instruction directly affect peer acceptance and peer judgment. Social barriers for students with disabilities inadvertently exist within the school setting. For example, high

school students who receive educational services in the same classroom for most of the day lack the same opportunities as high school students who may go to six or eight different classes a day.

Social barriers inadvertently exist within high schools as well. According to Carter et al. (2008) “students enter middle and high school, the social and instructional contexts they encounter in general education classrooms can depart substantially from what they experience in elementary school” (p. 479). Carter et al. also noted that little is known about the interactions between students with disabilities and peers in high school. Students with disabilities, even in general education settings, have invisible barriers toward socialization. According to Wang and Spillane (2009), students who have better social skills are more likely to be included and accepted. Many interventions have been used to help socialization in students with disabilities. Improving social relationships is a major concern of teachers and parents.

Chung, Carter, and Sisco (2012) stated that students with fewer social skills can be viewed as incompetent communicators and therefore may not be given opportunities for socialization. Chung et al. analyzed the purpose of augmentative and alternative communication for nine elementary and seven middle school students either diagnosed with ID or autism. The main form of communication for 12 students was an electronic device while six students used nonelectronic forms of communication. In addition, only four students communicated with peers. Chung et al. found that when students initiated communication with peers, the most common purpose was for “social closeness” (p. 361). When students initiated communication with paraprofessionals, the most common purpose was for wants and needs.

The study also indicated that students with disabilities almost exclusively

interacted with an assigned paraprofessional despite being close to peers. Additionally, most students used facial expressions and vocalizations rather than an augmentative and alternative communication device to socialize. A strength of this study was that researchers did not rely solely on students using these devices. A limitation of this study was that students were only observed during one class period a day. A student may be more inclined to be social at different times of the day, which was not reflected in this study. Both physical and invisible social barriers exist for all students with ID in high school settings whether in a self-contained classroom or inclusion classrooms for most of the day.

Factors Impacting Socialization

Carter et al. (2015) stated that “more than 400,000 paraprofessionals work with school age children receiving special education services under the Individuals With Disabilities Education Act (IDEA)” (p. 10). Causton-Theoharis and Malmgren (2005) conducted a study of four paraprofessional-student pairs in general education elementary school settings. The paraprofessionals were previously assigned to the paired student who had a severe disability. At the beginning of the study, however, was also the paraprofessionals’ first year working with the students. Three of the four students had severe social deficits, only speaking in one or two word sentences, while the fourth student had trouble with volume and eye contact.

The aim of the study was to evaluate the effects of paraprofessional training on interactions between the assigned student and the student’s general education peers. The baseline of the study indicated that paraprofessionals did very little in the way of facilitating communication between students and peers. After being trained, however, the paraprofessionals used facilitative behaviors and ultimately increased the

socialization between students and peers. The study suggested that paraprofessionals, untrained in facilitating behavior, being close by was the single cause of a lack of social interaction for students with disabilities. Also, without proper training in this area, the presence of paraprofessionals segregates assigned students from peers.

Similarly, Carter et al. (2015) stated that paraprofessionals who are assigned to specific students may be preventing social opportunities for those students. In addition, most paraprofessionals do not receive proper or formal training (Carter, O'Rourke, Sisco, & Pelsue, 2009). Carter et al. (2009) surveyed 313 paraprofessionals working across 77 different elementary, middle, and high schools. The surveys were in regard to how paraprofessionals support students with disabilities, knowledge paraprofessionals possessed on core competencies, tasks each performed the most, the perceived ability to do these tasks well, and the need for more training. Researchers found that paraprofessionals were moderately knowledgeable in the 15 paraeducator standards. In addition, 77.9% of paraprofessionals had high levels of knowledge of ethics of communications pertaining to students with disabilities and only 22.9% knew the rights and responsibilities of families and children. Researchers ultimately found the need for further training for paraprofessionals. A strength of this study was the thorough four-page questionnaire each paraprofessional was to complete with detailed answers. A strength of the study was that paraprofessionals were assessed using the same 15 standards.

In a study by Carter et al. (2007), four students with ID were paired with four students without disabilities. All students attended the same high school. The focus of this study was to compare peer-tutor benefits to having a paraprofessional teach in the areas of socialization. Results indicated a much higher peer interaction during the peer

tutoring process rather than when the tutee was paired with a paraprofessional.

Researchers indicated that individualized social supports by peer tutors gave students with disabilities greater access to interaction than with paraprofessional support. An aspect for further research indicated by the study was on the level of influence of each nominated student-peer tutors with peers.

Emotional Behavioral Disorders

The Individuals with Disabilities Education Improvement Act defined EBD as having one or more characteristics that continue for a long period (U.S. Congress, 2004). These characteristics are an inability to learn not otherwise explained by health, intellectual, or sensory factors; inability to build and maintain friendships with peers; inappropriate feelings under normal circumstances; developing physical symptoms associated with school; and pervasive depression. In addition, students with EBD taught in a self-contained room are limited in social relationships to students within that same classroom.

Bullock and Gable (2006) also indicated that students with EBD are more likely to be served in restrictive settings such as self-contained classrooms. Being separated from general education peers means less availability to socialize with typical peers. Lane, et al. (2005) noted that students with EBD are specifically characterized by behavioral and social deficits. Lane et al. evaluated 60 different students who were either receiving educational services in a self-contained school or a self-contained classroom in a typical school. All participants had been previously served in less restrictive settings prior to self-contained settings, and 70% had a diagnosis of EBD. About half of the participants were from elementary school and half were from middle school.

Researchers measured the students' academic, social, and behavioral output at the beginning and end of the school year. Researchers found that, academically, no difference in growth was evident between a self-contained classroom and a self-contained school. Students in the self-contained school experienced a decrease in written language over the year as compared to students in a self-contained classroom. While researchers found no difference in a growth of social skills or externalizing behavior of the two groups, a major difference in internalizing behaviors was concluded. In self-contained schools, fewer internalizing behaviors were noted among students when compared to students from self-contained classrooms.

This study was the first to evaluate internalizing and externalizing behaviors in students with EBD while comparing differences in a self-contained school and self-contained class settings. The study does not take into account, however, the influence of counselors and mental health advisors present in a self-contained school. In a self-contained school, students often receive more evaluations than in a general education school. By receiving more frequent evaluations, educators of the self-contained school setting may have been able to record more internalizing behaviors as compared to educators of the self-contained classroom who evaluated less often.

Ryan, Pierce, and Mooney (2008, Spring) stated that adolescents with EBD "have deficits which impede development of meaningful relationships with peers" (p. 22). Laursen (2005) inferred that students with EBD might have had life experiences that taught self-reliance, which can explain self-centered behavior. In a review of studies by Scior (2011), individuals with mental health problems are even more stigmatized than those with intellectual or physical disabilities. Biddle (1986) also indicated that persons of low social status were found to be more accurate at taking roles. People

chosen for group leadership were also more accurate at taking roles. This implies that students with EBD who often lack friends and positive peer relationships (Laursen, 2005), and who are put in leadership positions, such as teaching, may be exceptionally accurate at taking the leadership role. Not only are leadership opportunities beneficial to students with EBD, these students are intrinsically better options for peer tutoring as indicated by role theory.

Lamport, Graves, and Ward (2012) found that opportunities to work on self-management and proper behavior can help students perform better in the general education classroom. A common theme in most definitions of EBD is difficulties in personal relationships. Low self-esteem may result from social anxiety and being socially withdrawn. In addition, being taught in a separate classroom affects the number of peers with whom a student interacts throughout the day.

Self-Esteem

Mruk (1999) defined self-esteem as the sum of both self-worth and personal judgment of self-competence. Marsh, Scalas, and Nagengast (2010) stated self-concept and self-esteem are synonymous and that a positive self-concept is directly tied to many aspects of life, including social and educational areas. The Rosenberg Self-Esteem Scale (RSES) is one of the most widely used scales (Sinclair et al., 2010). A study conducted by Sinclair et al. (2010) was performed to determine whether RSES was a valid construct among diverse groups of people, as previous studies were homogenous in participants. Findings indicated that RSES, “generally satisfied scaling assumptions overall and across subgroups, including tests of item convergent and discriminant validity, internal consistency reliability, and floor and ceiling effects” (p. 76).

Alrajhi and Aldhafri (2015) stated that self-concepts include beliefs about

oneself that play an important influential part. Alrajhi and Aldhafri studied the effects of a peer-tutoring program on African students' English self-concept. The premise of the study was founded on role theory. Role theory is the belief that people hold roles in society and hold expectations for personal behavior as well as that of others. Role theory explains that humans behave in predictable ways depending on social identities (Biddle, 1986). Alrajhi and Aldhafri created peer-tutoring programs in which 125 students, who were taking beginner's English courses, met with a tutor experienced in English for 30-minute sessions up to three times a day. Researchers found that participants demonstrated an increase in English self-concept as well as a high overall English self-concept. In this study, English self-concept was the students' perception of the ability to speaking English. The study was measured using a pre- and postsurvey. The findings suggested that the peer-tutoring program was very successful at increasing self-concept.

Markham, Ward, Aiman-Smith, and Kingon (2010) stated that role theory examines a wide range of behaviors like expectations and norms. Role theory states that expectations "are the major generators of roles, that expectations are learned through experience, and that persons are aware of the expectations they hold" (Biddle, 1986, p. 69). Cate and Durning (2007) stated that role theory explains why placing students in the leadership position of teachers builds self-esteem and motivation. If expectations of students with EBD in school are to act defiantly or to be withdrawn, role theory explains that students will realize that role. Additionally, Krizan and Suls (2009) stated that explicit self-esteem and depression are opposites in a polar dimension.

Self-esteem, tied to social dimensions of life, is an extremely important facet of high school students. Students with EBD typically suffer from low self-esteem across three different studies. Krizan and Suls (2009) conducted three substudies evaluating the

connections between self-esteem and personality using different orders of delivering personality tests: name-letter tests, a form of self-evaluation; and the self-esteem Implicit Association Test. The subjects of the substudies were between 213 and 288 university students, both female and male, who participated in order to receive course credit. The average age was around 19.6 years. In each of the substudies subjects were asked to complete the specified scale. In the first study, the authors examined any associations between the name-letter test and self-reports of global personality traits. Results found that one had largely nothing to do with the other, which agreed with previous findings.

The second study conducted was to replicate the independence observed in Study 1 to see if the Implicit Association Test showed any similarity in patterns. Results found that both the Implicit Association Test and the name-letter test scores were similar. The third study was to determine an association between the independence of the Implicit Association Test and personality self-reports. Overall findings agreed with previous studies indicating that self-esteem and core personality were unrelated. Leary, Schreindorfer, and Haupt (1995a) used the sociometer theory (Leary, Tambor, Terdal, & Downs, 1995b) to review self-esteem and found that people with low self-esteem tend to be more depressed, shy, and lonely. Leary et al. (1995b) also stated that “many psychologists have suggested ameliorating certain emotional and behavioral problems by raising self-esteem” (p. 307). Students with EBD who have low self-value will have equally low self-esteem (Sowislo & Orth, 2013).

Manning (2007, February) stated that peer relationships impact self-concept greatly. Since students with EBD suffer with positive peer relationships, self-esteem may be lower than in typical peers. Cate and Durning (2007) found that “self-confidence

can be fostered by teaching others when persons are placed in a position of authority” (p. 550). In addition, Cate and Durning stated that role theory explains why peer tutors experience a boost in self-esteem and possible motivation increases. Biddle (1986) indicated that persons of low social status chosen for group leadership were found to be more accurate at taking roles. This implies that students with EBD who often lack friends and positive peer relationships (Laursen, 2005), when put in leadership positions such as a teaching, may be exceptionally accurate at taking the leadership role. Not only are leadership opportunities beneficial to students with EBD, these students are intrinsically better options for peer tutoring as indicated by role theory. Students with EBD who are taught mostly in self-contained classrooms suffer from a literal social barrier that exists between the rooms and the rest of the high school.

In a study by Rosewal et al. (1995), peers who engaged in the peer-tutoring program displayed a significantly higher self-concept than those who did not participate. Rosewal et al. gathered 282 seventh-grade students from one junior high school. Three groups were formed, one group used peer tutoring as the main method of learning, another used group learning, and a third used traditional individual learning. Results indicated the peer-tutoring group made significant leaps in both self-concept and attitude towards school. According to teacher checklists, the number of discipline referrals also dropped in the peer-tutoring group. This suggests that peer tutoring can be an effective way to increase self-concept.

Similarly, Miller, Topping, and Thurston (2010) stated that “role enlargement, such as modeling nurturing behavior and scaffolding the tutee’s learning may earn social approval and praise” (p. 421) and that may influence self-worth for tutors. Not only is the leadership position of a peer tutor linked with positive self-esteem, but also to a

positive way for teachers to scaffold appropriate behaviors being taught. Miller et al. (2010) evaluated how a peer tutoring reading program influenced self-esteem and how self-worth and self-competence contributed to self-esteem. The subjects were 10 to 11 year-old children from four random schools with teachers utilizing peer reading. Subjects were given a pre- and posttest using the RSES scale. The researchers measured the self-esteem of each student before and after starting the peer-reading program. After the 15-week program, the overall self-esteem of participants increased.

The Nature of Peer Relationships in School Settings

Webster and Carter (2007) evaluated the dynamics of friendship finding that if one party withdraws or loses interest, the friendship will diminish. Webster and Carter also stated “understanding the nature of social relationships for children with disabilities may provide important directions for developing interventions that... facilitate the development of friendships” (p. 201). In a review of studies by Scior (2011), people want “greater social distance from people with ID than those with physical disabilities” (p. 2178). In addition, Scior found that a few studies indicated that the reason for the reluctance could be due to discomfort and unfamiliarity with disabilities. Furthermore, increasing the quality of positive contact helped to reduce “social distance” (Scior, 2011, p. 2179).

Ouellette-Kuntz, Burge, Brown, and Arsenault (2010) found that participants in the study who had more contact with students with ID were less likely to want social distance from people with ID in the future. Ouellette-Kuntz et al. gathered 680 adults from across Ontario, Canada. Findings suggested that older adults were more likely than young adults to prefer social distance from people with disabilities. Adults who indicated having some experience with those with ID, however, indicated being more

likely to socially engage persons with ID. Similarly, Rillotta and Nettelbeck (2007) measured the attitudes of 259 current or previous high school students' perceptions of people with disabilities. Pre- and posttests of two groups of students were implemented. One group completed 8 weeks of an awareness of disability program and another completed 3 weeks of the program. The group completing 8 weeks reported more favorable attitudes than the students completing 3 weeks. The results "have clearly supported the prediction that more information about and exposure to people with an intellectual disability is accompanied by more positive attitudes" (p. 24).

Measuring peer relations can be used to predict student general dissatisfaction of life (Bouck, 2005). In this study, 378 high school special education teachers were mailed surveys evaluating the educational curriculum and learning environments. The researcher compared the results across urban, rural, and suburban settings. The results were similar with an exception of the number of teachers having higher education degrees. This number was lower in rural areas.

The push for children with disabilities to be educated in the general education classroom in order to foster social relationships has been a target of recent instruction (Koster, Pijl, Nakken, & Van Houten, 2010). Studies, however, do not indicate that inclusion automatically leads to friendships between students with ID and typical peers (Guralnick, Neville, Hammond, & Connor, 2007). In fact, Koster et al. (2010) found that inclusion in the general education classroom can actually have negative outcomes, in terms of loneliness and rejection, for students with disabilities.

Social cognitive theory indicates that "when learners are exposed differentially to skilled human peers...performing the same cognitive skills, they derive a stronger sense of personal efficacy from the peers" (Kim & Baylor, 2006, p. 8). Peer tutoring is one of

the practices founded by social cognitive theory. According to Albert Bandura's social learning theory, "most of the behaviors that people display are learned, either deliberately or inadvertently, through the influence of example" (Bandura, 1971, p. 5).

Social learning theory ultimately evolved into social cognitive theory, which incorporates the importance of imitation and modeling on behavior in addition to such factors as the environment and cognition (Bandura, 1986). Social cognitive theory also explains that environment affects behavior and behavior affects environment (Bandura, 1989). In agreement with this, Berghmans, Neckebroek, Dochy, and Struyven (2013) conducted a study at a university using upper-class students as tutors to first year students. The content being taught was the mathematical course Analysis I. Tutors were trained utilizing a video and modeling prior to starting sessions. Sessions lasted about 1.5 hours, were voluntary in nature, and about 20 tutees showed up to each session. In some cases, a tutor carried out a small group tutoring session with up to five tutees.

The tutors and tutees completed a semi-structured interview following the study. Researchers found that in a peer-tutoring relationship, tutors' behaviors were not only dependent upon tutees but also upon interactions with the environment. Allowing for peer tutoring to take place in a warm and comfortable environment may increase the benefits of the program. According to Thompson and Byford (2015), good community in the classroom is essential to peer tutoring. A questionnaire conducted by Thompson and Byford measured perceptions of peer tutoring in 21 participants. About half of the participants were public middle school teachers while the other half were private middle school teachers. Thompson and Byford found that both public and private teachers agreed that peer tutoring was an effective teaching strategy, especially when one partner had a lower ability level.

Jones (2007) found that peer tutoring was a rewarding experience and an important part of school culture. Jones evaluated the effects of peer tutoring on peer tutors. The tutees were 12 children between the ages of 4 and 10 diagnosed with autism and at least one other disability. The ages of the 27 peer tutors were between 10 and 11. Each had some familiarity with autism due to a school wide awareness program. Tutors were tasked with getting closer in proximity to the tutee by playing games. After 24 weeks, the researcher gave questionnaires to the peer tutors and peer tutors' parents regarding experiences. The tutors, 83%, reported that they "enjoyed it very much," while the other 17% "enjoyed it" (p. 5). In addition, 16 out of 18 peer tutors felt that peer tutoring helped.

Of the peer tutors' parent surveys returned, 14 indicated an overall positive and valuable experience for the children. Results indicated that 57% of the parents felt the experience was "important," and 36% reported the program was an "extremely important" opportunity for students. In addition, one parent of a tutor who faced academic and behavioral problems stated that the program gave her something positive she felt she could do and "something she feels good about" (p. 7). This study was one of the first studies to identify the effects on peer tutors in peer-tutoring sessions with students with disabilities, which is a major strength of the study. Since the study only focused on younger children, a further study could be conducted to determine its effects on adolescents, teenagers, and young adults, between the ages of 18 years and 21 years in school systems.

The absence of peer relationships has been linked to poor school performance, depression, and isolation (Wentzel, 2009). Siperstein, Parker, Bardone, and Widaman (2007) randomly sampled 5,837 middle school students nationally to determine attitudes

toward the inclusion of peers with ID. Fewer than 40% of students stated having contact with students with ID in the classrooms. Many students also believed that students with ID were more “impaired” than was actually true. Most believed students with ID could be included in nonacademic classes but not in academic classes. Also, students indicated not wanting to socialize with a student with ID, especially outside of school. The study highlighted the situation across the nation that students with disabilities are not being included in classrooms as much as the general population believes. Interacting with peers can have a positive impact on students with disabilities, including greater interaction in the communities (Carter, Hughes, Guth, & Copeland, 2005; Vaughn et al., 2008; Wang & Spillane, 2009; Williams White, Keonig, & Scahill, 2007).

Peer-Mediated Learning

Peer-mediated learning is “utilizing other students as the primary instructional interventionist” (Carter & Kennedy, 2006, p. 285). This follows the concept of using one or more peers as teachers to other students in the classroom, often teaching other students with disabilities with the overall support of adults. Peer-mediated learning serves to restructure the classroom environment by establishing “teacher-sanctioned, interdependent interactions between students with and without disabilities” that increases social initiations due to the constant reinforcement of peer tutors (Carter & Kennedy, 2006, p. 288). Goldstein et al. (2007) stated that peer-mediated learning involves teaching peers how to use certain strategies to facilitate certain interactions between peers and students with disabilities. Ryan et al. (2004) defined peer-mediated strategies as interventions requiring students to utilize teacher strategies as opposed to the usual method of teachers teaching students individually.

In a study by Gisbert and Font (2008), 24 students from a secondary school were

paired with each other to focus on self-concept as a writer. Students earned high school credit as part of this peer-tutoring process, as the class was an elective. Peer tutoring, therefore, was not foreign to the students. Results indicated that the process increased linguistic knowledge across all participants, but the researchers admit fault in not training the tutors properly. Researchers did indicate, however, that peer-mediated learning has the benefit of contingent, personalized, and continual assistance when compared to regular classroom setups where personalization is not constantly achieved.

Jimenez, Browder, Spooner, and Dibiase (2012) investigated the effects of peer-mediated learning on middle school students with moderate ID and the acquisition of science skills. Researchers recruited six peer tutors with one being a substitute in case of absence. Based on disability and teacher identification as being appropriate for the study, five students with moderate ID were chosen. All tutees increased in content specific science vocabulary. Researchers indicated that a study limitation was in the rapidly changing general education curriculum suggesting science classes moved on to new topics too quickly.

Trembath, Balandin, Togher, and Stancliffe (2009) used a multiple baseline design across subjects to evaluate the effectiveness of peer-mediated intervention. During the intervention, six typically developing preschool students were tutors who taught communication skills to three students with autism. The intervention took place in a natural environment like the playground. The teacher prompted a peer to interact with the tutee, sometimes using an augmentative device. Results indicated all three students increased communication skills with only one maintaining this increase.

Gardner et al. (2014) studied the effects of a peer-network intervention promoting social interactions for two high school students with autism. The students

with autism had limited communication skills yet had greater than a 10-word communication system. Adult facilitators were hired to monitor each peer group. Students who demonstrated appropriate social skills, six in total, were recruited as tutors. Each tutee worked within a group of three tutors. Results indicated that both students increased peer interactions and social engagement during the first intervention with slight increases in withdrawal compared to baseline. The study was measured using a baseline, treatment, withdrawal-of-treatment, and reintroduction of treatment design. Both students either doubled or tripled the interaction from baseline to intervention indicating successful acquisition of skills.

Scruggs, Mastropieri, and Marshak (2012) performed a study evaluating peer-mediated instruction in history classes at the middle school level. Participants included 133 students who were classified as typical and 24 with disabilities. All students tutored each other. Overall, students enjoyed working with partners and test scores slightly increased. Students would have preferred to select partners according to a post interview. Results could have been affected by some participants not preferring an assigned partner. Parent training was given to all participants' parents, however, and a reason for success could have been due to extra practice with parents. Parents who did not participate as well as others could have affected the results of student performance.

Peer-Tutoring Benefits to Tutees

Peer tutoring is a form of peer-mediated learning in which a smaller ratio of tutors to tutees provide a unique individualized learning experience (Carter & Kennedy, 2006). Shabani and Gerdabi (2013) defined peer tutoring as a cooperative learning experience based on a pair of students with an asymmetrical relationship. Shabani and Gerdabi believed that peer tutoring worked when pairs of students were different in

various ways stating that peer tutoring improves a large range of socialization including sustained social conversations. Topping (2005) defined peer tutoring as “acquisition of knowledge and skills through active helping and supporting among status equals or matched companions” (p. 631). Tella (2013) stated that “peer tutoring is a process where pupils help each other to learn” (p. 9). Tella also stated that peer tutoring should be used as supplemental instruction.

Stenhoff and Lignugaris/Kraft (2007) reviewed 20 studies including students with mild or behavioral disorders at the high school level. In 12 of the studies, tutors included students with disabilities while in eight of the studies, tutors did not have a disability. All tutees, however, had disabilities. The content being taught was dependent upon students and varied from reading, spelling, math, and social skills. All reviewed studies indicated a gain in areas being taught. Results indicated that peer tutoring at the secondary level was certainly evidence-based, but not enough evidence existed to suggest whether all strategies used were either effective or ineffective. Overall, the researchers stated that peer tutoring in secondary settings is classified as an evidence-based practice particularly beneficial to students with mild ID. Stenhoff and Lignugaris/Kraft also found that peer tutoring was especially beneficial in single-subject studies where tutors were monitored by adults.

Peer tutoring also assists classroom teachers and paraprofessionals by lessening some of the burden of teaching a few students individually while attempting to teach other students in the class. Godsey, Schuster, Lingo, Collins, and Kleinert (2008) performed a study of four high school students with moderate ID. In the study, peer tutors helped perform cooking-related tasks. The intervention indicated immense gains across all subjects during the intervention, and skills were also maintained for at least 30

more sessions. In the study, peer tutors complained about being reminded of failing to provide constant praise. Although researchers admitted a need exists to further study this area, no ill-effects were noted due to lapses in constant praise. Researchers stated that results of this study have indicated an immense value and capacity for peer tutoring. Moreover, this allowed for students to have more individualized instruction while the classroom teacher took a supervisory role.

Thompson and Byford (2015) conducted a study by taking a sample of 21 participants. Approximately half of the participants were from a public middle school and the other half were from a private middle school. Researchers interviewed each of the teachers and found that, although more preparatory work was involved, peer tutoring was still favored based on overall effectiveness. Classroom students with disabilities have many facets of needs. With one classroom teacher, the many needs may not be met daily or even weekly. By allowing another student to replace the position of a teacher in certain areas, it benefits both the tutor, tutee, and gives the teacher time to focus on addressing other needs.

Hughes et al. (2011) performed a study of five high school students with ID who attended a class for special needs. All participants expressed a desire for more friends and had low rates of socialization. Each student had between 11 and 16 different peer tutors during this study. The study took place in inclusion classrooms. Each of the peer tutors used communication books to foster communication with the tutees. After the study, all tutees indicated in post interview questions having more friends in school, enjoying interacting with tutors, and that tutors helped them communicate more.

Thompson and Byford (2015) found that students have difficulties interacting with intimidating teachers, which can negatively interfere with social-skills acquisition.

In addition to giving the classroom teacher an ability to focus on other needs through a supervisory role, peer tutoring eliminates the need and stigma of an adult teaching another child. In self-contained classrooms, by bringing in a peer tutor from outside the classroom, peer tutoring opens doors to socialize with a new peer while simultaneously allowing both students to either learn or reinforce learning of skills. In general education, using a peer tutor eliminates the possible humiliation of an adult correcting or teaching a student while peers watch.

McDuffie, Mastropieri, and Scruggs (2009) evaluated the effects of peer tutoring in cotaught and single instructor classes in seventh grade science classes. Of the student participants, 63% had disabilities. All students had a turn at being tutor and tutee. Half of the cotaught and single instructor classes participated in either of the peer-tutoring groups. The study was 8 weeks and included a pretest, intervention, and posttest. Researchers wanted to evaluate the difference in science achievement of all students and achievement across cotaught and single instructor classrooms. Differences would assist researchers with determining if peer tutoring added any additional help in cotaught classrooms. Researchers found that all students increased in science achievement, students performed better in cotaught classes, but peer tutoring did not add to the achievement of students in cotaught classes. Researchers speculated the reason for this was due to coteaching and peer tutoring both requiring a certain engagement to the task that may have taken away from the content.

Jameson, McDonnell, Polychronis, and Riesen (2008) studied the effects of peer tutoring on middle school students' acquisition of skills in general education classrooms. The study involved three students with significant disabilities, two general education teachers, and three peer tutors without disabilities. Target skills of the intervention were

outlined by the individual education plans of the tutees. Results indicated that all students increased in acquisition of the set skills. Several of tutors, however, reported that attention cues seemed inappropriate while another indicated the cues were most important part. Researchers noted that tutors were inconsistent with providing error correction, which may have affected the rate of skill acquisition yet may have helped with the maintenance of skills.

In another study, Fetko, Collins, Hager, and Spriggs (2013) investigated whether peer tutoring would help students with disabilities learn a leisure skill. Tutees included three middle school students with disabilities, including two students with moderate ID and one with EBD. The teacher in the study selected three peer tutors without disabilities around the same age as the tutees. Tutors taught the tutees to play the game Uno. Results indicated that all students increased in the ability to play, however, one student did not increase enough to reach mastery criteria. The study was discovered to have two setbacks: the fact that Uno could last for an extended period-of-time, which could have taken instructional time as well, and a lack of general education peers available at certain times to play. This presented a problem, as peers had to leave for class, which left an unfinished game.

Kamps et al. (2008) compared the effects of class-wide peer tutoring and teacher-led instruction. The study accepted all of the interested participants, which included 25 middle school teachers and 975 middle school students. Researchers found an increase in reading and social studies knowledge of students using class-wide peer tutoring, but science content knowledge did not increase. Researchers concluded that class-wide peer tutoring was beneficial for English language learners, as well as students with disabilities, when appropriate accommodations were made.

Bowman-Perrott et al. (2013) performed the first peer tutoring metaanalysis for both elementary and secondary settings using single subject research designs. Researchers evaluated 26 peer-reviewed and single-case studies between 1966 and 2011 for the effects of peer tutoring in cases where the baseline did not involve peer tutoring. Peer tutoring in elementary and secondary settings was reviewed and found to be more effective at the high school level than at the elementary level. Researchers also established that peer tutoring involving some sort of reward had a larger effect size over those tutoring programs with no reward. Praising of the tutee, by the tutor, can lead to “similar levels of mutual motivation, enhanced engagement and therefore learning” (Sinha, Zhao, & Cassell, 2015, p. 7).

Similarly, Bowman-Perrott et al. (2013) found that students were motivated to work harder with a reward structure in place. In addition, Bowman-Perrott et al. found that peer tutoring was effective regardless of grade level. Peer tutoring can be beneficial in general, special, and alternative education rooms and settings as well. Thompson and Byford (2015) conducted a study of 21 middle school teachers who taught in a multiability classroom to determine the perspective of peer tutoring. Findings indicated that teachers perceived peer tutoring was especially beneficial to students with low ability and that a need exists for peer tutoring due to ranges of abilities within a classroom. Although researchers did not believe peer tutoring would necessarily benefit all students, teachers who had used peer tutoring maintain that it displayed positive results. Maintenance of behavioral and social improvements was seen as a result of peer tutoring. This find is encouraging because it can help students’ success across all settings (Bowman-Perrott, Burke, Zhang, & Zaini, 2014).

Klavina and Block (2008) studied the effects of peer tutoring in physical

education. Three students who were elementary age with severe multiple disabilities and deficits in communication were paired with nine peer tutors from the physical education class. Tutors were selected from 13 students who volunteered and returned permission slips. After teachers evaluated who would be most appropriate based on current skills, results were narrowed to nine students. Not only did socialization increase for all tutees, the increase almost double on the last day of the intervention.

Carter and Kennedy (2006) stated that peer tutoring consists of four parts. These parts include selection of students to be tutors, peer training, peer-delivered support, and monitoring by teachers or classroom adults. A major step of peer training is to provide students with expectations and a rationale for involvement. Carter and Kennedy also indicated that training should focus specifically on the needs of each student.

Tella (2013) stated that an appropriate peer tutor should (a) know the content being taught to the tutee, (b) possess the skill of promoting others to actively participate, (c) exhibit patience with the tutees, and (d) be encouraging. Goldstein et al. (2007) performed a review of approaches to peer-mediated intervention that have been deemed effective on young children with disabilities. After reviewing the literature, Goldstein et al. suggested peer training should be done in a couple of phases. The first phase involves teachers teaching peers the strategies to be used with peers with disabilities. The second phase involves tutors practicing strategies with the teacher.

Carter and Kennedy (2006) stated that peer tutors must first be given a rationale to the tutoring process, teaching expectations, and information about how tutees best communicate and interact with others. Then, peers are given specific strategies to use with the assigned tutee, which are based on the individual needs of the tutee. Goldstein et al. (2007) found that after tutoring sessions, teachers would meet with peer tutors after

self-evaluation of the strategies used with students with disabilities. The self-evaluation proved to be reliable in keeping peer tutors honest. In addition, in the study by Goldstein et al., using the same peer tutors with the same peer tutees as a consistent pairing, proved to be more effective in improving socialization than rotating peer tutors.

Odluyurt, Tekin-Iftar, and Ersoy (2014) conducted a study involving 18 typical peers and six tutees with developmental disabilities all from the same classroom. The study involved teaching purchasing skills and first aid skills. All tutees increased skills at the conclusion of the study rendering it a successful intervention. Overall, Odluyurt et al. found that tutor delivered social interventions were effective with students with developmental disabilities, and that tutees enjoyed the chance to build friendships and would like to do it more often. All subjects indicated enjoying learning new skills by working with peers while none of the subjects reported any negative aspects to the study. In fact, one tutee revealed that she had pride from her new learned skill and “loved school more” (p. 424).

Godsey et al. (2008) found that a peer-tutoring system using students with ID as the tutees would prove to be more beneficial than instruction by classroom teachers. In the study, four male students with ID between the ages of 15 and 20 from a public high school participated as peer tutees. Tutors were chosen and recruited by the faculty. The tutors were 11 high school students, two males and nine females, between the ages of 15 and 18. Tutors taught tutees to prepare food using picture sequences. All four tutees mastered the target skill. Results of the study “are significant for classroom teachers in that they demonstrate the value and capability of peer tutors in delivering quality one-on-one instruction to students with moderate and severe disabilities” (p. 120).

Peer Tutoring: Individuals With Disabilities as Tutors

Little research exists in the area of peer tutoring wherein the tutor is a student with a disability. In a study by Miller et al. (1995), 15 college students with learning disabilities were selected as peer tutors to high school students with severe EBD to increase self-determination. The ultimate goal, however, was to train students with EBD to become peer tutors for others in the high school. Results indicated that using students with disabilities as both the tutor and tutee means that students with “similar experiences and needs will be better to understand and empathize with each other’s problems and will therefore be more effective in teaching new skills” (p. 33). Journals kept by the peer tutors indicated that initial worries had existed about working with the EBD population, but students soon found the experience rewarding. Tutors learned to relate to tutees through their own problems in high school. Based on journal entries, all participants ultimately benefitted from the study.

Similarly, Scheeler, Macluckie, and Albright (2010) evaluated the effects of a peer-tutoring system involving four high school students with learning disabilities tutoring each other. The goal was to determine if peer tutoring would decrease undesirable behaviors that students displayed when giving oral reports. Tutors spoke to tutees with an earbud, wireless technology, during an oral presentation to cue and remind the tutee of certain behaviors, such as “slow down” and “stop moving so much.” Researchers found that immediate feedback resulted in less undesirable behaviors of participants with one student almost completely eliminating undesirable behavior. Results strongly indicated that peer tutoring by utilizing immediate feedback was very effective.

Similarly, Bobroff and Sax (2010) studied the effects of peer tutoring on the acquisition of interview skills. All participants had a disability and a history of problems

with behavior. Three tutors were selected who had participated in a real job interview, showed interest in being a tutor, and a willingness to work with peers. Tutees were selected by demonstrating interest in improving interview skills and a willingness to be tutored by a peer. Since all students knew each other, pairs were created by tutors creating a top-three list of who they would like to work with. Two tutors received first choice for a tutee and one received second choice. The first two tutoring pairs worked well together, but the third had to be redirected by the teacher more than once due to off-task discussions. All three tutees gained interview skills in addition to enjoying the project. One tutee stated a desire to become a tutor. Researchers indicated an unexpected result: all three tutors were later observed teaching other students interview skills indicating that the tutors had taken the intervention seriously and had taken ownership of the position.

In a review of studies by Okilwa and Shelby (2010), the effects of students with disabilities who participated as peer tutors to other students with disabilities was “impressive” (p. 456). Okilwa and Shelby also found that, overall, students with disabilities can tutor other students and that both learn from the experience. Students had positive outcomes no matter what kind of disability (Okilwa & Shelby, 2010). Carter and Kennedy (2006) found that using low-achieving students as tutors might provide tutors with more adult support and behavior-specific praise since students are being monitored by adults in the room. Stenhoff and Lignugaris/Kraft (2007) found that using students with and without disabilities as both tutors and tutees still proved beneficial. The researchers’ findings indicated peer tutoring may be an evidence-based practice.

Bowman-Perrott, Greenwood, & Tapia (2007) created a study in which students with EBD were put in a classroom peer-tutoring scenario where all students were tutors

and tutees reviewing basic academic skills. The researchers recruited 19 secondary school students with EBD to be part of the study. A few of the students also had a learning disability. Academic gains were shown across the board at the conclusion of the study, and teachers indicated that the program was academically helpful for students of below-average ability. One teacher reported observing students praising each other in classes later in the day after the training session, which apparently had never happened before. A few students became bored with the training, creating a study limitation, which could have been explained by the smaller class sizes and fewer peers to engage with.

Ali, Anwer, and Abbas, (2015) reviewed literature on different types of peer tutoring and concluded that student benefits of peer tutoring included opportunities for students to directly interact with each other and more individual attention. In addition, tutors reinforcing and revising what had been previously learned, thus relearning skills, is also a benefit. This can develop a sense of responsibility and pride in the tutor due to the process of helping others. Godsey et al. (2008) indicated that peer tutoring may be preferable to students with ID because of opportunities for social engagement and less stigmatization. Lyttle (2011) stated that peer tutoring is successful because it combines imitation and socialization, which involves learning at an individual pace.

Benefits of Peer Tutoring for Tutors

Whitaker (2004) conducted a study of 10 elementary-aged students with autism, who struggle with socialization, whose peer tutors were trying to get the tutees to engage with peers. In this study tutors felt a sense of personal acknowledgement and feeling special to the tutee. Researchers admitted difficulty in acknowledging whether tutees were enjoying themselves or not. Researchers noted particular importance in the fact

that tutors reported a “connection” on a personal level with peer tutees. In addition, Whitaker found that five parents of the tutors observed both an increase in tolerance towards ID and an increase in maturity. Parents of students who had served as peer tutors said they would definitely recommend the experience to other parents.

Carter and Kennedy (2006) performed a study evaluating the core steps involved in peer tutoring within general education classrooms. Researchers utilized trained peer tutors in certain classrooms to assist students based on individualized education program goals, although tutors did not know the confidential nature of the goals. Overall, through observation and interviews, researchers found that students who can provide support to classmates with disabilities showed personal growth and new friendships (Copeland et al., 2004; Hughes et al., 2011), and increased feelings of responsibility. Schleyer Langdon, and James (2005) conducted a pilot study in a university with college students tutoring each other. The study was implemented in the middle of an academic term, which researchers admitted resulted in timetabling difficulties that were corrected for future studies. Despite this, researchers found through a survey that all participants became more confident, more responsible for individual learning, and better communicators as a result of peer tutoring.

Summary

High school students with ID often struggle with adaptive behavior, including social skills (American Psychiatric Association, 2013). Because students with disabilities are often taught in smaller, self-contained classrooms, opportunities for social engagement with peers are limited. Being able to start, socially initiate, and maintain a conversation is often a deficit of students with ID (Carter & Kennedy, 2006). Additionally, students with EBD often struggle with meaningful relationships with peers

(Ryan et al., 2008, Spring) and self-esteem resulting from a lack of meaningful peer relationships (Burns, 1982; Manning, 2007, February). Brigham and Kauffman (1998) indicated that students with EBD often lack leadership opportunities in school that could lead to confidence and higher self-esteem.

Peer tutoring has been shown to be an effective and evidence-based method to teach students with disabilities (Carter et al., 2007; Hudson et al., 2014; Hughes et al., 2011). Utilizing students with disabilities as peer tutors has produced positive outcomes for both tutors and tutees (Okilwa & Shelby, 2010). The social cognitive theory states that behavior is learned as a result of imitation or modeling (Bandura, 1977). This supports the concept of peer tutoring. In addition, role theory states that social expectations of people influence others to act a certain way (Biddle, 1986). Finally, Biddle (1986) suggested that people of low social value are better “role-takers” and could, therefore, be better at taking the role of leaders. The following research questions were addressed in this study to determine whether a peer-tutoring system involving students with EBD as tutors and students with ID as tutees impacts both tutors and tutees.

Research Questions

1. How does the implementation of a peer-tutoring program, in which students with EBD serve as tutors to students with ID in a self-contained classroom, affect the social initiations of tutees?

2. How does the implementation of a peer-tutoring program, in which students with EBD serve as tutors to students with ID in a self-contained classroom, affect the self-esteem of tutors?

Chapter 3: Methodology

The researcher of this study evaluated whether a peer-tutoring program between high school students with ID and EBD was effective. To determine effectiveness, the researcher examined results for noted increase in socialization among students with ID and self-esteem in students with EBD. This chapter outlines the procedures that took place in the study.

Participants

Students were recruited based on identified eligibility and teacher interviews. Three students with ID were recruited as peer tutees. They were asked if they wanted to participate. Students with ID had an intelligence quotient in the range of 35 to 70. Tutee A was an 18-year old female with an intelligence quotient of 67 and a visual impairment. Her teachers noted she enjoyed conversing with peers yet struggled with starting conversations appropriately. Tutee B was a male who was 17 years old with an intelligence quotient of 43. His teachers noted he rarely started conversations with peers but would answer questions. Tutee C was a male who was 18 years old with an intelligence quotient of 41. His teachers noted he thoroughly enjoyed being around people but struggled with initiating conversations.

Three students with EBD were recruited as peer tutors. Selections were based on reports that indicated they are not aggressive and have demonstrated a desire to help others. These students must have had an educational eligibility of EBD according to their individualized education program or eligibility form. In addition, teacher interviews identified students with emotional disabilities who had no history of school aggression. Tutor A was a female who was 16 years old with an individualized education program eligibility of EBD. Prior to the study, she visited the special needs

classroom to socialize with peers. Tutor B was a female who was 16 years old with an individualized education program eligibility of EBD and lived in a group home. She also visited the special needs classroom prior to the study. Tutor C was a male who was 18 years old with an individualized education program eligibility of EBD. His teachers noted that he had a very caring demeanor and enjoyed helping others.

The researcher made a phone call to their parents explaining the study and their child's involvement. Once verbal permission was obtained, a parent-guardian permission form was sent home to all of the parents or guardians of students involved in the study. If consent had not been given, the above process of finding another student would have taken place.

Instruments

In this study two instruments were used for quantitative data. The first was a Social Initiation Data Sheet (see Appendix A) that was used to record social initiations by students with ID. The observational data sheet was created specifically for this study. The second, the RSES scale (see Appendix B), was used at the beginning and end of this study to determine whether the self-esteem of peer tutors increased.

Social Initiation Data Sheet. The data sheet, (see Appendix A), was used by both the peer tutor and the observing adult to note social initiations and comments regarding the conversation. The data sheet was created by the researcher for the purpose of this study. Places for filling in the date, the time the measurement started and stopped, how many social initiations occurred in a tally-mark formation, were indicated along with a section for relevant anecdotes about the session.

RSES. The RSES (see Appendix B) is a 10-item Likert scale that measures positive and negative feelings about oneself. Each item is rated from strongly disagree to

strongly agree. The resulting score indicates how high or low one's self-esteem is. Blascovich and Tomaka (1991) stated the RSES is the most frequently used measure of self-esteem; a measure that has become "the standard against which new measures are evaluated" due to its "ease of administration, scoring, and brevity" (p. 123). The RSES has been used world-wide, and is considered important in predicting depression and delinquency.

Procedures

The following outlines the procedures that took place in the study. Included is the setting and research design. Additionally, the researcher indicates how data were displayed and compared.

Research setting. This study took place at a public high school in a small rural town in the southeast. More specifically, the study took place in a self-contained special education classroom. The classroom included one teacher and three paraprofessionals, three students with ID, and three students with EBD.

The research classroom had 10 moveable student desks, a small kidney table with four chairs, a kitchen table with four chairs, and a single computer station. Times for baseline and intervention were from 2:10 p.m. to 2:35 p.m. Each adult in the classroom monitored a pair of students from a distance between 15 feet and 7 feet. The researcher assigned each adult a pair of students to observe. The pair of students included a peer and a student with an intellectual disability. Adults were either behind a computer or behind a laptop to increase subtlety. Beginning at the tardy bell of the first day of the baseline, all students were placed into pairs by the teacher in the classroom and told this will be their group for the next 6 weeks. The teacher dismissed the pairs into groups having explained that they could use any part of the classroom desired.

Design. The research method chosen for this study was a multiple baseline design across subjects. This was an ideal method because a small group of subjects with similar behaviors and similar environmental conditions existed (Gast, 2010). A quantitative approach was used to compare data. Quantitative data were collected for social initiations presented by students with ID and the RSES was utilized with students with EBD (see Appendix B).

A reversal design was considered and rejected due to the nature of the dependent variable being a skill-learning experience through peer socializations. This meant that a reversal design was not appropriate. Considering that three subjects were undergoing the same intervention, a multiple baseline across subjects was considered and accepted as the method for this study.

Data collection. Data were collected using both the Social Initiation Data Sheet, (see Appendix A) and the RSES, (see Appendix B). The observing adult assigned to each pair of students completed the Social Initiation Data Sheet during baseline and intervention. The observer tallied the social initiations as they occurred and then totaled them at the end of each session. The RSES was completed twice by each peer tutor: once prior to the baseline and once post intervention. The RSES yielded a score, which indicated relative self-esteem at time of completing the scale.

Experimental procedure. Prior to the baseline implementation, a brief training for both adult observers and peer tutors took place in regard to data collection. The adult training took place during a lunch period the school day before baseline started. The peer-tutor training occurred during eighth period, one school day before baseline started. In this training, the researcher explained how to observe social initiations, such as times when a student starts a conversation with a peer by using a word, sentence, or question

at least 15 seconds after a previous conversation, and how to tally the occurrences on the data sheet. During this time, the researcher used modeling for appropriately taking data on the data sheet followed by assessing the student's ability to take data by role playing.

Each week of baseline involved three 25-minute sessions. After participants were selected for the study, the baseline procedures took place over 1 week, three sessions, for Pair A. The baseline procedures for Pair B took place over 2 weeks, 6 sessions, and 3 weeks, 9 sessions, for Pair C. During baseline, the tutoring pairs found a spot in the room to socialize as usual, unprompted. During the baseline, both tutors and adult observers kept track of social initiations on the data sheet for all sessions.

The intervention took place the week immediately following the last baseline measure for each pair. The next school day was allocated for peer and adult training after the first group's baseline was finished. The peer who was about to start his or her intervention was trained for 30 minutes in the special education classroom. The student was taught by the researcher how to engage students and encourage social initiations during the same class period the baseline and intervention took place.

Training occurred in a small group with the researcher teaching appropriate strategies by modeling, such as encouraging conversation by sitting in close proximity to the student, making eye contact with the student, and rewarding initiations with a friendly smile and positive responses. For example, the researcher told the peers to high-five, smile, and say "Way to start a conversation with me!" or "Good job talking to me" before answering the student's social initiation. If the student with a disability offered a greeting, the peer was to positively reinforce by saying, "I like it when you say ___ to me!" The researcher, then, role-played as a student with a disability asking the peer to practice what they had learned. When the peer responded appropriately to a social

initiation and rewarded the researcher on three out of three trials, the researcher considered the peer ready to begin. If not, the training continued until the criteria was met. Also during this training time, the peer tutors filled out an RSES (see Appendix B) and submitted it to the researcher.

The intervention started with Pair A. Pairs B and C continued in baseline. Tutee A and Tutor A met, as usual, in a part of the room they had chosen. The tutor positively reinforced all social initiations, and the adult assigned to the pair observed and tallied initiations of students with a disability. The monitoring adult observed all positive reinforcements given by the peer for appropriateness according to their training, and that it immediately followed a social initiation. If the peer was not positively reinforcing the student's initiations, according to training, the teacher would after the session review with the peer the correct ways to positively reinforce. The intervention involved 5 weeks of three 25-minute sessions for Pair A, 4 weeks of three 25-minute sessions for Pair B, and 3 weeks of 25-minute sessions for Pair C. Peer tutors were given the same RSES (see Appendix B) immediately after their last intervention session, and they submitted it to the researcher.

Social initiation measurement. The researcher utilized the Social Initiation Data Sheet (see Appendix A) as a measurement in this study. The observing adult put tally marks on the data sheet for each social initiation indicating how often the student started a conversation. A social initiation was observable by the student using a word, sentence, or question to start a conversation with their peer. The student looked at their peer and said at least one word. This took place at least 5 seconds after a previous conversation so as to be determined as starting a conversation rather than continuing one. The adult wrote the date as well as the beginning and ending time on the sheet of

paper. After each social initiation by the tutee, the adult put a tally mark. A comment section was at the bottom where the observing adults added additional comments such as behavior notes.

The RSES was utilized by peer tutors prior to, and at the end of, the study (see Appendix B). They were given the scale, told to read the directions, and rate themselves on each of the 10 factors. The highest score was a 30, with 30 indicating the highest self-esteem and 0 being the lowest.

Data analysis. Results for each student's baseline session was tallied on the Social Initiation Data Sheet (see Appendix A). Results were totaled and graphed. The RSES scores were also compared (see Appendix B).

Quantitative data analysis for Research Question 1. Results for each student's intervention session that was tallied on the Social Initiation Data Sheet (see Appendix A) was totaled and graphed. In the event that daily scores of the peer tutor and the observing adult differed, the scores were averaged. Data from the data sheets were graphed as a line graph to visually determine if an increase in social initiations among each pair was observed. In addition, a percentage of nonoverlapping data statistics were calculated to determine effectiveness. According to Gast (2010), the percentage of nonoverlapping data statistic is the percent of data points that do not coincide with the baseline. Ranging from 0 to 100, the statistic can categorize treatment effectiveness as either highly effective, above 90%, fairly effective, between 70% and 90%, or anything under 50% is considered unreliable or ineffective (Gast, 2010). The percentage of nonoverlapping data was calculated by identifying the highest baseline point, counting the number of intervention points that are higher than the highest baseline point, and then creating a proportion of the number of nonoverlapping points to the number of

intervention points (Gast, 2010). This yielded a percentage of nonoverlapping data result and determined the study's effectiveness.

Interobserver agreement. Procedural fidelity and interobserver agreement took place at about two-thirds of the way through the first week of baseline for all three students. A fourth adult observed each pair during the sessions for two days during the first week of baseline for all three students. The adult sat on the other side of the room from the observing adult at a space of no more than 15 feet and no less than 7 feet. The fourth adult tallied the social initiations made by the student with a disability using the data sheet (see Appendix B). At the end of the session, data sheets used by the assigned observing adult and the fourth adult were compared. The smaller number of tally marks were divided by the larger number of tally marks and multiplied by 100. This yielded the percent accuracy.

During intervention phase, the adults assigned to the pair measured social initiations by the student with a disability, the immediate positive reinforcement by the peers, and the appropriateness of the positive reinforcement according to the peer training. This ensured that the treatment was conducted as was intended. In addition, similar to the baseline procedure, the fourth adult observed each pair during the sessions for 2 days a week the first week of intervention.

Quantitative data analysis for Research Question 2. The scores from the pre-intervention RSES (see Appendix B) for each tutor were compared to their postintervention RSES score. The researcher used a simple *t* test to determine whether a change existed between the scores. The researcher, then, determined if the change was statistically different at the .05 or less level.

Chapter 4: Results

The purpose of this study was to determine the impact of trained tutors with EBD as peer facilitators for social interactions in the self-contained classroom and the impact the tutoring session had on interpersonal interactions and self-esteem of peer tutors. The following questions were asked and researched in this study.

1. How does the implementation of a peer-tutoring program, in which students with EBD serve as tutors to students with ID in a self-contained classroom, affect the social initiations of tutees?

2. How does the implementation of a peer-tutoring program, in which students with EBD serve as tutors to students with ID in a self-contained classroom, affect the self-esteem of tutors?

Implementation of Peer Tutoring Program Affecting Social Initiations

For Tutee A, results of the peer tutoring program demonstrated an increase of social initiations (see Figure 1). The percentage of nonoverlapping data for social initiations was 78.6%. For Tutee B, results of the peer tutoring program indicated an increase of social initiations (see Figure 2). The percentage of nonoverlapping data for social initiations was 100%. For Tutee C, results of the peer tutoring program also demonstrated an increase of social initiations (see Figure 3). The percentage of nonoverlapping data for social initiations was 70%.

Implementation of Peer Tutoring Program Affecting Self-Esteem

A simple *t* test was utilized to determine if a statistically significant difference was noted between the pre- and postintervention RSES scores for each tutor. Results for Tutor A were calculated at the alpha level of .05. Pretest scores ($M = 1.9$, $SD = 0.316$) were first compared to posttest scores ($M = 3$, $SD = 0$). The difference in mean scores

was 1.1 percentage points, reflecting a positive change after completing the tutoring session. After examining the mean level difference between the two score sets, a statistically significant effect for Tutor A was noted, $t(18) = -11$, $p = 0.000000$. Thus, the tutoring sessions had a statistically significantly positive effect on interpersonal interactions and self-esteem of peer tutor A.

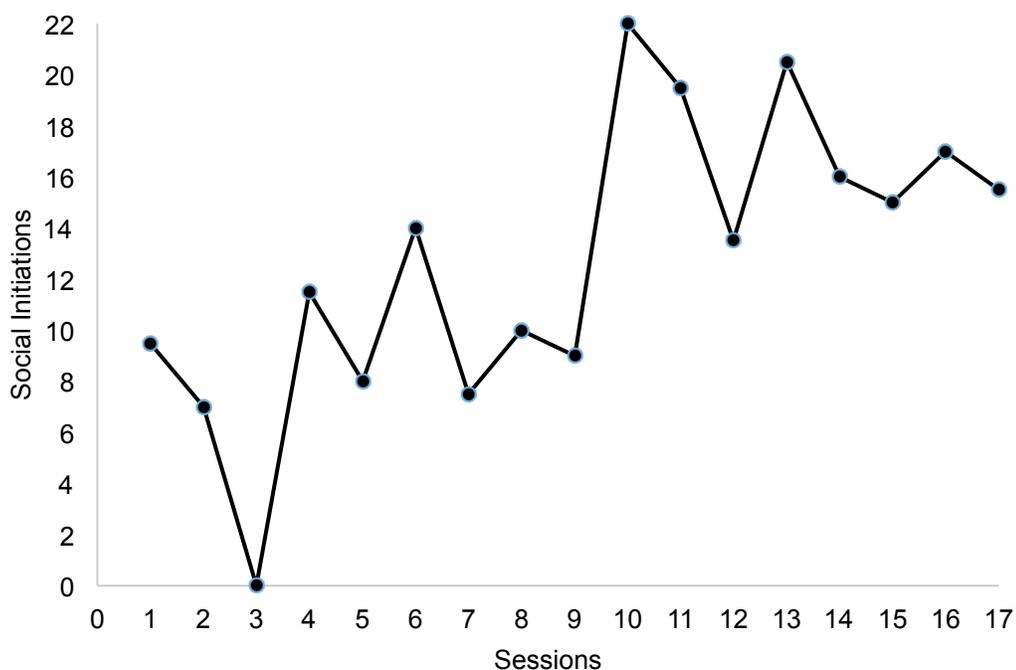


Figure 1. Results for Tutee A. In comparison, baseline data for three sessions, gathered over a 1-week period, indicated Tutee A initiated the most conversations during the intervention phase ranging from 7.5 to 22 times per session.

Results for Tutor B were calculated at the alpha level of .05. Pretest scores ($M = 2.1$, $SD = 0.316$) were first compared to posttest scores ($M = 1.9$, $SD = 0.738$). The difference in mean scores was -0.2 percentage points, reflecting a negative change after completing the tutoring session. After examining the mean level difference between the two score sets, a statistically significant effect for Tutor B was not noted, $t(18) = 0.788$, $p = 0.441043$. Based on statistical findings, the tutoring sessions had a negative effect on interpersonal interactions and self-esteem of peer Tutor B.

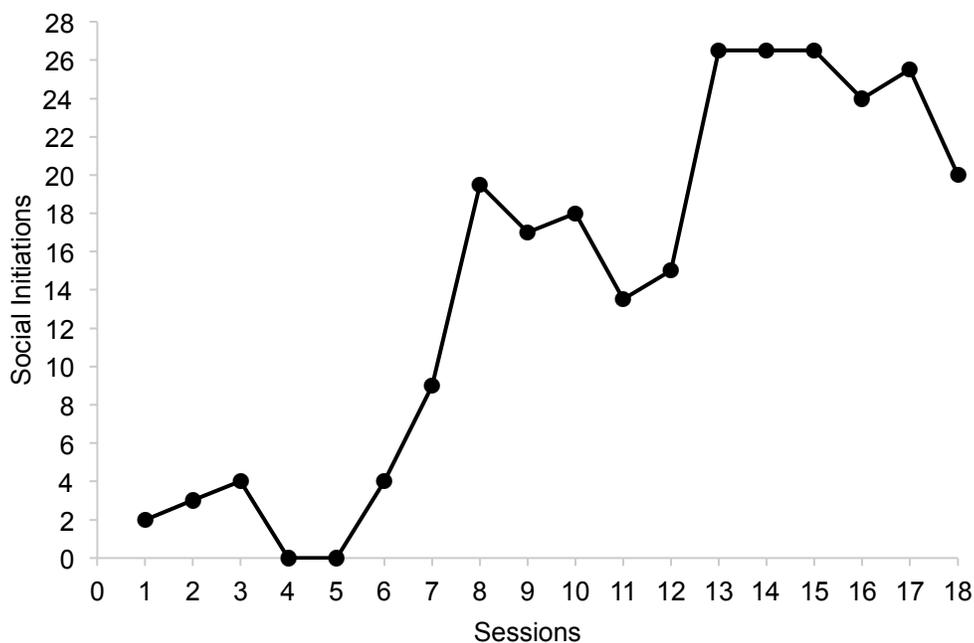


Figure 2. Results for Tutee B. In comparison, baseline data for six sessions, gathered over a 2-week period, indicated Tutee B initiated far more conversations during the intervention phase, ranging from 9 to 26.5 times per session.

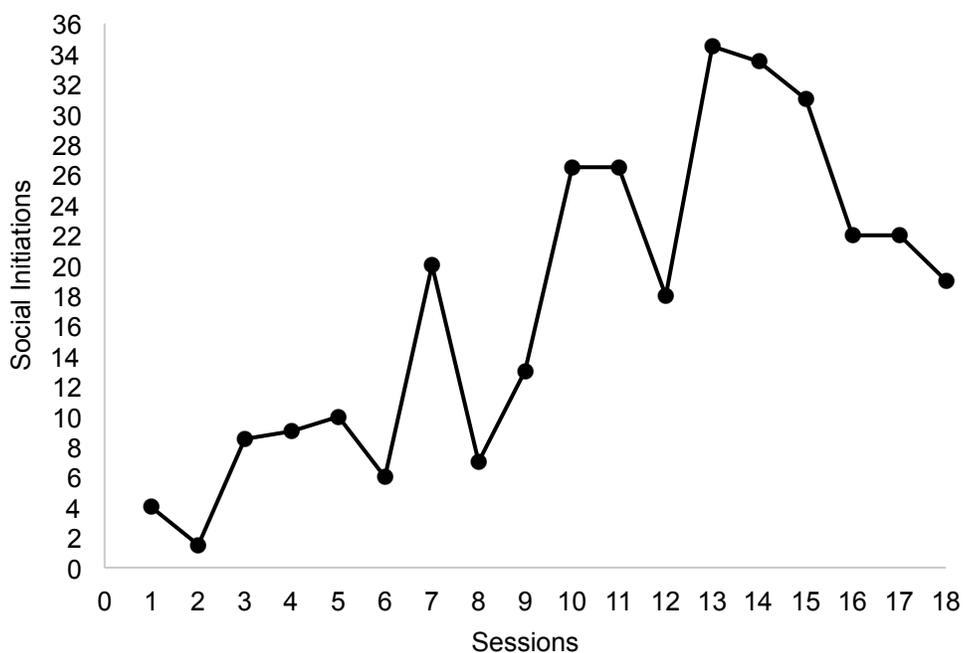


Figure 3. Results for Tutee C. In comparison, baseline data for nine sessions, gathered over a 3-week period, indicated Tutee C initiated more conversations during the intervention phase rather than the baseline. The baseline indicated a range of 1.5 to 20 social initiations, and the intervention indicated a range of 18 to 34.5 social initiations.

Results for Tutor C were calculated at the alpha level of .05. Pretest scores ($M = 2.4$, $SD = 0.699$) were first compared to posttest scores ($M = 2.8$, $SD = 0.632$). The difference in mean scores was 0.4 percentage points, reflecting a positive change after completing the tutoring session. After examining the mean level difference between the two score sets, a statistically significant effect for Tutor C was not noted, $t(18) = -1.341$, $p = 0.196394$. Thus, the tutoring sessions did show improvement but did not have a statistically significant effect on interpersonal interactions and self-esteem of peer Tutor C.

Chapter 5: Discussion

Elaboration and Interpretation of Results

The problem students with ID often struggle with is appropriate socialization techniques such as starting conversations (American Psychiatric Association, 2013). In addition, students with EBD struggle with confidence and lack opportunities to be role models as a result of placement settings in high school (Jones, 2007). The purpose of this study was to determine the impact of trained tutors with EBD as peer facilitators for social interactions in the self-contained classroom and the impact the tutoring session had on interpersonal interactions and self-esteem of peer tutors. The percentage of nonoverlapping data for Tutees were 78.6%, 100%, and 70% respectively. The percentage of nonoverlapping data scores for Tutees A and C indicated the program was fairly effective. The percentage of nonoverlapping data score for Tutee B indicated the program was highly effective.

Data suggest the peer tutoring program provided evidence of success. The study did agree with previous studies showing benefits of peer-mediated learning, in the areas of socialization and academics, using students with special needs as tutees (Hudson, Browder, & Jimenez, 2014; Laghi et al., 2016; Regan, Evmenova, Mastropieri, & Scruggs, 2015; Wexler, Reed, Pyle, Mitchell, & Barton, 2015). Possible explanations for differences in social initiations demonstrated by tutees vary. The social initiations were only considered if not immediately followed with a prompt by the tutor, such as “remember, you can start a conversation by asking me about my day,” and if the initiations were at least 5 seconds from the last conversation. In addition, since the adult observer and the peer tutor both counted social initiations, if the amounts did not correlate exactly, an average was taken.

Tutee A experienced “good days” and “bad days.” Reasons for these days varied, though occasional anxiety over which parent’s home she would be visiting the upcoming weekend was usually the cause. Tutee A was experiencing a “bad day” on both Sessions 3 and 7. In addition, she was absent on Session 12 and therefore had one fewer session. Tutee A’s social initiations started with the same two statements or questions: “Do you have a dog?” “How soft is your dog?” Although she repeated these questions, on Session 5, Tutor A encouraged her to ask about her day, her weekend, and her favorite foods. Following that session, Tutee A started using more questions unrelated to dogs. When the intervention started on Session 4, Tutor A reinforced Tutee A’s social initiations by dramatizing an answer. For example, when Tutee A said, “How soft is your dog?” Tutor A would respond, “Oh my gosh, he’s as soft as a big ol’ teddy bear!” Tutee A would smile. Sessions 4 through 9 demonstrated a range of social initiations from 7.5 to 14. After Session 9, Tutee A’s social initiations ranged from 13 to 22, suggesting incremental success.

Tutee B used one to two word phrases with his tutor. Social initiation was counted if Tutee B looked at Tutor B and said the words to her. Most of his words pertained to food because this was his favorite thing to discuss. For example, on Session 9, three of his phrases included “apple,” “creamy ice cream,” and “cheesecake,” but he said them directly to Tutor B, so she would continue talking about his favorite foods. The intervention started on Session 7 for Pair B. Tutor B reinforced his social initiations by getting animated and saying, “great job!” Tutee B smiled, giggled, and started more conversations to receive more praise. Tutee B experienced the biggest jump in social initiations between baseline and intervention of all three tutees. His baseline range was

between 0 and 4 social initiations per session. After Tutor B started reinforcing his social initiations, his range for intervention was 9 to 26.5 social initiations.

Tutee C had a jump in social initiations during his baseline on Session 7. On this session, the researcher noted he was listening to other conversations and copying what he heard. For example, when Tutee A asked how Tutor A's day was, Tutee C was listening from across the room and asked the same thing of Tutor C. After Session 7, the researcher divided the room with a room divider to keep Tutee C from looking around. After the divider was placed, Sessions 8 and 9 seemed more like Sessions 1 through 6 in terms of numbers of social initiations. Tutor C reinforced Tutee C's social initiations by saying "oh yeah!" and giving him a high five. This resulted in Tutee C smiling and talking more. Towards the end of the study, Tutor C seemed more disinterested in the program. He pulled out his phone to text a couple of times, which could explain why Tutee C's number of social initiations seemed to drop after session 15.

The study also evaluated the effects of the peer tutoring program on the self-esteem of students with EBD. After conducting a *t* test to determine if a statistically significant difference was noted between the pre- and postintervention RSES scores, Tutor A's *t* test scores indicated that her self-esteem rating increased significantly from before the intervention to after the intervention. This suggested the peer tutoring program had a positive effect on Tutor A's self-esteem. Tutors B and C did not demonstrate a statistical difference in scores from before the intervention to after the intervention. The researcher did note that all three tutors commented on how enjoyable they found the study experience. Tutor A arranged for the school counselor to change her class schedule, so she could spend a class period in the special needs classroom everyday as a peer helper. Tutor B expressed disappointment when the study was over

and asked if she could continue to hang out with Tutee B. Since this experience was considered positive to all tutors and appeared statistically beneficial to the self-esteem of one tutor, it would also benefit future research, as currently research is limited and inconsistent regarding representing students with EBD at the secondary level (Mulcahy, Maccini, Wright, & Miller, 2014).

In conclusion, this study did support utilizing a peer tutoring program to increase social initiations in which students with EBD were tutors and students with ID were tutees. All three tutees demonstrated more social initiations during intervention than during the baseline. In addition, while one tutor's self-esteem was significantly greater after the study. One other tutor's self-esteem did not show a statistically significant difference but did increase overall. Moreover, all three considered it a positive experience and enjoyed the program.

Implications of Findings

Results of this study have implications for teachers of students with ID and EBD. The fact that social initiations increased significantly across all three tutees means that a peer tutoring program should be considered in schools. In addition, the fact that one tutor demonstrated a statistically significant increase in self-esteem indicated that schools should consider using students with emotional disorders as tutors. Although these results cannot be generalized to a larger population, it would be beneficial for a study to be conducted that includes a larger sample size for further research.

Limitations

The main limitation with studies using multiple baselines across subjects is that no reversal to the design exist because the independent variable is only presented to the subject once, which can affect validity (Gast, 2010). A reversal design was rejected

since skills being learned cannot be unlearned. In addition, finding three subjects who are comparable, yet individual, is difficult (Gast, 2010). Because of having only three tutors and three tutees, results of the study were difficult to generalize across a larger population. The baseline, if not consistent, may not show a positive effect of intervention. In addition, having an adult observe the tutors from a proximal distance of 7 to 15 feet meant the observers could have missed some social initiations happening between assigned pairs. In many cases, the numbers of social initiations between the tutor and the assigned observer did not correlate exactly, so the number was averaged. Gast (2010) also indicated that concurrently measuring different behaviors on three different subjects can be difficult. Having separate observing adults ensured that ongoing separate interventions received the proper attention needed.

Further Research

A lack of research exists regarding students with EBD in the secondary level (Mulcahy et al., 2014). In addition, there remains a lack of research on peer tutoring programs using students with different disabilities as a peer tutor and a peer tutee (Bobroff & Sax, 2010; Odluyurt et al., 2014; Okilwa & Shelby, 2010). Although the peer tutoring program outlined in this study appeared to increase the social initiations of students with ID, further research including a larger sample size would be beneficial. Additionally, since this study indicated a positive experience for students with EBD who usually lack opportunities for positive social experiences at school (Fitzpatrick & Knowlton, 2009), it would be interesting to see future research expand on this study, including more students with EBD. Lastly, since students with EBD often lack social skills and self-esteem (Jones, 2007; Kauffman, 2005; Laursen, 2005), and as this study proved to significantly increase at least one student's self-esteem, more research

measuring the self-esteem of EBD students as peer tutors is needed to determine if schools should be utilizing this program.

References

- Ali, N., Anwer, M., & Abbas, J. (2015). Impact of peer tutoring on learning of students. *Journal for Studies in Management and Planning, 1*(3), 61-66. Retrieved from <https://edupediapublications.org/journals/index.php/JSMaP/issue/view/26>
- Alrajhi, M. N., & Aldhafri, S. S. (2015). Peer tutoring effects on Omani students' English self-concept. *International Education Studies, 8*(6), 184-193. <http://dx.doi.org/10.5539/ies.v8n6p184>
- Alwell, M., & Cobb, B. (2009). Social and communicative interventions and transition outcomes for youth with disabilities: A systematic review. *Career Development and Transition for Exceptional Individuals, 32*, 94-107. <http://dx.doi.org/10.1177/0885728809336657>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-IV*. (5th ed.). Washington, DC: Author.
- Ayvazo, S., & Aljadeff-Abergel, E. (2014). Classwide peer tutoring for elementary and high school students at risk: Listening to students' voices. *Support for Learning, 29*, 76-92. <http://dx.doi.org/10.1111/1467-9604.12047>
- Bandura, A. (1971). Vicarious and self-reinforcement processes. In R. Glaser (Ed.), *The Nature of Reinforcement* (pp. 228-278). New York, NY: Academic Press.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215. Retrieved from the University of Kentucky website: <https://www.uky.edu/~eushe2/Bandura/Bandura1977PR.pdf>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*, 1175-1182.

44, 1175-1184. <http://dx.doi.org/10.1037/0003-066X.44.9.1175>

- Belva, B. C., & Matson, J. L. (2013). An examination of specific daily living skills deficits in adults with profound intellectual disabilities. *Research in Developmental Disabilities, 34*, 596-604. <http://dx.doi.org/10.1016/j.ridd.2012.09.021>
- Berghmans, I., Neckebroeck, F., Dochy, F., & Struyven, K. (2013). A typology of approaches to peer tutoring. Unraveling peer tutors' behavioural strategies. *European Journal of Psychology of Education, 28*, 703-723. <http://dx.doi.org/10.1007/s10212-012-0136-3>
- Biddle, B. J. (1986). Recent development in role theory. *Annual Review of Sociology, 12*, 67-92.
- Blascovich, J., & Tomaka, J. (1991). Measures of self-esteem. In J. P. Robinson & P. R. Shaver (Eds.), *Measures of personality and social psychological attitudes* (pp. 115-160). San Diego, CA: Academic Press.
- Bobroff, S., & Sax, C. L. (2010). The effects of peer tutoring interview skills training with transition-age youth with disabilities. *Journal of Vocational Rehabilitation, 33*, 143-157.
- Bouck, E. C. (2005). Service delivery and instructional programming in rural, suburban and urban special education: An exploratory study. *Rural Special Education Quarterly, 24*(4), 18-26.
- Bouck, E. C. (2012). Secondary students with moderate/severe intellectual disability: Considerations of curriculum and post-school outcomes from the National Longitudinal Transition Study-2. *Journal of Intellectual Disability Research, 56*, 1175-1186.

- Bowman-Perrott, L., Burke, M. D., Zhang, N., & Zaini, S. (2014). Direct and collateral effects of peer tutoring on social and behavioral outcomes: A meta-analysis of single-case research. *School Psychology Review, 43*, 260-285.
- Bowman-Perrott, L., Davis, H., Vannest, K., Williams, L., Greenwood, C., & Parker, R. (2013). Academic benefits of peer tutoring: A meta-analytic review of single-case research. *School Psychology Review, 42*, 39-55.
- Bowman-Perrott, L. J., Greenwood, C. R., & Tapia, Y. (2007). The efficacy of CWPT used in secondary alternative school classrooms with small teacher/pupil ratios and students with emotional and behavioral disorders. *Education and Treatment of Children, 30*(3), 65-87. <http://dx.doi.org/10.1353/etc.2007.0014>
- Brigham, F., & Kauffman, J. (1998). Creating supportive environments for students with emotional or behavioral disorders. *Effective School Practices, 17*(2), 25-35.
- Bullock, L. M., & Gable, R. A. (2006). Programs for children and adolescents with emotional and behavioral disorders in the United States: A historical overview, current perspectives, and future directions. *Preventing School Failure, 50*(2), 7-13. <http://dx.doi.org/10.3200 PSFL.50.2.7-13>
- Bukowski, W., Motzoi, C., & Meyer, F. (2009). Friendship as process, function, and outcome. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 217-231). New York, NY: Guilford Press.
- Burns, R. B. (1982). *Self concept development and education*. London, England: Holt, Rinehart, and Winston.
- Carter, E., O'Rourke, L., Sisco, L. G., & Pelsue, D. (2009). Knowledge, responsibilities, and training needs of paraprofessionals in elementary and secondary schools.

Remedial and Special Education, 30, 344-359. <http://dx.doi.org/10.1177/0741932508324399>

- Carter, E. W., & Hughes, C. (2005). Increasing social interaction among adolescents with intellectual disabilities and their general education peers: Effective interventions. *Research and Practice for Persons with Severe Disabilities*, 30, 179-193. <http://dx.doi.org/10.2511/rpsd.30.4.179>
- Carter, E. W., Hughes, C., Guth, C. B., & Copeland, S. R. (2005). Factors influencing social interaction among high school students with intellectual disabilities and their general education peers. *American Journal on Mental Retardation*, 110, 366-377.
- Carter, E. W., & Kennedy, C. H. (2006). Promoting access to the general curriculum using peer support strategies. *Research and Practice for Persons with Severe Disabilities*, 31, 284-292. <http://dx.doi.org/10.1177/154079690603100402>
- Carter, E. W., Moss, C. K., Asmus, J., Fesperman, E., Cooney, M., Brock, M. E., . . . Vincent, L. B. (2015). Promoting inclusion, social connections, and learning through peer support arrangements. *Teaching Exceptional Children*, 48, 9-18. <http://dx.doi.org/10.1177/0040059915594784>
- Carter, E. W., Sisco, L. G., Brown, L., Brickham, D., & Al-Khabbaz, Z. A. (2008). Peer interactions and academic engagement of youth with developmental disabilities in inclusive middle and high school classrooms. *American Journal on Mental Retardation*, 113, 479-494. <http://dx.doi.org/10.1352/2008.113:479-494>
- Carter, E. W., Sisco, L. G., Melekoglu, M. A., & Kurkowski, C. (2007). Peer supports as an alternative to individually assigned paraprofessionals in inclusive high school classrooms. *Research and Practice for Persons with Severe Disabilities*, 32, 213-

227. <http://dx.doi.org/10.2511/rpsd.32.4.213>

Cate, O. T., & Durning, S. (2007). Dimensions and psychology of peer teaching in medical education. *Medical Teacher*, *29*, 546-552. <http://dx.doi.org/10.1080/01421590701583816>

Causton-Theoharis, J. N., & Malmgren, K. W. (2005). Increasing peer interactions for students with severe disabilities via paraprofessional training. *Exceptional Children*, *71*, 431-444.

Centers for Disease Control and Prevention, National Center for Health Statistics. (2015). *Health, United States, 2015*. Retrieved from <https://www.cdc.gov/nchs/hus/index.htm>

Chung, Y.-C., Carter, E. W., & Sisco, L. G. (2012). Social interactions of students with disabilities who use augmentative and alternative communication in inclusive classrooms. *American Journal on Intellectual and Developmental Disabilities*, *117*, 349-367. <http://dx.doi.org/10.1352/1944-7558-117.5.349>

Copeland, S. R., Hughes, C., Carter, E. W., Guth, C., Presley, J. A., Williams, C. R., & Fowler, S. E. (2004). Increasing access to general education: Perspectives of participants in a high school peer support program. *Remedial and Special Education*, *25*, 342-352.

Estell, D. B., Jones, M. H., Pearl, R., Van Acker, R., Farmer, T. W., & Rodkin, P. C. (2008). Peer groups, popularity, and social preference: Trajectories of social functioning among students with and without learning disabilities. *Journal of Learning Disabilities*, *41*, 5-14.

Fetko, E. E., Collins, B. C., Hager, K. D., & Spriggs, A. D. (2013). Embedding science facts in leisure skill instruction conducted by peer tutors. *Education and Training*

in Autism and Developmental Disabilities, 48, 400-411.

- Fitzpatrick, M., & Knowlton, E. (2009). Bringing evidence-based self-directed intervention practices to the trenches for students with emotional and behavioral disorders. *Preventing School Failure, 53*, 253-266. <http://dx.doi.org/10.3200/PSFL.53.4.253-266>
- Gardner, K. F., Carter, E. W., Gustafson, J. R., Hochman, J. M., Harvey, M. N., Mullins, T. S., & Fan, H. (2014). Effects of peer networks on the social interactions of high school students with autism spectrum disorders. *Research and Practice for Persons with Severe Disabilities, 39*, 100-118. <http://dx.doi.org/10.1177/1540796914544550>
- Gast, D. L. (2010). *Single subject research methodology in behavioral sciences*. New York, NY: Routledge.
- Gena, A. (2006). The effects of prompting and social reinforcement on establishing social interactions with peers during the inclusion of four children with autism in preschool. *International Journal of Psychology, 41*, 541-554. <http://dx.doi.org/10.1080/00207590500492658>
- Gisbert, D. D., & Font, C. M. (2008). The impact of peer tutoring on the improvement of linguistic competence, self-concept as a writer and pedagogical satisfaction. *School Psychology International, 29*, 481-499.
- Godsey, J. R., Schuster, J. W., Lingo, A. S., Collins, B. C., & Kleinert, H. L. (2008). Peer-implemented time delay procedures on the acquisition of chained tasks by students with moderate and severe disabilities. *Education and Training in Developmental Disabilities, 43*, 111-122.
- Goldstein, H., Schneider, N., & Thiemann, K. (2007). Peer-mediated social

communication intervention: When clinical expertise informs treatment development and evaluation. *Topics in Language Disorders*, 27, 182-199.
<http://dx.doi.org/10.1097/01.TLD.0000269932.26504.a8>

Guralnick, M. J., Neville, B., Hammond, M. A., & Connor, R. T. (2007). The friendships of young children with developmental delays: A longitudinal analysis. *Journal of Applied Developmental Psychology*, 28, 64-79. <http://dx.doi.org/10.1016/j.appdev.2006.10.004>

Howes, C. (1996). The earliest friendships. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 66-86.) New York, NY: Cambridge University Press.

Hudson, M. E., Browder, D. M., & Jimenez, B. A. (2014). Effects of a peer-delivered system of least prompts intervention and adapted science read-alouds on listening comprehension for participants with moderate intellectual disability. *Education and Training in Autism and Developmental Disabilities*, 49, 60-77.

Hughes, C., Golas, M., Cosgriff, J., Brigham, N., Edwards, C., & Cashen, K. (2011). Effects of a social skills intervention among high school students with intellectual disabilities and autism and their general education peers. *Research and Practice for Persons with Severe Disabilities*, 36, 46-61. <http://dx.doi.org/10.2511/rpsd.36.1-2.46>

Idol, L. (2006). Toward inclusion of special education students in general education: A program evaluation of eight schools. *Remedial and Special Education*, 27, 77-94.
<http://dx.doi.org/10.1177/07419325060270020601>

Jameson, J. M., McDonnell, J., Polychronis, S., & Riesen, T. (2008). Embedded, constant time delay instruction by peers without disabilities in general education

- classrooms. *Intellectual and Developmental Disabilities*, 46, 346-363. <http://dx.doi.org/10.1352/2008.46:346-363>
- Jimenez, B. A., Browder, D. M., Spooner, F., & Dibiase, W. (2012). Inclusive inquiry science using peer-mediated embedded instruction for students with moderate intellectual disability. *Exceptional Children*, 78, 301-317. <http://dx.doi.org/10.1177/001440291207800303>
- Jones, J. L., & Hensley, L. R. (2012). Taking a closer look at the impact of classroom placement: Students share their perspective from inside special education classrooms. *Educational Research Quarterly*, 35, 33-49.
- Jones, V. (2007). 'I felt like I did something good' - the impact on mainstream pupils of a peer tutoring programme for children with autism. *British Journal of Special Education*, 34, 3-9. <http://dx.doi.org/10.1111/j.1467-8578.2007.00447.x>
- Kamps, D. M., Greenwood, C., Arreaga-Mayer, C., Veerkamp, M. B., Utley, C., Tapia, Y, . . . Bannister, H. (2008). The efficacy of classwide peer tutoring in middle schools. *Education and Treatment of Children*, 31, 119-152.
- Kauffman, J. M. (2005). How we prevent the prevention of emotional and behavioural difficulties in education. In P. Clough, P. Garner, J. T. Pardeck, & F. Yuen (Eds.), *Handbook of emotional and behavioural difficulties in education* (pp. 429-440). London, England: Sage.
- Kim, Y., & Baylor, A. L. (2006). A social-cognitive framework for pedagogical agents as learning companions. *Educational Technology Research and Development*, 54, 569-596. <http://dx.doi.org/10.1007/s11423-006-0637-3>
- Klavina, A., & Block, M. E. (2008). The effect of peer tutoring on interaction behaviors in inclusive physical education. *Adapted Physical Activity Quarterly*, 25, 132-158.

<http://dx.doi.org/10.1123/apaq.25.2.132>

- Koster, M., Pijl, S. J., Nakken, H., & Van Houten, E. (2010). Social participation of students with special needs in regular primary education in the Netherlands. *International Journal of Disability, Development and Education*, 57, 59-75. <http://dx.doi.org/10.1080/10349120903537905>
- Krizan, Z., & Suls, J. (2009). Implicit self-esteem in the context of trait models of personality. *Personality and Individual Differences*, 46, 659-663. <http://dx.doi.org/10.1016/j.paid.2009.01.011>
- Laghi, F., Federico, F., Lonigro, A., Levanto, S., Ferraro, M., Baumgartner, E., & Baiocco, R. (2016). Peer and teacher-selected peer buddies for adolescents with autism spectrum disorders: The role of social, emotional, and mentalizing abilities. *The Journal of Psychology*, 150, 469-484. <http://dx.doi.org/10.1080/00223980.2015.1087375>
- Lamport, M. A., Graves, L., & Ward, A. (2012). Special needs students in inclusive classrooms: The impact of social interaction on educational outcomes for learners with emotional and behavioral disabilities. *European Journal of Business and Social Sciences*, 1(5), 54-69. Retrieved from <http://www.ejbss.com/Data/Sites/1/augustissue/ejbss-12-1134-specialneedsstudents.pdf>
- Lane, K. L., Wehby, J. H., Little, M. A., & Cooley, C. (2005). Students educated in self-contained classrooms and self-contained schools: Part II—How do they progress over time? *Behavioral Disorders*, 30, 363-374.
- Laursen, B. (2005). Dyadic and group perspectives on close relationships. *International Journal of Behavioral Development*, 29, 97-100. <http://dx.doi.org/10.1080/01650250444000450>

- Leary, M. R., Schreindorfer, L. S., & Haupt, A. L. (1995a). The role of low self-esteem in emotional and behavioral problems: Why is low self-esteem dysfunctional? *Journal of Social and Clinical Psychology, 14*, 297-314. <http://dx.doi.org/10.1521/jscp.1995.14.3.297>
- Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995b). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology, 68*, 518-530. <http://dx.doi.org/10.1037/0022-3514.68.3.518>
- Lyttle, L. (2011). *Do peer tutors help teach ESL students to learn English as a second language more successfully? Online submission*. Retrieved from the ERIC website: <http://files.eric.ed.gov/fulltext/ED518172.pdf>
- Maag, J. W. (2005). Social skills training for youth with emotional and behavioral disorders and learning disabilities: Problems, conclusions, and suggestions. *Exceptionality: A Special Education Journal, 13*, 155-172. http://dx.doi.org/10.1207/s15327035ex1303_2
- Manning, M. A. (2007, February). Self-concept and self-esteem in adolescents. *Principal Leadership: Middle Level Edition, 7*(6), 11-15.
- Markham, S. K., Ward, S. J., Aiman-Smith, L., & Kingon, A. I. (2010). The valley of death as context for role theory in product innovation. *Journal of Product Innovation Management, 27*, 402-417.
- Marsh, H. W., Scalas, L. F., & Nagengast, B. (2010). Longitudinal tests of competing factor structures for the Rosenberg Self-Esteem Scale: Traits, ephemeral artifacts, and stable response styles. *Psychological Assessment, 22*, 366-381. <http://dx.doi.org/10.1037/a0019225>
- Matson, J. L., Belva, B. C., Hattier, M. A., & Matson, M. L. (2012). Scaling methods to

- measure psychopathology in persons with intellectual disabilities. *Research in Developmental Disabilities*, 33, 549-562. <http://dx.doi.org/10.1016/j.ridd.2011.10.023>
- McDuffie, K. A., Mastropieri, M. A., & Scruggs, T. E. (2009). Differential effects of peer tutoring in co-taught and non-co-taught classes: Results for content learning and student-teacher interactions. *Exceptional Children*, 75, 493-510. <http://dx.doi.org/10.1177/001440290907500406>
- Miller, D., Topping, K., & Thurston, A. (2010). Peer tutoring in reading: The effects of role and organization on two dimensions of self-esteem. *British Journal of Educational Psychology*, 80, 417-433. <http://dx.doi.org/10.1348/000709909X481652>
- Miller, S. R., Miller, P. F., Armentrout, J. A., & Flannagan, J. W. (1995). Cross-age peer tutoring: A strategy for promoting self-determination in students with severe emotional disabilities/behavior disorders. *Preventing School Failure*, 39(4), 32-37. <http://dx.doi.org/10.1080/1045988X.1995.9944640>
- Mruk, C. J. (1999). *Self-esteem: Research, theory and practice*. New York, NY: Springer.
- Mulcahy, C. A., Maccini, P., Wright, K., & Miller, J. (2014). An examination of intervention research with secondary students with EBD in light of Common Core State Standards for mathematics. *Behavioral Disorders*, 39, 146-164.
- Odluyurt, S., Tekin-Iftar, E., & Ersoy, G. (2014). Effects of school counselor supervised peer tutoring in inclusive settings on meeting IEP outcomes of students with developmental disabilities. *Education and Training in Autism and Developmental Disabilities*, 49, 415-428.
- Okilwa, N. S. A. & Shelby, L. (2010). The effects of peer tutoring on academic

- performance of students with disabilities in grades 6 through 12: A synthesis of the literature. *Remedial and Special Education*, 31, 450-463. <http://dx.doi.org/10.1177/0741932509355991>
- Ouellette-Kuntz, H., Burge, P., Brown, H. K., & Arsenault, E. (2010). Public attitudes towards individuals with intellectual disabilities as measured by the concept of social distance. *Journal of Applied Research in Intellectual Disabilities*, 23, 132-142. <http://dx.doi.org/10.1111/j.1468-3148.2009.00514.x>
- Rampey, B. D., Dion, G. S., and Donahue, P. L. (2009). *NAEP 2008 trends in academic progress: Reading 1971-2008/mathematics 1973-2008* (NCES 2009-479). Retrieved from the ERIC website: <http://files.eric.ed.gov/fulltext/ED505083.pdf>
- Regan, K. S., Evmenova, A. S., Mastropieri, M. A., & Scruggs, T. E. (2015). Peer interactions in the content areas: Using differentiated instruction strategies. In K. R. Harris & L. Meltzer, (Eds.), *The power of peers in the classroom: Enhancing learning and social skills* (pp. 33-68). New York, NY: Guilford Press.
- Rillotta, F., & Nettelbeck, T. (2007). Effects of an awareness program on attitudes of students without an intellectual disability towards persons with an intellectual disability. *Journal of Intellectual and Developmental Disability*, 32, 19-27. <http://dx.doi.org/10.1080/13668250701194042>
- Rosewal, G. M., Mims, A. A., Evans, M. D., Smith, B., Young, M., Burch, M, . . . Block, M. (1995). Effects of collaborative peer tutoring on urban seventh graders. *The Journal of Educational Research*, 88, 275-279. <http://dx.doi.org/10.1080/00220671.1995.9941311>
- Ryan, J. B., Pierce, C. D., & Mooney, P. (2008, Spring). Evidence-based teaching strategies for students with EBD. *Beyond Behavior*, 17(3), 22-29.

- Ryan, J. B., Reid, R., & Epstein, M. H. (2004). Peer-mediated intervention studies on academic achievement for students with EBD: A review. *Remedial and Special Education, 25*, 330-341.
- Satsangi, R., & Bouck, E. C. (2015). Using virtual manipulative instruction to teach the concepts of area and perimeter to secondary students with learning disabilities. *Learning Disability Quarterly, 38*, 174-186. <http://dx.doi.org/10.1177/0731948714550101>
- Schalock, R. L., Luckasson, R. A., & Shogren, K. A. (with Borthwick-Duffy, S., Bradley, V., Buntinx, W. H. E., Coulter, D. L., Craig, E. M., Gomez, S. C., Lachapelle, Y., Reeve, A., Snell, M. E., Spreat, S., Tassé, M. J., Thompson, J. R., Verdugo, M. A., Wehmeyer, M. L., & Yeager, M. H.). (2007). The renaming of mental retardation: Understanding the change to the term intellectual disability. *Intellectual and Developmental Disabilities, 45*, 116-124.
- Scheeler, M. C., Macluckie, M., & Albright, K. (2010). Effects of immediate feedback delivered by peer tutors on the oral presentation skills of adolescents with learning disabilities. *Remedial and Special Education, 31*, 77-86. <http://dx.doi.org/10.1177/0741932508327458>
- Schleyer, G. K., Langdon, G. S., & James, S. (2005). Peer tutoring in conceptual design. *European Journal of Engineering Education, 30*, 245-254. <http://dx.doi.org/10.1080/03043790500087084>
- Scior, K. (2011). Public awareness, attitudes and beliefs regarding intellectual disability: A systematic review. *Research in Developmental Disabilities, 32*, 2164-2182. <http://dx.doi.org/10.1016/j.ridd.2011.07.005>
- Scruggs, T. E., Mastropieri, M. A., & Marshak, L. (2012). Peer-mediated instruction in

inclusive secondary social studies learning: Direct and indirect learning effects. *Learning Disabilities Research and Practice*, 27, 12-20. <http://dx.doi.org/10.1111/j.1540-5826.2011.00346.x>

Shabani, M. B., & Gerdabi, A. (2013). The effects of peer-tutored read-aloud versus individual teacher-guided read-aloud on vocabulary learning: An inquiry on Iranian intermediate EFL learners. *ELT Voices-India: International Electronic Journal for the Teachers of English*, 3(1), 87-102. Retrieved from http://eltvoices.in/Volume3/EVI_31_8.pdf

Sinclair, S. J., Blais, M. A., Gansler, D. A., Sandberg, E., Bistis, K., & LoCicero, A. (2010). Psychometric properties of the Rosenberg Self-Esteem Scale: Overall and across demographic groups living within the United States. *Evaluation and the Health Professions*, 33, 56-80. <http://dx.doi.org/10.1177/0163278709356187>

Sinha, T., Zhao, R., & Cassell, J. (2015). *Exploring socio-cognitive effects of conversational strategy congruence in peer tutoring*. Retrieved from the ArticLab Carnegie Melton University website: http://articulab.hcii.cs.emu.edu/wordpress/wp-content/uploads/2015/09/Sinha_Zhao_Cassell_ConversationalStrategyCongruence.pdf

Siperstein, G. N., Parker, R. C., Bardon, J. N., & Widaman, K. F. (2007). A national study of youth attitudes toward the inclusion of students with intellectual disabilities. *Exceptional Children*, 73, 435-455. <http://dx.doi.org/10.1177/001440290707300403>

Smetana, J. G., Campione-Barr, N., & Metzger, A. (2006). Adolescent development in interpersonal and societal contexts. *Annual Review of Psychology*, 57, 255-284. <http://dx.doi.org/10.1146/annurev.psych.57.102904.190124>

- Snell, M. E., Brady, N., Lee, M., Ogletree, B., Siegel, E., Sylvester, L, . . . Sevcik, R. (2010). Twenty years of communication intervention research with individuals who have severe intellectual and developmental disabilities. *American Journal on Intellectual and Developmental Disabilities, 115*, 364-380. <http://dx.doi.org/10.1352/1944-7558-115-5.364>
- Sowislo, J., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin, 139*, 213-240. <http://dx.doi.org/10.1037/a0028931>
- Stenhoff, D. M., & Lignugaris/Kraft, B. (2007). A review of the effects of peer tutoring on students with mild disabilities in secondary settings. *Exceptional Children, 74*, 8-30. <http://dx.doi.org/10.1177/001440290707400101>
- Tassé, M. J., Schalock, R. L., Balboni, G., Bersani, H., Jr., Borthwick-Duffy, S., Spreat, S, . . . Zhang, D. (2012). The construct of adaptive behavior: Its conceptualization, measurement, and use in the field of intellectual disability. *American Journal on Intellectual and Developmental Disabilities, 117*, 291-303. <http://dx.doi.org/10.1352/1944-7558-117.4.291>
- Tella, A. (2013). The effect of peer tutoring and explicit instructional strategies on primary school pupils learning outcomes in mathematics. *Bulgarian Journal of Science and Education Policy, 7*, 5-25. Retrieved from http://bjsep.org/index.php?page=11&volume_id=7&issue_id=2
- Thompson, E., & Byford, J. M. (2015). Peer tutoring in the multi-ability classroom: A study of middle school teachers. *Journal for the Liberal Arts and Sciences, 20*(1), 72-82. Retrieved from <http://www.oak.edu/academics/school-arts-sciences/journal-liberal-arts-sciences/jlas-archive>

- Topping, K. J. (2005). Trends in peer learning. *Educational Psychology, 25*, 631-645.
<http://dx.doi.org/10.1080/01443410500345172>
- Trembath, D., Balandin, S., Togher, L., & Stancliffe, R. J. (2009). Peer-mediated teaching and augmentative and alternative communication for preschool-aged children with autism. *Journal of Intellectual and Developmental Disability, 34*, 173-186. <http://dx.doi.org/10.1080/13668250902845210>
- U.S. Congress. (2004). *Individuals with Disabilities Education Improvement Act of 2004* (P.L. 108-446). Retrieved from <http://idea.ed.gov/part-c/downloads/IDEA-Statute.pdf>
- Utley, C. A., & Mortweet, S. L. (1997). Peer-mediated instruction and interventions. *Focus on Exceptional Children, 29*(5), 1-23.
- Vaughn, S., Fletcher, J. M., Francis, D. J., Denton, C., Wanzek, J., Wexler, J, . . . Romain, M. A. (2008). Response to intervention with older students with reading difficulties. *Learning and Individual Differences, 18*, 338-345. <http://dx.doi.org/10.1016/j.lindif.2008.05.001>
- Wang, P. & Spillane, A. (2009). Evidence-based social skills interventions for children with autism: A meta-analysis. *Education and Training in Developmental Disabilities, 44*, 318-342.
- Webster, A. A., & Carter, M. (2007). Social relationships and friendships of children with developmental disabilities: Implications for inclusive settings. A systematic review. *Journal of Intellectual and Developmental Disability, 32*, 200-213.
<http://dx.doi.org/10.1080/13668250701549443>
- Wentzel, K. R. (2009). Peers and academic functioning at school. In K. H. Rubin, W. M. Bukowski, & B. Lauren (Eds.), *Handbook of peer interactions, relationships, and*

groups (pp. 531-547). New York, NY: The Guilford Press.

Wexler, J., Reed, D. K., Pyle, N., Mitchell, M., & Barton, E. E. (2015). A synthesis of peer-mediated academic interventions for secondary struggling learners. *Journal of Learning Disabilities, 48*, 451-470. <http://dx.doi.org/10.1177/0022219413504997>

Whitaker, P. (2004). Fostering communication and shared play between mainstream peers and children with autism: Approaches, outcomes, and experiences. *British Journal of Special Education, 31*, 215-222. <http://dx.doi.org/10.1111/j.0952-3383.2004.00357.x>

Williams White, S., Keonig, K., & Scahill, L. (2007). Social skills development in children with autism spectrum disorders: A review of the intervention research. *Journal of Autism and Developmental Disorders, 37*, 1858-1868. <http://dx.doi.org/10.1007/s10803-006-0320-x>

Appendix A
Social Initiation Data Sheet

Appendix B

Rosenberg Self-Esteem Scale

Appendix B

Rosenberg Self-Esteem Scale

To score the items, assign a value to each of the 10 items as follows:

For items 1,3,4,7,10: Strongly Agree = 3, Agree = 2, Disagree = 1, and Strongly Disagree = 0.

- For items 2,5,6,8,9 (which are reversed in valence): Strongly Agree = 0, Agree = 1, Disagree = 2, and Strongly Disagree = 3.

- The scale ranges from 0-30, with 30 indicating the highest score possible. Other scoring options are possible. For example, you can assign values 1-4 rather than 0-3; then scores will range from 10-40. Some researchers use 5- or 7-point Likert scales, and again, scale ranges would vary based on the addition of "middle" categories of agreement.

Present the items with these instructions. Do not print the asterisks on the sheet you provide to respondents.

Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, check SA. If you agree with the statement, check A. If you disagree, check D. If you strongly disagree, check SD.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. On the whole, I am satisfied with myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. At times I think I am no good at all.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I feel that I have a number of good qualities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I am able to do things as well as most other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I feel I do not have much to be proud of.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I certainly feel useless at times.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I feel that I'm a person of worth, at least on an equal plane with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I wish I could have more respect for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. All in all, I am inclined to feel that I am a failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I take a positive attitude toward myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>